ANALYTICAL REPORT

Job Number: 280-115950-1

Job Description: Leidos RFP# 001088 - Ravenna AAP-66

For:
Leidos, Inc.
Picatinny Arsenal
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Attention: Rita Schmon-Stasik



Approved for release.
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11/29/2018 7:51 PM

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The Lab Certification ID# is 4025.

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

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
U	Undetected at the Limit of Detection.
M	Manual integrated compound.
J	Estimated: The analyte was positively identified; the quantitation is an estimation

GC/MS Semi VOA

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

GC Semi VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
Q	One or more quality control criteria failed.
M	Manual integrated compound.

HPLC/IC

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
M	Manual integrated compound.
Q	One or more quality control criteria failed.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
B	Blank contamination: The analyte was detected above one-half the reporting limit in an associated blank.

Metals

Qualifier	Qualifier Description
J	Estimated: The analyte was positively identified; the quantitation is an estimation
U	Undetected at the Limit of Detection.
D	The reported value is from a dilution.

General Chemistry

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: Leidos, Inc.

Project: Leidos RFP# 001088 - Ravenna AAP-66

Report Number: 280-115950-1

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

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

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

RECEIPT
The samples were received on 10/23/2018 at 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 1.8º C, 2.1º C, 2.3º C and 4.1º C.

VOLATILE ORGANIC COMPOUNDS (GC/MS)
Samples RQLmw-007-181001-GW (280-115950-4), RQLmw-008-181001-GW (280-115950-5) and FWGTB-181001-TB (280-115950-6) were analyzed for volatile organic compounds (GC/MS) in accordance with 8260B. The samples were analyzed on 11/06/2018.

The following samples in analytical batch 280-436416 were analyzed 1 day outside of analytical holding time due to backlog capacity issues: RQLmw-007-181001-GW (280-115950-4), RQLmw-008-181001-GW (280-115950-5) and FWGTB-181001-TB (280-115950-6). The client was notified and the data was reported and flagged

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

SEMIVOLATILE ORGANIC COMPOUNDS
Samples LL1mw-088-181001-GW (280-115950-2), LL1mw-088-181002-GW (280-115950-3), RQLmw-007-181001-GW (280-115950-4) and RQLmw-008-181001-GW (280-115950-5) were analyzed for Semivolatile organic compounds in accordance with SW-846 8270D. The samples were prepared on 10/25/2018 and analyzed on 10/29/2018.

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

SEMIVOLATILE ORGANIC COMPOUND (GC/MS SIM)
Samples RQLmw-007-181001-GW (280-115950-4) and RQLmw-008-181001-GW (280-115950-5) were analyzed for Semivolatile Organic Compound (GC/MS SIM) in accordance with SW-846 8270D. The samples were prepared on 10/25/2018 and analyzed on 10/30/2018.

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

ORGANOCHLORINE PESTICIDES (GC)
Samples LL1mw-088-181001-GW (280-115950-2), LL1mw-088-181002-GW (280-115950-3), RQLmw-007-181001-GW (280-115950-4) and RQLmw-008-181001-GW (280-115950-5) were analyzed for Organochlorine Pesticides (GC) in accordance with SW 846 8081B. The samples were prepared on 10/25/2018 and analyzed on 11/23/2018.

The continuing calibration verification (CCV) associated with batch 280-438595 recovered above the upper control limit for several analytes on the front column. The back column was in control. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported from the back, in control, column. The following samples are impacted: LL1mw-088-181001-GW (280-115950-2), LL1mw-088-181002-GW (280-115950-3), RQLmw-007-181001-GW (280-115950-4) and RQLmw-008-181001-GW (280-115950-5).

CCV (front) DCB Decachlorobiphenyl +27%, Endosulfan sulfate +24%, Endrin ketone +24% and Methoxychlor +21%; (back) In control

CCV (front) Endosulfan sulfate +22%; (back) In control

The laboratory control sample duplicate (LCSD) for preparation batch 280-434851 and analytical batch 280-438595 recovered outside control limits for Toxaphene. This analytes was biased high in the LCSD and was not detected in the associated samples; therefore, the

data have been reported. The LCS was in control for Toxaphene.

The following samples required a mercury clean-up, via EPA Method 3660A, to reduce matrix interferences caused by sulfur: LL1mw-088-181001-GW (280-115950-2), LL1mw-088-181002-GW (280-115950-3), RQLmw-007-181001-GW (280-115950-4), RQLmw-008-181001-GW (280-115950-5), (LCS 280-434851/11-A), (LCS 280-434851/2-A), (LCSD 280-434851/12-A), (LCSD 280-434851/3-A) and (MB 280-434851/1-A).

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

POLYCHLORINATED BIPHENYLS (PCBS)

Samples RQLmw-007-181001-GW (280-115950-4) and RQLmw-008-181001-GW (280-115950-5) were analyzed for polychlorinated biphenyls (PCBs) in accordance with SW-846 8082A. The samples were prepared on 10/25/2018 and analyzed on 11/16/2018.

The following samples required a sulfuric acid clean-up, via EPA Method 3665A, to reduce matrix interferences: RQLmw-007-181001-GW (280-115950-4), RQLmw-008-181001-GW (280-115950-5), (LCS 280-434851/4-A), (LCSD 280-434851/5-A) and (MB 280-434851/1-A).

The following samples required a mercury clean-up, via EPA Method 3660A, to reduce matrix interferences caused by sulfur: RQLmw-007-181001-GW (280-115950-4), RQLmw-008-181001-GW (280-115950-5), (LCS 280-434851/4-A), (LCSD 280-434851/5-A) and (MB 280-434851/1-A).

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

NITROAROMATICS AND NITRAMINES (HPLC)

Samples LL1mw-064-181001-GW (280-115950-1), LL1mw-088-181001-GW (280-115950-2), LL1mw-088-181002-GW (280-115950-3), RQLmw-007-181001-GW (280-115950-4) and RQLmw-008-181001-GW (280-115950-5) were analyzed for Nitroaromatics and Nitramines (HPLC) in accordance with 8330B. The samples were prepared on 10/24/2018 and analyzed on 10/27/2018 and 10/30/2018.

The %RPD between the primary and confirmation column exceeded 40% for 2-Amino-4,6-dinitrotoluene, 2,6-Dinitrotoluene and RDX for the following samples: LL1mw-064-181001-GW (280-115950-1), LL1mw-088-181001-GW (280-115950-2), LL1mw-088-181002-GW (280-115950-3), RQLmw-007-181001-GW (280-115950-4) and RQLmw-008-181001-GW (280-115950-5). Both values have been reported and qualified in accordance with the laboratory's SOP.

The recovery for surrogate 1,2-Dinitrobenzene was outside control limits in sample RQLmw-008-181001-GW (280-115950-5) on the confirmation column and was in control on the primary column. Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

The continuing calibration verification (CCV) associated with batch 280-435098 recovered above the upper control limit for Tetryl. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: LL1mw-064-181001-GW (280-115950-1), LL1mw-088-181001-GW (280-115950-2), LL1mw-088-181002-GW (280-115950-3), RQLmw-007-181001-GW (280-115950-4) and RQLmw-008-181001-GW (280-115950-5).

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

TOTAL METALS (ICP)

Samples LL1mw-064-181001-GW (280-115950-1), LL1mw-088-181001-GW (280-115950-2), LL1mw-088-181002-GW (280-115950-3), RQLmw-007-181001-GW (280-115950-4) and RQLmw-008-181001-GW (280-115950-5) were analyzed for Total Metals (ICP) in accordance with 6010C. The samples were prepared on 10/27/2018 and analyzed on 10/30/2018.

Calcium was detected in method blank MB 280-434973/1-A at a level that was less than one half the LOQ; therefore, corrective action was deemed unnecessary. The value should be considered an estimate, and has been flagged “J” in accordance with the DoD QSM.

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

TOTAL METALS (ICP/MS)

Samples LL1mw-064-181001-GW (280-115950-1), LL1mw-088-181001-GW (280-115950-2), LL1mw-088-181002-GW (280-115950-3), RQLmw-007-181001-GW (280-115950-4) and RQLmw-008-181001-GW (280-115950-5) were analyzed for total metals (ICP/MS) in accordance with 6020A. The samples were prepared on 10/25/2018 and analyzed on 11/02/2018 and 11/03/2018.

Manganese was detected in method blank MB 280-434761/1-A at a level that was less than one half the LOQ; therefore, corrective action was deemed unnecessary. The value should be considered an estimate, and has been flagged “J” in accordance with the DoD QSM.

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

TOTAL MERCURY

Samples LL1mw-064-181001-GW (280-115950-1), LL1mw-088-181001-GW (280-115950-2), LL1mw-088-181002-GW (280-115950-3), RQLmw-007-181001-GW (280-115950-4) and RQLmw-008-181001-GW (280-115950-5) were analyzed for total mercury in accordance with 7470A. The samples were prepared on 11/03/2018 and analyzed on 11/04/2018.

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

ALKALINITY
Sample LL1mw-088-181001-GW (280-115950-2) was analyzed for Alkalinity in accordance with SM20 2320B. The samples were analyzed on 10/26/2018.

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

CYANIDE, TOTAL
Samples RQLmw-007-181001-GW (280-115950-4) and RQLmw-008-181001-GW (280-115950-5) were analyzed for Cyanide, Total in accordance with 9012B. The samples were prepared on 11/02/2018 and analyzed on 11/05/2018.

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

Detection Summary

Client: Leidos, Inc.
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

TestAmerica Job ID: 280-115950-1

Client Sample ID: LL1mw-064-181001-GW — Lab Sample ID: 280-115950-1

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	44	J	300	70	18	ug/L	1		6010C	Total/NA
Calcium	62000		1000	140	35	ug/L	1		6010C	Total/NA
Iron	1100		100	85	22	ug/L	1		6010C	Total/NA
Magnesium	9500		500	40	11	ug/L	1		6010C	Total/NA
Potassium	1000	J	3000	940	240	ug/L	1		6010C	Total/NA
Sodium	5000		5000	350	120	ug/L	1		6010C	Total/NA
Arsenic	4.9	J	5.0	1.0	0.33	ug/L	1		6020A	Total/NA
Barium	54		3.0	0.95	0.29	ug/L	1		6020A	Total/NA
Cobalt	0.28	J	1.0	0.20	0.054	ug/L	1		6020A	Total/NA
Lead	0.18	J	3.0	0.70	0.18	ug/L	1		6020A	Total/NA
Manganese	190		3.5	0.95	0.31	ug/L	1		6020A	Total/NA

Client Sample ID: LL1mw-088-181001-GW — Lab Sample ID: 280-115950-2

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	39	J	300	70	18	ug/L	1		6010C	Total/NA
Calcium	88000		1000	140	35	ug/L	1		6010C	Total/NA
Iron	1600		100	85	22	ug/L	1		6010C	Total/NA
Magnesium	35000		500	40	11	ug/L	1		6010C	Total/NA
Potassium	2500	J	3000	940	240	ug/L	1		6010C	Total/NA
Sodium	25000		5000	350	120	ug/L	1		6010C	Total/NA
Arsenic	29		5.0	1.0	0.33	ug/L	1		6020A	Total/NA
Barium	37		3.0	0.95	0.29	ug/L	1		6020A	Total/NA
Cobalt	0.096	J	1.0	0.20	0.054	ug/L	1		6020A	Total/NA
Manganese	45		3.5	0.95	0.31	ug/L	1		6020A	Total/NA
Alkalinity	280		5.0	5.0	1.1	mg/L	1		SM 2320B	Total/NA

Client Sample ID: LL1mw-088-181002-GW — Lab Sample ID: 280-115950-3

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	38	J	300	70	18	ug/L	1		6010C	Total/NA
Calcium	87000		1000	140	35	ug/L	1		6010C	Total/NA
Iron	1600		100	85	22	ug/L	1		6010C	Total/NA
Magnesium	35000		500	40	11	ug/L	1		6010C	Total/NA
Potassium	2500	J	3000	940	240	ug/L	1		6010C	Total/NA
Sodium	25000		5000	350	120	ug/L	1		6010C	Total/NA
Antimony	0.72	J	6.0	1.0	0.40	ug/L	1		6020A	Total/NA
Arsenic	30		5.0	1.0	0.33	ug/L	1		6020A	Total/NA
Barium	35		3.0	0.95	0.29	ug/L	1		6020A	Total/NA
Beryllium	0.21	J	1.0	0.30	0.080	ug/L	1		6020A	Total/NA
Cobalt	0.14	J	1.0	0.20	0.054	ug/L	1		6020A	Total/NA
Manganese	47		3.5	0.95	0.31	ug/L	1		6020A	Total/NA
Thallium	0.057	J	1.0	0.20	0.050	ug/L	1		6020A	Total/NA
Zinc	3.5	J	20	8.0	2.0	ug/L	1		6020A	Total/NA

Client Sample ID: RQLmw-007-181001-GW — Lab Sample ID: 280-115950-4

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Fluoranthene	0.018	J	0.11	0.013	0.0051	ug/L	1		8270D SIM	Total/NA
Phenanthrene	0.025	J	0.11	0.021	0.010	ug/L	1		8270D SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: RQLmw-007-181001-GW (Continued) Lab Sample ID: 280-115950-4

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Phosphorus	56	J	3000	50	14	ug/L	1		6010C	Total/NA
Calcium	150000		1000	140	35	ug/L	1		6010C	Total/NA
Iron	12000		100	85	22	ug/L	1		6010C	Total/NA
Magnesium	97000		500	40	11	ug/L	1		6010C	Total/NA
Potassium	6900		3000	940	240	ug/L	1		6010C	Total/NA
Sodium	5100		5000	350	120	ug/L	1		6010C	Total/NA
Arsenic	32		5.0	1.0	0.33	ug/L	1		6020A	Total/NA
Barium	50		3.0	0.95	0.29	ug/L	1		6020A	Total/NA
Cobalt	4.1		1.0	0.20	0.054	ug/L	1		6020A	Total/NA
Manganese	1100		3.5	0.95	0.31	ug/L	1		6020A	Total/NA
Nickel	10		3.0	1.0	0.30	ug/L	1		6020A	Total/NA
Zinc	3.5	J	20	8.0	2.0	ug/L	1		6020A	Total/NA
Cyanide, Total	0.0046	J	0.010	0.0050	0.0020	mg/L	1		9012B	Total/NA

Client Sample ID: RQLmw-008-181001-GW Lab Sample ID: 280-115950-5

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
HMX	0.27	J M	0.42	0.21	0.092	ug/L	1		8330B	Total/NA
RDX	0.85	M J1	0.21	0.13	0.055	ug/L	1		8330B	Total/NA
RDX	0.39	Q B J1	0.21	0.13	0.055	ug/L	1		8330B	Total/NA
Calcium	58000		1000	140	35	ug/L	1		6010C	Total/NA
Iron	53000		100	85	22	ug/L	1		6010C	Total/NA
Magnesium	49000		500	40	11	ug/L	1		6010C	Total/NA
Potassium	3900		3000	940	240	ug/L	1		6010C	Total/NA
Sodium	3600	J	5000	350	120	ug/L	1		6010C	Total/NA
Antimony	0.43	J	6.0	1.0	0.40	ug/L	1		6020A	Total/NA
Arsenic	20		5.0	1.0	0.33	ug/L	1		6020A	Total/NA
Barium	55		3.0	0.95	0.29	ug/L	1		6020A	Total/NA
Cobalt	4.2		1.0	0.20	0.054	ug/L	1		6020A	Total/NA
Manganese	500		3.5	0.95	0.31	ug/L	1		6020A	Total/NA
Nickel	9.5		3.0	1.0	0.30	ug/L	1		6020A	Total/NA
Thallium	0.26	J	1.0	0.20	0.050	ug/L	1		6020A	Total/NA
Zinc	820		20	8.0	2.0	ug/L	1		6020A	Total/NA
Mercury	0.31		0.20	0.080	0.027	ug/L	1		7470A	Total/NA

Client Sample ID: FWGTB-181001-TB Lab Sample ID: 280-115950-6

No Detections.

This Detection Summary does not include radiochemical test results.

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: RQLmw-007-181001-GW **Lab Sample ID: 280-115950-4**
Date Collected: 10/22/18 12:50 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:14	1
1,1,2,2-Tetrachloroethane	0.80	U H	1.0	0.80	0.21	ug/L		11/06/18 04:14	1
1,1,2-Trichloroethane	0.80	U H	1.0	0.80	0.27	ug/L		11/06/18 04:14	1
1,1-Dichloroethane	0.80	U H	1.0	0.80	0.22	ug/L		11/06/18 04:14	1
1,1-Dichloroethene	0.80	U H	1.0	0.80	0.23	ug/L		11/06/18 04:14	1
1,2-Dibromoethane	0.40	U H	1.0	0.40	0.18	ug/L		11/06/18 04:14	1
1,2-Dichloroethane	0.40	U H	1.0	0.40	0.13	ug/L		11/06/18 04:14	1
1,2-Dichloroethene, Total	0.20	U H	1.0	0.20	0.24	ug/L		11/06/18 04:14	1
1,2-Dichloropropane	0.40	U H	1.0	0.40	0.18	ug/L		11/06/18 04:14	1
2-Butanone (MEK)	4.0	U H	6.0	4.0	2.0	ug/L		11/06/18 04:14	1
2-Hexanone	4.0	U H	5.0	4.0	1.7	ug/L		11/06/18 04:14	1
4-Methyl-2-pentanone (MIBK)	3.2	U H	5.0	3.2	0.98	ug/L		11/06/18 04:14	1
Acetone	6.4	U M H	10	6.4	1.9	ug/L		11/06/18 04:14	1
Benzene	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:14	1
Bromobenzene	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:14	1
Bromochloromethane	0.20	U H	1.0	0.20	0.10	ug/L		11/06/18 04:14	1
Bromodichloromethane	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:14	1
Bromoform	0.40	U H	1.0	0.40	0.19	ug/L		11/06/18 04:14	1
Bromomethane	0.80	U H	2.0	0.80	0.21	ug/L		11/06/18 04:14	1
Carbon disulfide	1.6	U H	2.0	1.6	0.45	ug/L		11/06/18 04:14	1
Carbon tetrachloride	0.40	U H	2.0	0.40	0.19	ug/L		11/06/18 04:14	1
Chlorobenzene	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:14	1
Chloroethane	1.6	U H	2.0	1.6	0.41	ug/L		11/06/18 04:14	1
Chloroform	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:14	1
Chloromethane	0.80	U H	2.0	0.80	0.30	ug/L		11/06/18 04:14	1
cis-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:14	1
Dibromochloromethane	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:14	1
Ethylbenzene	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:14	1
Methylene Chloride	0.80	U H	5.0	0.80	0.32	ug/L		11/06/18 04:14	1
Styrene	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:14	1
Tetrachloroethene	0.40	U H	1.0	0.40	0.20	ug/L		11/06/18 04:14	1
Toluene	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:14	1
trans-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.19	ug/L		11/06/18 04:14	1
Trichloroethene	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:14	1
Vinyl chloride	0.20	U H	1.5	0.20	0.10	ug/L		11/06/18 04:14	1
Xylenes, Total	0.80	U H	1.0	0.80	0.19	ug/L		11/06/18 04:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*81 - 118*		*11/06/18 04:14*	*1*
4-Bromofluorobenzene (Surr)	*98*		*85 - 114*		*11/06/18 04:14*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 119*		*11/06/18 04:14*	*1*
Toluene-d8 (Surr)	*101*		*89 - 112*		*11/06/18 04:14*	*1*

Client Sample ID: RQLmw-008-181001-GW **Lab Sample ID: 280-115950-5**
Date Collected: 10/22/18 10:05 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:34	1
1,1,2,2-Tetrachloroethane	0.80	U H	1.0	0.80	0.21	ug/L		11/06/18 04:34	1
1,1,2-Trichloroethane	0.80	U H	1.0	0.80	0.27	ug/L		11/06/18 04:34	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: RQLmw-008-181001-GW **Lab Sample ID: 280-115950-5**
Date Collected: 10/22/18 10:05 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1-Dichloroethane	0.80	U H	1.0	0.80	0.22	ug/L		11/06/18 04:34	1
1,1-Dichloroethene	0.80	U H	1.0	0.80	0.23	ug/L		11/06/18 04:34	1
1,2-Dibromoethane	0.40	U H	1.0	0.40	0.18	ug/L		11/06/18 04:34	1
1,2-Dichloroethane	0.40	U H	1.0	0.40	0.13	ug/L		11/06/18 04:34	1
1,2-Dichloroethene, Total	0.20	U H	1.0	0.20	0.24	ug/L		11/06/18 04:34	1
1,2-Dichloropropane	0.40	U H	1.0	0.40	0.18	ug/L		11/06/18 04:34	1
2-Butanone (MEK)	4.0	U H	6.0	4.0	2.0	ug/L		11/06/18 04:34	1
2-Hexanone	4.0	U H	5.0	4.0	1.7	ug/L		11/06/18 04:34	1
4-Methyl-2-pentanone (MIBK)	3.2	U H	5.0	3.2	0.98	ug/L		11/06/18 04:34	1
Acetone	6.4	U M H	10	6.4	1.9	ug/L		11/06/18 04:34	1
Benzene	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:34	1
Bromobenzene	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:34	1
Bromochloromethane	0.20	U H	1.0	0.20	0.10	ug/L		11/06/18 04:34	1
Bromodichloromethane	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:34	1
Bromoform	0.40	U H	1.0	0.40	0.19	ug/L		11/06/18 04:34	1
Bromomethane	0.80	U H	2.0	0.80	0.21	ug/L		11/06/18 04:34	1
Carbon disulfide	1.6	U H	2.0	1.6	0.45	ug/L		11/06/18 04:34	1
Carbon tetrachloride	0.40	U H	2.0	0.40	0.19	ug/L		11/06/18 04:34	1
Chlorobenzene	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:34	1
Chloroethane	1.6	U H	2.0	1.6	0.41	ug/L		11/06/18 04:34	1
Chloroform	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:34	1
Chloromethane	0.80	U H	2.0	0.80	0.30	ug/L		11/06/18 04:34	1
cis-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:34	1
Dibromochloromethane	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:34	1
Ethylbenzene	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:34	1
Methylene Chloride	0.80	U H	5.0	0.80	0.32	ug/L		11/06/18 04:34	1
Styrene	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:34	1
Tetrachloroethene	0.40	U H	1.0	0.40	0.20	ug/L		11/06/18 04:34	1
Toluene	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:34	1
trans-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.19	ug/L		11/06/18 04:34	1
Trichloroethene	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:34	1
Vinyl chloride	0.20	U H	1.5	0.20	0.10	ug/L		11/06/18 04:34	1
Xylenes, Total	0.80	U H	1.0	0.80	0.19	ug/L		11/06/18 04:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*81 - 118*		*11/06/18 04:34*	*1*
4-Bromofluorobenzene (Surr)	*98*		*85 - 114*		*11/06/18 04:34*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 119*		*11/06/18 04:34*	*1*
Toluene-d8 (Surr)	*101*		*89 - 112*		*11/06/18 04:34*	*1*

Client Sample ID: FWGTB-181001-TB **Lab Sample ID: 280-115950-6**
Date Collected: 10/22/18 10:05 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:54	1
1,1,2,2-Tetrachloroethane	0.80	U H	1.0	0.80	0.21	ug/L		11/06/18 04:54	1
1,1,2-Trichloroethane	0.80	U H	1.0	0.80	0.27	ug/L		11/06/18 04:54	1
1,1-Dichloroethane	0.80	U H	1.0	0.80	0.22	ug/L		11/06/18 04:54	1
1,1-Dichloroethene	0.80	U H	1.0	0.80	0.23	ug/L		11/06/18 04:54	1
1,2-Dibromoethane	0.40	U H	1.0	0.40	0.18	ug/L		11/06/18 04:54	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: FWGTB-181001-TB **Lab Sample ID: 280-115950-6**
Date Collected: 10/22/18 10:05 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichloroethane	0.40	U H	1.0	0.40	0.13	ug/L		11/06/18 04:54	1
1,2-Dichloroethene, Total	0.20	U H	1.0	0.20	0.24	ug/L		11/06/18 04:54	1
1,2-Dichloropropane	0.40	U H	1.0	0.40	0.18	ug/L		11/06/18 04:54	1
2-Butanone (MEK)	4.0	U H	6.0	4.0	2.0	ug/L		11/06/18 04:54	1
2-Hexanone	4.0	U H	5.0	4.0	1.7	ug/L		11/06/18 04:54	1
4-Methyl-2-pentanone (MIBK)	3.2	U H	5.0	3.2	0.98	ug/L		11/06/18 04:54	1
Acetone	6.4	U H	10	6.4	1.9	ug/L		11/06/18 04:54	1
Benzene	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:54	1
Bromobenzene	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:54	1
Bromochloromethane	0.20	U H	1.0	0.20	0.10	ug/L		11/06/18 04:54	1
Bromodichloromethane	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:54	1
Bromoform	0.40	U H	1.0	0.40	0.19	ug/L		11/06/18 04:54	1
Bromomethane	0.80	U H	2.0	0.80	0.21	ug/L		11/06/18 04:54	1
Carbon disulfide	1.6	U H	2.0	1.6	0.45	ug/L		11/06/18 04:54	1
Carbon tetrachloride	0.40	U H	2.0	0.40	0.19	ug/L		11/06/18 04:54	1
Chlorobenzene	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:54	1
Chloroethane	1.6	U H	2.0	1.6	0.41	ug/L		11/06/18 04:54	1
Chloroform	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:54	1
Chloromethane	0.80	U H	2.0	0.80	0.30	ug/L		11/06/18 04:54	1
cis-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:54	1
Dibromochloromethane	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:54	1
Ethylbenzene	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:54	1
Methylene Chloride	0.80	U H	5.0	0.80	0.32	ug/L		11/06/18 04:54	1
Styrene	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:54	1
Tetrachloroethene	0.40	U H	1.0	0.40	0.20	ug/L		11/06/18 04:54	1
Toluene	0.40	U H	1.0	0.40	0.17	ug/L		11/06/18 04:54	1
trans-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.19	ug/L		11/06/18 04:54	1
Trichloroethene	0.40	U H	1.0	0.40	0.16	ug/L		11/06/18 04:54	1
Vinyl chloride	0.20	U H	1.5	0.20	0.10	ug/L		11/06/18 04:54	1
Xylenes, Total	0.80	U H	1.0	0.80	0.19	ug/L		11/06/18 04:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*81 - 118*		*11/06/18 04:54*	*1*
4-Bromofluorobenzene (Surr)	*101*		*85 - 114*		*11/06/18 04:54*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 119*		*11/06/18 04:54*	*1*
Toluene-d8 (Surr)	*99*		*89 - 112*		*11/06/18 04:54*	*1*

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

Client Sample ID: RQLmw-007-181001-GW **Lab Sample ID: 280-115950-4**
Date Collected: 10/22/18 12:50 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1-Methylnaphthalene	0.013	U	0.11	0.013	0.0063	ug/L		10/30/18 06:58	1
2-Methylnaphthalene	0.013	U	0.11	0.013	0.0064	ug/L		10/30/18 06:58	1
Acenaphthene	0.043	U M	0.11	0.043	0.0045	ug/L		10/30/18 06:58	1
Acenaphthylene	0.043	U	0.11	0.043	0.0055	ug/L		10/30/18 06:58	1
Anthracene	0.043	U M	0.11	0.043	0.0060	ug/L		10/30/18 06:58	1
Benzo[a]anthracene	0.013	U	0.11	0.013	0.0045	ug/L		10/30/18 06:58	1
Benzo[a]pyrene	0.013	U M	0.11	0.013	0.0074	ug/L		10/30/18 06:58	1

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

Client Sample ID: RQLmw-007-181001-GW **Lab Sample ID: 280-115950-4**
Date Collected: 10/22/18 12:50 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Benzo[b]fluoranthene	0.013	U	0.11	0.013	0.0033	ug/L		10/30/18 06:58	1
Benzo[g,h,i]perylene	0.013	U	0.11	0.013	0.0066	ug/L		10/30/18 06:58	1
Benzo[k]fluoranthene	0.013	U M	0.11	0.013	0.0067	ug/L		10/30/18 06:58	1
Chrysene	0.013	U	0.11	0.013	0.0035	ug/L		10/30/18 06:58	1
Dibenz(a,h)anthracene	0.013	U	0.11	0.013	0.0044	ug/L		10/30/18 06:58	1
Fluoranthene	**0.018**	**J**	0.11	0.013	0.0051	ug/L		10/30/18 06:58	1
Fluorene	0.043	U	0.11	0.043	0.0059	ug/L		10/30/18 06:58	1
Indeno[1,2,3-cd]pyrene	0.043	U	0.11	0.043	0.0048	ug/L		10/30/18 06:58	1
Naphthalene	0.013	U	0.11	0.013	0.0086	ug/L		10/30/18 06:58	1
Phenanthrene	**0.025**	**J**	0.11	0.021	0.010	ug/L		10/30/18 06:58	1
Pyrene	0.021	U	0.11	0.021	0.0065	ug/L		10/30/18 06:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*53 - 106*	*10/25/18 12:34*	*10/30/18 06:58*	*1*
Nitrobenzene-d5	*70*		*55 - 111*	*10/25/18 12:34*	*10/30/18 06:58*	*1*
Terphenyl-d14	*76*		*58 - 132*	*10/25/18 12:34*	*10/30/18 06:58*	*1*

Client Sample ID: RQLmw-008-181001-GW **Lab Sample ID: 280-115950-5**
Date Collected: 10/22/18 10:05 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1-Methylnaphthalene	0.012	U	0.099	0.012	0.0058	ug/L		10/30/18 07:27	1
2-Methylnaphthalene	0.012	U	0.099	0.012	0.0059	ug/L		10/30/18 07:27	1
Acenaphthene	0.039	U	0.099	0.039	0.0041	ug/L		10/30/18 07:27	1
Acenaphthylene	0.039	U	0.099	0.039	0.0050	ug/L		10/30/18 07:27	1
Anthracene	0.039	U	0.099	0.039	0.0055	ug/L		10/30/18 07:27	1
Benzo[a]anthracene	0.012	U	0.099	0.012	0.0041	ug/L		10/30/18 07:27	1
Benzo[a]pyrene	0.012	U M	0.099	0.012	0.0068	ug/L		10/30/18 07:27	1
Benzo[b]fluoranthene	0.012	U	0.099	0.012	0.0031	ug/L		10/30/18 07:27	1
Benzo[g,h,i]perylene	0.012	U	0.099	0.012	0.0061	ug/L		10/30/18 07:27	1
Benzo[k]fluoranthene	0.012	U M	0.099	0.012	0.0062	ug/L		10/30/18 07:27	1
Chrysene	0.012	U	0.099	0.012	0.0033	ug/L		10/30/18 07:27	1
Dibenz(a,h)anthracene	0.012	U	0.099	0.012	0.0040	ug/L		10/30/18 07:27	1
Fluoranthene	0.012	U	0.099	0.012	0.0047	ug/L		10/30/18 07:27	1
Fluorene	0.039	U	0.099	0.039	0.0054	ug/L		10/30/18 07:27	1
Indeno[1,2,3-cd]pyrene	0.039	U	0.099	0.039	0.0044	ug/L		10/30/18 07:27	1
Naphthalene	0.012	U	0.099	0.012	0.0079	ug/L		10/30/18 07:27	1
Phenanthrene	0.020	U	0.099	0.020	0.0092	ug/L		10/30/18 07:27	1
Pyrene	0.020	U	0.099	0.020	0.0060	ug/L		10/30/18 07:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*53 - 106*	*10/25/18 12:34*	*10/30/18 07:27*	*1*
Nitrobenzene-d5	*65*		*55 - 111*	*10/25/18 12:34*	*10/30/18 07:27*	*1*
Terphenyl-d14	*77*		*58 - 132*	*10/25/18 12:34*	*10/30/18 07:27*	*1*

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

Client Sample ID: LL1mw-088-181001-GW **Lab Sample ID: 280-115950-2**
Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	2.1	U	11	2.1	0.59	ug/L		10/29/18 15:31	1
Butyl benzyl phthalate	2.1	U	21	2.1	1.1	ug/L		10/29/18 15:31	1
Diethyl phthalate	1.1	U	21	1.1	0.40	ug/L		10/29/18 15:31	1
Dimethyl phthalate	0.53	U	21	0.53	0.22	ug/L		10/29/18 15:31	1
Di-n-butyl phthalate	4.6	U	21	4.6	1.2	ug/L		10/29/18 15:31	1
Di-n-octyl phthalate	1.1	U	21	1.1	0.37	ug/L		10/29/18 15:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*97*		*43 - 140*	*10/25/18 13:12*	*10/29/18 15:31*	*1*
2-Fluorobiphenyl	*91*		*44 - 119*	*10/25/18 13:12*	*10/29/18 15:31*	*1*
2-Fluorophenol (Surr)	*92*		*19 - 119*	*10/25/18 13:12*	*10/29/18 15:31*	*1*
Nitrobenzene-d5 (Surr)	*92*		*44 - 120*	*10/25/18 13:12*	*10/29/18 15:31*	*1*
Phenol-d5 (Surr)	*93*		*10 - 115*	*10/25/18 13:12*	*10/29/18 15:31*	*1*
Terphenyl-d14 (Surr)	*111*		*50 - 134*	*10/25/18 13:12*	*10/29/18 15:31*	*1*

Client Sample ID: LL1mw-088-181002-GW **Lab Sample ID: 280-115950-3**
Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	2.1	U	11	2.1	0.59	ug/L		10/29/18 16:00	1
Butyl benzyl phthalate	2.1	U	21	2.1	1.1	ug/L		10/29/18 16:00	1
Diethyl phthalate	1.1	U	21	1.1	0.40	ug/L		10/29/18 16:00	1
Dimethyl phthalate	0.53	U	21	0.53	0.22	ug/L		10/29/18 16:00	1
Di-n-butyl phthalate	4.6	U	21	4.6	1.2	ug/L		10/29/18 16:00	1
Di-n-octyl phthalate	1.1	U	21	1.1	0.37	ug/L		10/29/18 16:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*93*		*43 - 140*	*10/25/18 13:12*	*10/29/18 16:00*	*1*
2-Fluorobiphenyl	*79*		*44 - 119*	*10/25/18 13:12*	*10/29/18 16:00*	*1*
2-Fluorophenol (Surr)	*73*		*19 - 119*	*10/25/18 13:12*	*10/29/18 16:00*	*1*
Nitrobenzene-d5 (Surr)	*77*		*44 - 120*	*10/25/18 13:12*	*10/29/18 16:00*	*1*
Phenol-d5 (Surr)	*80*		*10 - 115*	*10/25/18 13:12*	*10/29/18 16:00*	*1*
Terphenyl-d14 (Surr)	*110*		*50 - 134*	*10/25/18 13:12*	*10/29/18 16:00*	*1*

Client Sample ID: RQLmw-007-181001-GW **Lab Sample ID: 280-115950-4**
Date Collected: 10/22/18 12:50 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2,4,5-Trichlorophenol	1.0	U	21	1.0	0.47	ug/L		10/29/18 16:29	1
2,4,6-Trichlorophenol	1.0	U	21	1.0	0.30	ug/L		10/29/18 16:29	1
2,4-Dichlorophenol	2.1	U	10	2.1	0.66	ug/L		10/29/18 16:29	1
2,4-Dimethylphenol	2.1	U	10	2.1	0.60	ug/L		10/29/18 16:29	1
2,4-Dinitrophenol	31	U	83	31	10	ug/L		10/29/18 16:29	1
2-Chlorophenol	4.5	U	10	4.5	2.1	ug/L		10/29/18 16:29	1
2-Methylphenol	2.1	U	10	2.1	1.0	ug/L		10/29/18 16:29	1
2-Nitrophenol	1.0	U	21	1.0	0.40	ug/L		10/29/18 16:29	1
3 & 4 Methylphenol	0.52	U	21	0.52	0.26	ug/L		10/29/18 16:29	1
4,6-Dinitro-2-methylphenol	9.1	U	83	9.1	4.1	ug/L		10/29/18 16:29	1
4-Chloro-3-methylphenol	5.2	U	21	5.2	2.5	ug/L		10/29/18 16:29	1
4-Nitrophenol	4.1	U	52	4.1	1.3	ug/L		10/29/18 16:29	1

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

Client Sample ID: RQLmw-007-181001-GW **Lab Sample ID: 280-115950-4**
Date Collected: 10/22/18 12:50 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	2.1	U	10	2.1	0.58	ug/L		10/29/18 16:29	1
Butyl benzyl phthalate	2.1	U	21	2.1	1.0	ug/L		10/29/18 16:29	1
Diethyl phthalate	1.0	U	21	1.0	0.39	ug/L		10/29/18 16:29	1
Dimethyl phthalate	0.52	U	21	0.52	0.22	ug/L		10/29/18 16:29	1
Di-n-butyl phthalate	4.5	U	21	4.5	1.2	ug/L		10/29/18 16:29	1
Di-n-octyl phthalate	1.0	U M	21	1.0	0.36	ug/L		10/29/18 16:29	1
Pentachlorophenol	62	U	83	62	21	ug/L		10/29/18 16:29	1
Phenol	4.5	U	10	4.5	2.1	ug/L		10/29/18 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*96*		*43 - 140*	*10/25/18 13:12*	*10/29/18 16:29*	*1*
2-Fluorobiphenyl	*96*		*44 - 119*	*10/25/18 13:12*	*10/29/18 16:29*	*1*
2-Fluorophenol (Surr)	*95*		*19 - 119*	*10/25/18 13:12*	*10/29/18 16:29*	*1*
Nitrobenzene-d5 (Surr)	*94*		*44 - 120*	*10/25/18 13:12*	*10/29/18 16:29*	*1*
Phenol-d5 (Surr)	*99*		*10 - 115*	*10/25/18 13:12*	*10/29/18 16:29*	*1*
Terphenyl-d14 (Surr)	*97*		*50 - 134*	*10/25/18 13:12*	*10/29/18 16:29*	*1*

Client Sample ID: RQLmw-008-181001-GW **Lab Sample ID: 280-115950-5**
Date Collected: 10/22/18 10:05 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2,4,5-Trichlorophenol	1.0	U	21	1.0	0.46	ug/L		10/29/18 16:58	1
2,4,6-Trichlorophenol	1.0	U	21	1.0	0.30	ug/L		10/29/18 16:58	1
2,4-Dichlorophenol	2.1	U	10	2.1	0.66	ug/L		10/29/18 16:58	1
2,4-Dimethylphenol	2.1	U	10	2.1	0.60	ug/L		10/29/18 16:58	1
2,4-Dinitrophenol	31	U	82	31	10	ug/L		10/29/18 16:58	1
2-Chlorophenol	4.5	U	10	4.5	2.1	ug/L		10/29/18 16:58	1
2-Methylphenol	2.1	U	10	2.1	1.0	ug/L		10/29/18 16:58	1
2-Nitrophenol	1.0	U	21	1.0	0.40	ug/L		10/29/18 16:58	1
3 & 4 Methylphenol	0.51	U	21	0.51	0.26	ug/L		10/29/18 16:58	1
4,6-Dinitro-2-methylphenol	9.0	U	82	9.0	4.1	ug/L		10/29/18 16:58	1
4-Chloro-3-methylphenol	5.1	U	21	5.1	2.5	ug/L		10/29/18 16:58	1
4-Nitrophenol	4.1	U	51	4.1	1.3	ug/L		10/29/18 16:58	1
Bis(2-ethylhexyl) phthalate	2.1	U	10	2.1	0.58	ug/L		10/29/18 16:58	1
Butyl benzyl phthalate	2.1	U	21	2.1	1.0	ug/L		10/29/18 16:58	1
Diethyl phthalate	1.0	U	21	1.0	0.39	ug/L		10/29/18 16:58	1
Dimethyl phthalate	0.51	U	21	0.51	0.22	ug/L		10/29/18 16:58	1
Di-n-butyl phthalate	4.5	U	21	4.5	1.2	ug/L		10/29/18 16:58	1
Di-n-octyl phthalate	1.0	U	21	1.0	0.36	ug/L		10/29/18 16:58	1
Pentachlorophenol	62	U	82	62	21	ug/L		10/29/18 16:58	1
Phenol	4.5	U	10	4.5	2.1	ug/L		10/29/18 16:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*92*		*43 - 140*	*10/25/18 13:12*	*10/29/18 16:58*	*1*
2-Fluorobiphenyl	*92*		*44 - 119*	*10/25/18 13:12*	*10/29/18 16:58*	*1*
2-Fluorophenol (Surr)	*89*		*19 - 119*	*10/25/18 13:12*	*10/29/18 16:58*	*1*
Nitrobenzene-d5 (Surr)	*91*		*44 - 120*	*10/25/18 13:12*	*10/29/18 16:58*	*1*
Phenol-d5 (Surr)	*93*		*10 - 115*	*10/25/18 13:12*	*10/29/18 16:58*	*1*
Terphenyl-d14 (Surr)	*96*		*50 - 134*	*10/25/18 13:12*	*10/29/18 16:58*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Client Sample ID: LL1mw-088-181001-GW **Lab Sample ID: 280-115950-2**
Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.021	U	0.053	0.021	0.0081	ug/L		11/23/18 21:04	1
4,4'-DDE	0.021	U	0.053	0.021	0.0079	ug/L		11/23/18 21:04	1
4,4'-DDT	0.053	U	0.053	0.053	0.016	ug/L		11/23/18 21:04	1
Aldrin	0.021	U	0.053	0.021	0.0062	ug/L		11/23/18 21:04	1
alpha-BHC	0.021	U	0.053	0.021	0.0056	ug/L		11/23/18 21:04	1
alpha-Chlordane	0.021	U	0.053	0.021	0.0056	ug/L		11/23/18 21:04	1
beta-BHC	0.021	U	0.053	0.021	0.0092	ug/L		11/23/18 21:04	1
delta-BHC	0.021	U	0.053	0.021	0.0061	ug/L		11/23/18 21:04	1
Dieldrin	0.021	U	0.053	0.021	0.0067	ug/L		11/23/18 21:04	1
Endosulfan I	0.021	U	0.053	0.021	0.0061	ug/L		11/23/18 21:04	1
Endosulfan II	0.021	U	0.053	0.021	0.0074	ug/L		11/23/18 21:04	1
Endosulfan sulfate	0.021	U	0.053	0.021	0.0060	ug/L		11/23/18 21:04	1
Endrin	0.021	U	0.053	0.021	0.0084	ug/L		11/23/18 21:04	1
Endrin aldehyde	0.021	U	0.053	0.021	0.0093	ug/L		11/23/18 21:04	1
Endrin ketone	0.021	U	0.053	0.021	0.0074	ug/L		11/23/18 21:04	1
gamma-BHC (Lindane)	0.021	U	0.053	0.021	0.0073	ug/L		11/23/18 21:04	1
gamma-Chlordane	0.021	U	0.053	0.021	0.0096	ug/L		11/23/18 21:04	1
Heptachlor	0.021	U	0.053	0.021	0.0081	ug/L		11/23/18 21:04	1
Heptachlor epoxide	0.021	U	0.053	0.021	0.0079	ug/L		11/23/18 21:04	1
Methoxychlor	0.053	U	0.053	0.053	0.014	ug/L		11/23/18 21:04	1
Toxaphene	0.85	U Q	2.1	0.85	0.39	ug/L		11/23/18 21:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*89*		*34 - 122*	*10/25/18 09:01*	*11/23/18 21:04*	*1*
Tetrachloro-m-xylene	*86*		*44 - 124*	*10/25/18 09:01*	*11/23/18 21:04*	*1*

Client Sample ID: LL1mw-088-181002-GW **Lab Sample ID: 280-115950-3**
Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.021	U	0.052	0.021	0.0081	ug/L		11/23/18 21:22	1
4,4'-DDE	0.021	U	0.052	0.021	0.0079	ug/L		11/23/18 21:22	1
4,4'-DDT	0.052	U	0.052	0.052	0.016	ug/L		11/23/18 21:22	1
Aldrin	0.021	U	0.052	0.021	0.0062	ug/L		11/23/18 21:22	1
alpha-BHC	0.021	U	0.052	0.021	0.0056	ug/L		11/23/18 21:22	1
alpha-Chlordane	0.021	U	0.052	0.021	0.0056	ug/L		11/23/18 21:22	1
beta-BHC	0.021	U	0.052	0.021	0.0091	ug/L		11/23/18 21:22	1
delta-BHC	0.021	U	0.052	0.021	0.0061	ug/L		11/23/18 21:22	1
Dieldrin	0.021	U	0.052	0.021	0.0066	ug/L		11/23/18 21:22	1
Endosulfan I	0.021	U	0.052	0.021	0.0061	ug/L		11/23/18 21:22	1
Endosulfan II	0.021	U	0.052	0.021	0.0073	ug/L		11/23/18 21:22	1
Endosulfan sulfate	0.021	U	0.052	0.021	0.0060	ug/L		11/23/18 21:22	1
Endrin	0.021	U	0.052	0.021	0.0083	ug/L		11/23/18 21:22	1
Endrin aldehyde	0.021	U	0.052	0.021	0.0092	ug/L		11/23/18 21:22	1
Endrin ketone	0.021	U	0.052	0.021	0.0073	ug/L		11/23/18 21:22	1
gamma-BHC (Lindane)	0.021	U	0.052	0.021	0.0072	ug/L		11/23/18 21:22	1
gamma-Chlordane	0.021	U	0.052	0.021	0.0095	ug/L		11/23/18 21:22	1
Heptachlor	0.021	U	0.052	0.021	0.0081	ug/L		11/23/18 21:22	1
Heptachlor epoxide	0.021	U	0.052	0.021	0.0079	ug/L		11/23/18 21:22	1
Methoxychlor	0.052	U	0.052	0.052	0.014	ug/L		11/23/18 21:22	1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Client Sample ID: LL1mw-088-181002-GW **Lab Sample ID: 280-115950-3**
Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Toxaphene	0.84	U Q	2.1	0.84	0.38	ug/L		11/23/18 21:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*89*		*34 - 122*	*10/25/18 09:01*	*11/23/18 21:22*	*1*
Tetrachloro-m-xylene	*91*		*44 - 124*	*10/25/18 09:01*	*11/23/18 21:22*	*1*

Client Sample ID: RQLmw-007-181001-GW **Lab Sample ID: 280-115950-4**
Date Collected: 10/22/18 12:50 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.019	U	0.048	0.019	0.0074	ug/L		11/23/18 21:39	1
4,4'-DDE	0.019	U	0.048	0.019	0.0072	ug/L		11/23/18 21:39	1
4,4'-DDT	0.048	U	0.048	0.048	0.014	ug/L		11/23/18 21:39	1
Aldrin	0.019	U	0.048	0.019	0.0057	ug/L		11/23/18 21:39	1
alpha-BHC	0.019	U	0.048	0.019	0.0051	ug/L		11/23/18 21:39	1
alpha-Chlordane	0.019	U	0.048	0.019	0.0051	ug/L		11/23/18 21:39	1
beta-BHC	0.019	U	0.048	0.019	0.0084	ug/L		11/23/18 21:39	1
delta-BHC	0.019	U	0.048	0.019	0.0056	ug/L		11/23/18 21:39	1
Dieldrin	0.019	U	0.048	0.019	0.0061	ug/L		11/23/18 21:39	1
Endosulfan I	0.019	U	0.048	0.019	0.0056	ug/L		11/23/18 21:39	1
Endosulfan II	0.019	U	0.048	0.019	0.0068	ug/L		11/23/18 21:39	1
Endosulfan sulfate	0.019	U	0.048	0.019	0.0055	ug/L		11/23/18 21:39	1
Endrin	0.019	U	0.048	0.019	0.0076	ug/L		11/23/18 21:39	1
Endrin aldehyde	0.019	U	0.048	0.019	0.0085	ug/L		11/23/18 21:39	1
Endrin ketone	0.019	U	0.048	0.019	0.0068	ug/L		11/23/18 21:39	1
gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0067	ug/L		11/23/18 21:39	1
gamma-Chlordane	0.019	U	0.048	0.019	0.0088	ug/L		11/23/18 21:39	1
Heptachlor	0.019	U	0.048	0.019	0.0074	ug/L		11/23/18 21:39	1
Heptachlor epoxide	0.019	U	0.048	0.019	0.0072	ug/L		11/23/18 21:39	1
Methoxychlor	0.048	U	0.048	0.048	0.013	ug/L		11/23/18 21:39	1
Toxaphene	0.77	U Q	1.9	0.77	0.35	ug/L		11/23/18 21:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*64*		*34 - 122*	*10/25/18 09:01*	*11/23/18 21:39*	*1*
Tetrachloro-m-xylene	*82*		*44 - 124*	*10/25/18 09:01*	*11/23/18 21:39*	*1*

Client Sample ID: RQLmw-008-181001-GW **Lab Sample ID: 280-115950-5**
Date Collected: 10/22/18 10:05 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.021	U	0.051	0.021	0.0079	ug/L		11/23/18 21:57	1
4,4'-DDE	0.021	U	0.051	0.021	0.0077	ug/L		11/23/18 21:57	1
4,4'-DDT	0.051	U	0.051	0.051	0.015	ug/L		11/23/18 21:57	1
Aldrin	0.021	U	0.051	0.021	0.0061	ug/L		11/23/18 21:57	1
alpha-BHC	0.021	U	0.051	0.021	0.0055	ug/L		11/23/18 21:57	1
alpha-Chlordane	0.021	U	0.051	0.021	0.0055	ug/L		11/23/18 21:57	1
beta-BHC	0.021	U	0.051	0.021	0.0089	ug/L		11/23/18 21:57	1
delta-BHC	0.021	U	0.051	0.021	0.0060	ug/L		11/23/18 21:57	1
Dieldrin	0.021	U	0.051	0.021	0.0065	ug/L		11/23/18 21:57	1
Endosulfan I	0.021	U	0.051	0.021	0.0060	ug/L		11/23/18 21:57	1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Client Sample ID: RQLmw-008-181001-GW **Lab Sample ID: 280-115950-5**
Date Collected: 10/22/18 10:05 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Endosulfan II	0.021	U	0.051	0.021	0.0072	ug/L		11/23/18 21:57	1
Endosulfan sulfate	0.021	U	0.051	0.021	0.0059	ug/L		11/23/18 21:57	1
Endrin	0.021	U	0.051	0.021	0.0081	ug/L		11/23/18 21:57	1
Endrin aldehyde	0.021	U	0.051	0.021	0.0091	ug/L		11/23/18 21:57	1
Endrin ketone	0.021	U	0.051	0.021	0.0072	ug/L		11/23/18 21:57	1
gamma-BHC (Lindane)	0.021	U	0.051	0.021	0.0071	ug/L		11/23/18 21:57	1
gamma-Chlordane	0.021	U	0.051	0.021	0.0094	ug/L		11/23/18 21:57	1
Heptachlor	0.021	U	0.051	0.021	0.0079	ug/L		11/23/18 21:57	1
Heptachlor epoxide	0.021	U	0.051	0.021	0.0077	ug/L		11/23/18 21:57	1
Methoxychlor	0.051	U	0.051	0.051	0.013	ug/L		11/23/18 21:57	1
Toxaphene	0.82	U Q	2.1	0.82	0.38	ug/L		11/23/18 21:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*61*		*34 - 122*	*10/25/18 09:01*	*11/23/18 21:57*	*1*
Tetrachloro-m-xylene	*76*		*44 - 124*	*10/25/18 09:01*	*11/23/18 21:57*	*1*

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

Client Sample ID: RQLmw-007-181001-GW **Lab Sample ID: 280-115950-4**
Date Collected: 10/22/18 12:50 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
PCB-1016	0.39	U	0.97	0.39	0.12	ug/L		11/16/18 03:07	1
PCB-1221	0.24	U M	0.97	0.24	0.21	ug/L		11/16/18 03:07	1
PCB-1232	0.58	U M	0.97	0.58	0.16	ug/L		11/16/18 03:07	1
PCB-1242	0.29	U	0.97	0.29	0.10	ug/L		11/16/18 03:07	1
PCB-1248	0.29	U	0.97	0.29	0.088	ug/L		11/16/18 03:07	1
PCB-1254	0.24	U	0.97	0.24	0.11	ug/L		11/16/18 03:07	1
PCB-1260	0.39	U	0.97	0.39	0.15	ug/L		11/16/18 03:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*87*		*25 - 120*	*10/25/18 09:01*	*11/16/18 03:07*	*1*
DCB Decachlorobiphenyl	*67*		*30 - 136*	*10/25/18 09:01*	*11/16/18 03:07*	*1*

Client Sample ID: RQLmw-008-181001-GW **Lab Sample ID: 280-115950-5**
Date Collected: 10/22/18 10:05 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
PCB-1016	0.41	U M	1.0	0.41	0.13	ug/L		11/16/18 03:28	1
PCB-1221	0.26	U M	1.0	0.26	0.22	ug/L		11/16/18 03:28	1
PCB-1232	0.62	U M	1.0	0.62	0.17	ug/L		11/16/18 03:28	1
PCB-1242	0.31	U M	1.0	0.31	0.11	ug/L		11/16/18 03:28	1
PCB-1248	0.31	U M	1.0	0.31	0.094	ug/L		11/16/18 03:28	1
PCB-1254	0.26	U	1.0	0.26	0.12	ug/L		11/16/18 03:28	1
PCB-1260	0.41	U	1.0	0.41	0.16	ug/L		11/16/18 03:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*84*		*25 - 120*	*10/25/18 09:01*	*11/16/18 03:28*	*1*
DCB Decachlorobiphenyl	*69*		*30 - 136*	*10/25/18 09:01*	*11/16/18 03:28*	*1*

Method: 8330B - Nitroaromatics and Nitramines (HPLC)

Client Sample ID: LL1mw-064-181001-GW **Lab Sample ID: 280-115950-1**
Date Collected: 10/22/18 12:20 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.41	U	1.0	0.41	0.20	ug/L		10/27/18 08:32	1
1,3-Dinitrobenzene	0.20	U	0.41	0.20	0.091	ug/L		10/27/18 08:32	1
2,4,6-Trinitrotoluene	0.20	U	0.41	0.20	0.074	ug/L		10/27/18 08:32	1
2,4-Dinitrotoluene	0.20	U	0.41	0.20	0.086	ug/L		10/27/18 08:32	1
2,6-Dinitrotoluene	0.20	U	0.20	0.20	0.066	ug/L		10/27/18 08:32	1
2-Amino-4,6-dinitrotoluene	0.12	U	0.20	0.12	0.052	ug/L		10/27/18 08:32	1
2-Nitrotoluene	0.20	U	0.41	0.20	0.087	ug/L		10/27/18 08:32	1
3-Nitrotoluene	0.20	U	0.41	0.20	0.085	ug/L		10/27/18 08:32	1
4-Amino-2,6-dinitrotoluene	0.12	U	0.20	0.12	0.059	ug/L		10/27/18 08:32	1
4-Nitrotoluene	0.41	U	1.0	0.41	0.20	ug/L		10/27/18 08:32	1
HMX	0.20	U M	0.41	0.20	0.089	ug/L		10/27/18 08:32	1
Nitrobenzene	0.20	U	0.41	0.20	0.093	ug/L		10/27/18 08:32	1
Nitroglycerin	2.0	U	3.1	2.0	0.94	ug/L		10/27/18 08:32	1
PETN	1.2	U	2.0	1.2	0.42	ug/L		10/27/18 08:32	1
RDX	0.12	U	0.20	0.12	0.053	ug/L		10/27/18 08:32	1
Tetryl	0.20	U Q	0.25	0.20	0.081	ug/L		10/27/18 08:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*96*		*83 - 119*	*10/24/18 12:14*	*10/27/18 08:32*	*1*

Client Sample ID: LL1mw-088-181001-GW **Lab Sample ID: 280-115950-2**
Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.42	U	1.1	0.42	0.21	ug/L		10/27/18 08:55	1
1,3-Dinitrobenzene	0.21	U	0.42	0.21	0.094	ug/L		10/27/18 08:55	1
2,4,6-Trinitrotoluene	0.21	U	0.42	0.21	0.077	ug/L		10/27/18 08:55	1
2,4-Dinitrotoluene	0.21	U	0.42	0.21	0.089	ug/L		10/27/18 08:55	1
2,6-Dinitrotoluene	0.21	U	0.21	0.21	0.068	ug/L		10/27/18 08:55	1
2-Amino-4,6-dinitrotoluene	0.13	U	0.21	0.13	0.054	ug/L		10/27/18 08:55	1
2-Nitrotoluene	0.21	U	0.42	0.21	0.090	ug/L		10/27/18 08:55	1
3-Nitrotoluene	0.21	U	0.42	0.21	0.088	ug/L		10/27/18 08:55	1
4-Amino-2,6-dinitrotoluene	0.13	U	0.21	0.13	0.061	ug/L		10/27/18 08:55	1
4-Nitrotoluene	0.42	U	1.1	0.42	0.21	ug/L		10/27/18 08:55	1
HMX	0.21	U M	0.42	0.21	0.093	ug/L		10/27/18 08:55	1
Nitrobenzene	0.21	U	0.42	0.21	0.096	ug/L		10/27/18 08:55	1
Nitroglycerin	2.1	U	3.2	2.1	0.97	ug/L		10/27/18 08:55	1
PETN	1.3	U	2.1	1.3	0.44	ug/L		10/27/18 08:55	1
RDX	0.13	U	0.21	0.13	0.055	ug/L		10/27/18 08:55	1
Tetryl	0.21	U Q	0.25	0.21	0.084	ug/L		10/27/18 08:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*98*		*83 - 119*	*10/24/18 12:14*	*10/27/18 08:55*	*1*

Client Sample ID: LL1mw-088-181002-GW **Lab Sample ID: 280-115950-3**
Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.42	U	1.1	0.42	0.21	ug/L		10/27/18 09:18	1
1,3-Dinitrobenzene	0.21	U	0.42	0.21	0.094	ug/L		10/27/18 09:18	1

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

Client Sample ID: LL1mw-088-181002-GW **Lab Sample ID: 280-115950-3**
Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2,4,6-Trinitrotoluene	0.21	U	0.42	0.21	0.077	ug/L		10/27/18 09:18	1
2,4-Dinitrotoluene	0.21	U	0.42	0.21	0.089	ug/L		10/30/18 17:09	1
2,6-Dinitrotoluene	0.21	U	0.21	0.21	0.068	ug/L		10/27/18 09:18	1
2-Amino-4,6-dinitrotoluene	0.13	U	0.21	0.13	0.054	ug/L		10/27/18 09:18	1
2-Nitrotoluene	0.21	U	0.42	0.21	0.091	ug/L		10/27/18 09:18	1
3-Nitrotoluene	0.21	U M	0.42	0.21	0.088	ug/L		10/27/18 09:18	1
4-Amino-2,6-dinitrotoluene	0.13	U	0.21	0.13	0.061	ug/L		10/27/18 09:18	1
4-Nitrotoluene	0.42	U	1.1	0.42	0.21	ug/L		10/27/18 09:18	1
HMX	0.21	U M	0.42	0.21	0.093	ug/L		10/27/18 09:18	1
Nitrobenzene	0.21	U	0.42	0.21	0.097	ug/L		10/27/18 09:18	1
Nitroglycerin	2.1	U	3.2	2.1	0.98	ug/L		10/27/18 09:18	1
PETN	1.3	U	2.1	1.3	0.44	ug/L		10/27/18 09:18	1
RDX	0.13	U	0.21	0.13	0.055	ug/L		10/30/18 17:09	1
Tetryl	0.21	U Q	0.25	0.21	0.084	ug/L		10/27/18 09:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*101*	*M*	*83 - 119*	*10/24/18 12:14*	*10/27/18 09:18*	*1*
1,2-Dinitrobenzene	*85*		*83 - 119*	*10/24/18 12:14*	*10/30/18 17:09*	*1*

Client Sample ID: RQLmw-007-181001-GW **Lab Sample ID: 280-115950-4**
Date Collected: 10/22/18 12:50 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.42	U	1.1	0.42	0.21	ug/L		10/27/18 09:41	1
1,3-Dinitrobenzene	0.21	U	0.42	0.21	0.093	ug/L		10/27/18 09:41	1
2,4,6-Trinitrotoluene	0.21	U	0.42	0.21	0.076	ug/L		10/27/18 09:41	1
2,4-Dinitrotoluene	0.21	U	0.42	0.21	0.088	ug/L		10/27/18 09:41	1
2,6-Dinitrotoluene	0.21	U	0.21	0.21	0.068	ug/L		10/27/18 09:41	1
2-Amino-4,6-dinitrotoluene	0.13	U	0.21	0.13	0.053	ug/L		10/27/18 09:41	1
2-Nitrotoluene	0.21	U	0.42	0.21	0.090	ug/L		10/27/18 09:41	1
3-Nitrotoluene	0.21	U	0.42	0.21	0.088	ug/L		10/27/18 09:41	1
4-Amino-2,6-dinitrotoluene	0.13	U	0.21	0.13	0.061	ug/L		10/27/18 09:41	1
4-Nitrotoluene	0.42	U	1.1	0.42	0.21	ug/L		10/27/18 09:41	1
HMX	0.21	U M	0.42	0.21	0.092	ug/L		10/27/18 09:41	1
Nitrobenzene	0.21	U	0.42	0.21	0.096	ug/L		10/27/18 09:41	1
Nitroglycerin	2.1	U	3.2	2.1	0.97	ug/L		10/27/18 09:41	1
PETN	1.3	U	2.1	1.3	0.44	ug/L		10/27/18 09:41	1
RDX	0.13	U	0.21	0.13	0.055	ug/L		10/27/18 09:41	1
Tetryl	0.21	U Q	0.25	0.21	0.084	ug/L		10/27/18 09:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*99*		*83 - 119*	*10/24/18 12:14*	*10/27/18 09:41*	*1*

Client Sample ID: RQLmw-008-181001-GW **Lab Sample ID: 280-115950-5**
Date Collected: 10/22/18 10:05 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.42	U	1.1	0.42	0.21	ug/L		10/27/18 10:04	1
1,3-Dinitrobenzene	0.21	U	0.42	0.21	0.094	ug/L		10/27/18 10:04	1
2,4,6-Trinitrotoluene	0.21	U	0.42	0.21	0.076	ug/L		10/27/18 10:04	1

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

Client Sample ID: RQLmw-008-181001-GW **Lab Sample ID: 280-115950-5**
Date Collected: 10/22/18 10:05 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2,4-Dinitrotoluene	0.21	U Q	0.42	0.21	0.088	ug/L		10/30/18 17:44	1
2,6-Dinitrotoluene	0.21	U	0.21	0.21	0.068	ug/L		10/27/18 10:04	1
2-Amino-4,6-dinitrotoluene	0.13	U	0.21	0.13	0.053	ug/L		10/27/18 10:04	1
2-Nitrotoluene	0.21	U M	0.42	0.21	0.090	ug/L		10/27/18 10:04	1
3-Nitrotoluene	0.21	U M	0.42	0.21	0.088	ug/L		10/27/18 10:04	1
4-Amino-2,6-dinitrotoluene	0.13	U M	0.21	0.13	0.061	ug/L		10/27/18 10:04	1
4-Nitrotoluene	0.42	U M	1.1	0.42	0.21	ug/L		10/27/18 10:04	1
HMX	**0.27**	**J M**	0.42	0.21	0.092	ug/L		10/27/18 10:04	1
Nitrobenzene	0.21	U	0.42	0.21	0.096	ug/L		10/27/18 10:04	1
Nitroglycerin	2.1	U M	3.2	2.1	0.97	ug/L		10/27/18 10:04	1
PETN	1.3	U	2.1	1.3	0.44	ug/L		10/27/18 10:04	1
RDX	**0.85**	**M J1**	0.21	0.13	0.055	ug/L		10/27/18 10:04	1
RDX	**0.39**	**Q B J1**	0.21	0.13	0.055	ug/L		10/30/18 17:44	1
Tetryl	0.21	U M Q	0.25	0.21	0.084	ug/L		10/30/18 17:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*108*	*M*	*83 - 119*	*10/24/18 12:14*	*10/27/18 10:04*	*1*
1,2-Dinitrobenzene	*81*	*Q*	*83 - 119*	*10/24/18 12:14*	*10/30/18 17:44*	*1*

Method: 6010C - Metals (ICP)

Client Sample ID: LL1mw-064-181001-GW **Lab Sample ID: 280-115950-1**
Date Collected: 10/22/18 12:20 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	**44**	**J**	300	70	18	ug/L		10/30/18 00:40	1
Calcium	**62000**		1000	140	35	ug/L		10/30/18 00:40	1
Iron	**1100**		100	85	22	ug/L		10/30/18 00:40	1
Magnesium	**9500**		500	40	11	ug/L		10/30/18 00:40	1
Potassium	**1000**	**J**	3000	940	240	ug/L		10/30/18 00:40	1
Sodium	**5000**		5000	350	120	ug/L		10/30/18 00:40	1

Client Sample ID: LL1mw-088-181001-GW **Lab Sample ID: 280-115950-2**
Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	**39**	**J**	300	70	18	ug/L		10/30/18 00:43	1
Calcium	**88000**		1000	140	35	ug/L		10/30/18 00:43	1
Iron	**1600**		100	85	22	ug/L		10/30/18 00:43	1
Magnesium	**35000**		500	40	11	ug/L		10/30/18 00:43	1
Potassium	**2500**	**J**	3000	940	240	ug/L		10/30/18 00:43	1
Sodium	**25000**		5000	350	120	ug/L		10/30/18 00:43	1

Client Sample ID: LL1mw-088-181002-GW **Lab Sample ID: 280-115950-3**
Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	**38**	**J**	300	70	18	ug/L		10/30/18 01:13	1
Calcium	**87000**		1000	140	35	ug/L		10/30/18 01:13	1
Iron	**1600**		100	85	22	ug/L		10/30/18 01:13	1

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

Client Sample ID: LL1mw-088-181002-GW **Lab Sample ID: 280-115950-3**
Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Magnesium	**35000**		500	40	11	ug/L		10/30/18 01:13	1
Potassium	**2500**	**J**	3000	940	240	ug/L		10/30/18 01:13	1
Sodium	**25000**		5000	350	120	ug/L		10/30/18 01:13	1

Client Sample ID: RQLmw-007-181001-GW **Lab Sample ID: 280-115950-4**
Date Collected: 10/22/18 12:50 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	300	70	18	ug/L		10/30/18 01:17	1
Phosphorus	**56**	**J**	3000	50	14	ug/L		10/30/18 01:17	1
Calcium	**150000**		1000	140	35	ug/L		10/30/18 01:17	1
Iron	**12000**		100	85	22	ug/L		10/30/18 01:17	1
Magnesium	**97000**		500	40	11	ug/L		10/30/18 01:17	1
Potassium	**6900**		3000	940	240	ug/L		10/30/18 01:17	1
Sodium	**5100**		5000	350	120	ug/L		10/30/18 01:17	1

Client Sample ID: RQLmw-008-181001-GW **Lab Sample ID: 280-115950-5**
Date Collected: 10/22/18 10:05 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	300	70	18	ug/L		10/30/18 01:20	1
Calcium	**58000**		1000	140	35	ug/L		10/30/18 01:20	1
Iron	**53000**		100	85	22	ug/L		10/30/18 01:20	1
Magnesium	**49000**		500	40	11	ug/L		10/30/18 01:20	1
Potassium	**3900**		3000	940	240	ug/L		10/30/18 01:20	1
Sodium	**3600**	**J**	5000	350	120	ug/L		10/30/18 01:20	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: LL1mw-064-181001-GW **Lab Sample ID: 280-115950-1**
Date Collected: 10/22/18 12:20 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Antimony	1.0	U	6.0	1.0	0.40	ug/L		11/02/18 23:20	1
Arsenic	**4.9**	**J**	5.0	1.0	0.33	ug/L		11/02/18 23:20	1
Barium	**54**		3.0	0.95	0.29	ug/L		11/02/18 23:20	1
Beryllium	0.30	U	1.0	0.30	0.080	ug/L		11/02/18 23:20	1
Cadmium	1.0	U	1.0	1.0	0.27	ug/L		11/02/18 23:20	1
Chromium	1.8	U	10	1.8	0.50	ug/L		11/02/18 23:20	1
Cobalt	**0.28**	**J**	1.0	0.20	0.054	ug/L		11/02/18 23:20	1
Copper	1.8	U	2.0	1.8	0.56	ug/L		11/02/18 23:20	1
Lead	**0.18**	**J**	3.0	0.70	0.18	ug/L		11/02/18 23:20	1
Manganese	**190**		3.5	0.95	0.31	ug/L		11/02/18 23:20	1
Nickel	1.0	U	3.0	1.0	0.30	ug/L		11/02/18 23:20	1
Selenium	2.0	U	5.0	2.0	0.70	ug/L		11/02/18 23:20	1
Silver	0.10	U	5.0	0.10	0.033	ug/L		11/02/18 23:20	1
Thallium	0.20	U	1.0	0.20	0.050	ug/L		11/02/18 23:20	1
Vanadium	2.0	U	6.0	2.0	0.50	ug/L		11/02/18 23:20	1
Zinc	8.0	U	20	8.0	2.0	ug/L		11/02/18 23:20	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: LL1mw-088-181001-GW **Lab Sample ID: 280-115950-2**
Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Antimony	1.0	U	6.0	1.0	0.40	ug/L		11/02/18 23:35	1
Arsenic	**29**		5.0	1.0	0.33	ug/L		11/02/18 23:35	1
Barium	**37**		3.0	0.95	0.29	ug/L		11/02/18 23:35	1
Beryllium	0.30	U	1.0	0.30	0.080	ug/L		11/02/18 23:35	1
Cadmium	1.0	U	1.0	1.0	0.27	ug/L		11/02/18 23:35	1
Chromium	1.8	U	10	1.8	0.50	ug/L		11/02/18 23:35	1
Cobalt	**0.096**	**J**	1.0	0.20	0.054	ug/L		11/02/18 23:35	1
Copper	1.8	U	2.0	1.8	0.56	ug/L		11/02/18 23:35	1
Lead	0.70	U	3.0	0.70	0.18	ug/L		11/02/18 23:35	1
Manganese	**45**		3.5	0.95	0.31	ug/L		11/02/18 23:35	1
Nickel	1.0	U	3.0	1.0	0.30	ug/L		11/02/18 23:35	1
Selenium	2.0	U	5.0	2.0	0.70	ug/L		11/02/18 23:35	1
Silver	0.10	U	5.0	0.10	0.033	ug/L		11/02/18 23:35	1
Thallium	0.20	U	1.0	0.20	0.050	ug/L		11/02/18 23:35	1
Vanadium	2.0	U	6.0	2.0	0.50	ug/L		11/02/18 23:35	1
Zinc	8.0	U	20	8.0	2.0	ug/L		11/02/18 23:35	1

Client Sample ID: LL1mw-088-181002-GW **Lab Sample ID: 280-115950-3**
Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Antimony	**0.72**	**J**	6.0	1.0	0.40	ug/L		11/02/18 23:54	1
Arsenic	**30**		5.0	1.0	0.33	ug/L		11/02/18 23:54	1
Barium	**35**		3.0	0.95	0.29	ug/L		11/02/18 23:54	1
Beryllium	**0.21**	**J**	1.0	0.30	0.080	ug/L		11/02/18 23:54	1
Cadmium	1.0	U	1.0	1.0	0.27	ug/L		11/02/18 23:54	1
Chromium	1.8	U	10	1.8	0.50	ug/L		11/02/18 23:54	1
Cobalt	**0.14**	**J**	1.0	0.20	0.054	ug/L		11/02/18 23:54	1
Copper	1.8	U	2.0	1.8	0.56	ug/L		11/02/18 23:54	1
Lead	0.70	U	3.0	0.70	0.18	ug/L		11/02/18 23:54	1
Manganese	**47**		3.5	0.95	0.31	ug/L		11/02/18 23:54	1
Nickel	1.0	U	3.0	1.0	0.30	ug/L		11/02/18 23:54	1
Selenium	2.0	U	5.0	2.0	0.70	ug/L		11/02/18 23:54	1
Silver	0.10	U	5.0	0.10	0.033	ug/L		11/02/18 23:54	1
Thallium	**0.057**	**J**	1.0	0.20	0.050	ug/L		11/02/18 23:54	1
Vanadium	2.0	U	6.0	2.0	0.50	ug/L		11/02/18 23:54	1
Zinc	**3.5**	**J**	20	8.0	2.0	ug/L		11/02/18 23:54	1

Client Sample ID: RQLmw-007-181001-GW **Lab Sample ID: 280-115950-4**
Date Collected: 10/22/18 12:50 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Antimony	1.0	U	6.0	1.0	0.40	ug/L		11/02/18 23:58	1
Arsenic	**32**		5.0	1.0	0.33	ug/L		11/02/18 23:58	1
Barium	**50**		3.0	0.95	0.29	ug/L		11/02/18 23:58	1
Beryllium	0.30	U	1.0	0.30	0.080	ug/L		11/02/18 23:58	1
Cadmium	1.0	U	1.0	1.0	0.27	ug/L		11/02/18 23:58	1
Chromium	1.8	U	10	1.8	0.50	ug/L		11/02/18 23:58	1
Cobalt	**4.1**		1.0	0.20	0.054	ug/L		11/02/18 23:58	1
Copper	1.8	U	2.0	1.8	0.56	ug/L		11/02/18 23:58	1

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

Client Sample ID: RQLmw-007-181001-GW **Lab Sample ID: 280-115950-4**
Date Collected: 10/22/18 12:50 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Lead	0.70	U	3.0	0.70	0.18	ug/L		11/02/18 23:58	1
Manganese	**1100**		3.5	0.95	0.31	ug/L		11/02/18 23:58	1
Nickel	**10**		3.0	1.0	0.30	ug/L		11/02/18 23:58	1
Selenium	2.0	U	5.0	2.0	0.70	ug/L		11/02/18 23:58	1
Silver	0.10	U	5.0	0.10	0.033	ug/L		11/02/18 23:58	1
Thallium	0.20	U	1.0	0.20	0.050	ug/L		11/02/18 23:58	1
Vanadium	2.0	U	6.0	2.0	0.50	ug/L		11/02/18 23:58	1
Zinc	**3.5**	**J**	20	8.0	2.0	ug/L		11/02/18 23:58	1

Client Sample ID: RQLmw-008-181001-GW **Lab Sample ID: 280-115950-5**
Date Collected: 10/22/18 10:05 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Antimony	**0.43**	**J**	6.0	1.0	0.40	ug/L		11/03/18 00:01	1
Arsenic	**20**		5.0	1.0	0.33	ug/L		11/03/18 00:01	1
Barium	**55**		3.0	0.95	0.29	ug/L		11/03/18 00:01	1
Beryllium	0.30	U	1.0	0.30	0.080	ug/L		11/03/18 00:01	1
Cadmium	1.0	U	1.0	1.0	0.27	ug/L		11/03/18 00:01	1
Chromium	1.8	U	10	1.8	0.50	ug/L		11/03/18 00:01	1
Cobalt	**4.2**		1.0	0.20	0.054	ug/L		11/03/18 00:01	1
Copper	1.8	U	2.0	1.8	0.56	ug/L		11/03/18 00:01	1
Lead	0.70	U	3.0	0.70	0.18	ug/L		11/03/18 00:01	1
Manganese	**500**		3.5	0.95	0.31	ug/L		11/03/18 00:01	1
Nickel	**9.5**		3.0	1.0	0.30	ug/L		11/03/18 00:01	1
Selenium	2.0	U	5.0	2.0	0.70	ug/L		11/03/18 00:01	1
Silver	0.10	U	5.0	0.10	0.033	ug/L		11/03/18 00:01	1
Thallium	**0.26**	**J**	1.0	0.20	0.050	ug/L		11/03/18 00:01	1
Vanadium	2.0	U	6.0	2.0	0.50	ug/L		11/03/18 00:01	1
Zinc	**820**		20	8.0	2.0	ug/L		11/03/18 00:01	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: LL1mw-064-181001-GW **Lab Sample ID: 280-115950-1**
Date Collected: 10/22/18 12:20 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	0.027	ug/L		11/04/18 08:49	1

Client Sample ID: LL1mw-088-181001-GW **Lab Sample ID: 280-115950-2**
Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	0.027	ug/L		11/04/18 08:51	1

Client Sample ID: LL1mw-088-181002-GW **Lab Sample ID: 280-115950-3**
Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	0.027	ug/L		11/04/18 09:02	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: RQLmw-007-181001-GW **Lab Sample ID: 280-115950-4**
Date Collected: 10/22/18 12:50 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	0.027	ug/L		11/04/18 09:05	1

Client Sample ID: RQLmw-008-181001-GW **Lab Sample ID: 280-115950-5**
Date Collected: 10/22/18 10:05 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Mercury	**0.31**		0.20	0.080	0.027	ug/L		11/04/18 09:07	1

General Chemistry

Client Sample ID: LL1mw-088-181001-GW **Lab Sample ID: 280-115950-2**
Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	**280**		5.0	5.0	1.1	mg/L		10/26/18 20:32	1

Client Sample ID: RQLmw-007-181001-GW **Lab Sample ID: 280-115950-4**
Date Collected: 10/22/18 12:50 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	**0.0046**	**J**	0.010	0.0050	0.0020	mg/L		11/05/18 17:26	1

Client Sample ID: RQLmw-008-181001-GW **Lab Sample ID: 280-115950-5**
Date Collected: 10/22/18 10:05 **Matrix: Water**
Date Received: 10/23/18 08:50

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.0050	U	0.010	0.0050	0.0020	mg/L		11/05/18 17:27	1

Default Detection Limits

Client: Leidos, Inc.
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

TestAmerica Job ID: 280-115950-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	LOQ	DL	Units	Method
1,1,1-Trichloroethane	1.0	0.16	ug/L	8260B
1,1,2,2-Tetrachloroethane	1.0	0.21	ug/L	8260B
1,1,2-Trichloroethane	1.0	0.27	ug/L	8260B
1,1-Dichloroethane	1.0	0.22	ug/L	8260B
1,1-Dichloroethene	1.0	0.23	ug/L	8260B
1,2-Dibromoethane	1.0	0.18	ug/L	8260B
1,2-Dichloroethane	1.0	0.13	ug/L	8260B
1,2-Dichloroethene, Total	1.0	0.24	ug/L	8260B
1,2-Dichloropropane	1.0	0.18	ug/L	8260B
2-Butanone (MEK)	6.0	2.0	ug/L	8260B
2-Hexanone	5.0	1.7	ug/L	8260B
4-Methyl-2-pentanone (MIBK)	5.0	0.98	ug/L	8260B
Acetone	10	1.9	ug/L	8260B
Benzene	1.0	0.16	ug/L	8260B
Bromobenzene	1.0	0.17	ug/L	8260B
Bromochloromethane	1.0	0.10	ug/L	8260B
Bromodichloromethane	1.0	0.17	ug/L	8260B
Bromoform	1.0	0.19	ug/L	8260B
Bromomethane	2.0	0.21	ug/L	8260B
Carbon disulfide	2.0	0.45	ug/L	8260B
Carbon tetrachloride	2.0	0.19	ug/L	8260B
Chlorobenzene	1.0	0.17	ug/L	8260B
Chloroethane	2.0	0.41	ug/L	8260B
Chloroform	1.0	0.16	ug/L	8260B
Chloromethane	2.0	0.30	ug/L	8260B
cis-1,3-Dichloropropene	1.0	0.16	ug/L	8260B
Dibromochloromethane	1.0	0.17	ug/L	8260B
Ethylbenzene	1.0	0.16	ug/L	8260B
Methylene Chloride	5.0	0.32	ug/L	8260B
Styrene	1.0	0.17	ug/L	8260B
Tetrachloroethene	1.0	0.20	ug/L	8260B
Toluene	1.0	0.17	ug/L	8260B
trans-1,3-Dichloropropene	1.0	0.19	ug/L	8260B
Trichloroethene	1.0	0.16	ug/L	8260B
Vinyl chloride	1.5	0.10	ug/L	8260B
Xylenes, Total	1.0	0.19	ug/L	8260B

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

Prep: 3510C

Analyte	LOQ	DL	Units	Method
1-Methylnaphthalene	0.10	0.0059	ug/L	8270D SIM
2-Methylnaphthalene	0.10	0.0060	ug/L	8270D SIM
Acenaphthene	0.10	0.0042	ug/L	8270D SIM
Acenaphthylene	0.10	0.0051	ug/L	8270D SIM
Anthracene	0.10	0.0056	ug/L	8270D SIM
Benzo[a]anthracene	0.10	0.0042	ug/L	8270D SIM
Benzo[a]pyrene	0.10	0.0069	ug/L	8270D SIM
Benzo[b]fluoranthene	0.10	0.0031	ug/L	8270D SIM
Benzo[g,h,i]perylene	0.10	0.0062	ug/L	8270D SIM
Benzo[k]fluoranthene	0.10	0.0063	ug/L	8270D SIM
Chrysene	0.10	0.0033	ug/L	8270D SIM

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

Prep: 3510C

Analyte	LOQ	DL	Units	Method
Dibenz(a,h)anthracene	0.10	0.0041	ug/L	8270D SIM
Fluoranthene	0.10	0.0048	ug/L	8270D SIM
Fluorene	0.10	0.0055	ug/L	8270D SIM
Indeno[1,2,3-cd]pyrene	0.10	0.0045	ug/L	8270D SIM
Naphthalene	0.10	0.0080	ug/L	8270D SIM
Phenanthrene	0.10	0.0093	ug/L	8270D SIM
Pyrene	0.10	0.0061	ug/L	8270D SIM

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

Prep: 3520C

Analyte	LOQ	DL	Units	Method
2,4,5-Trichlorophenol	20	0.45	ug/L	8270D
2,4,6-Trichlorophenol	20	0.29	ug/L	8270D
2,4-Dichlorophenol	10	0.64	ug/L	8270D
2,4-Dimethylphenol	10	0.58	ug/L	8270D
2,4-Dinitrophenol	80	10	ug/L	8270D
2-Chlorophenol	10	2.0	ug/L	8270D
2-Methylphenol	10	0.98	ug/L	8270D
2-Nitrophenol	20	0.39	ug/L	8270D
3 & 4 Methylphenol	20	0.25	ug/L	8270D
4,6-Dinitro-2-methylphenol	80	4.0	ug/L	8270D
4-Chloro-3-methylphenol	20	2.4	ug/L	8270D
4-Nitrophenol	50	1.2	ug/L	8270D
Bis(2-ethylhexyl) phthalate	10	0.56	ug/L	8270D
Butyl benzyl phthalate	20	1.0	ug/L	8270D
Diethyl phthalate	20	0.38	ug/L	8270D
Dimethyl phthalate	20	0.21	ug/L	8270D
Di-n-butyl phthalate	20	1.2	ug/L	8270D
Di-n-octyl phthalate	20	0.35	ug/L	8270D
Pentachlorophenol	80	20	ug/L	8270D
Phenol	10	2.0	ug/L	8270D

Method: 8081B - Organochlorine Pesticides (GC)

Prep: 3510C

Analyte	LOQ	DL	Units	Method
4,4'-DDD	0.050	0.0077	ug/L	8081B
4,4'-DDE	0.050	0.0075	ug/L	8081B
4,4'-DDT	0.050	0.015	ug/L	8081B
Aldrin	0.050	0.0059	ug/L	8081B
alpha-BHC	0.050	0.0053	ug/L	8081B
alpha-Chlordane	0.050	0.0053	ug/L	8081B
beta-BHC	0.050	0.0087	ug/L	8081B
delta-BHC	0.050	0.0058	ug/L	8081B
Dieldrin	0.050	0.0063	ug/L	8081B
Endosulfan I	0.050	0.0058	ug/L	8081B
Endosulfan II	0.050	0.0070	ug/L	8081B
Endosulfan sulfate	0.050	0.0057	ug/L	8081B
Endrin	0.050	0.0079	ug/L	8081B
Endrin aldehyde	0.050	0.0088	ug/L	8081B
Endrin ketone	0.050	0.0070	ug/L	8081B

Default Detection Limits

Client: Leidos, Inc. TestAmerica Job ID: 280-115950-1
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

Method: 8081B - Organochlorine Pesticides (GC) (Continued)
Prep: 3510C

Analyte	LOQ	DL	Units	Method
gamma-BHC (Lindane)	0.050	0.0069	ug/L	8081B
gamma-Chlordane	0.050	0.0091	ug/L	8081B
Heptachlor	0.050	0.0077	ug/L	8081B
Heptachlor epoxide	0.050	0.0075	ug/L	8081B
Methoxychlor	0.050	0.013	ug/L	8081B
Toxaphene	2.0	0.37	ug/L	8081B

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography
Prep: 3510C

Analyte	LOQ	DL	Units	Method
PCB-1016	1.0	0.12	ug/L	8082A
PCB-1221	1.0	0.21	ug/L	8082A
PCB-1232	1.0	0.17	ug/L	8082A
PCB-1242	1.0	0.10	ug/L	8082A
PCB-1248	1.0	0.092	ug/L	8082A
PCB-1254	1.0	0.11	ug/L	8082A
PCB-1260	1.0	0.16	ug/L	8082A

Method: 8330B - Nitroaromatics and Nitramines (HPLC)
Prep: 3535

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

Method: 6010C - Metals (ICP)
Prep: 3010A

Analyte	LOQ	DL	Units	Method
Aluminum	300	18	ug/L	6010C
Calcium	1000	35	ug/L	6010C
Iron	100	22	ug/L	6010C
Magnesium	500	11	ug/L	6010C
Phosphorus	3000	14	ug/L	6010C
Potassium	3000	240	ug/L	6010C
Sodium	5000	120	ug/L	6010C

Default Detection Limits

Client: Leidos, Inc.
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

TestAmerica Job ID: 280-115950-1

Method: 6020A - Metals (ICP/MS)

Prep: 3020A

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

Method: 7470A - Mercury (CVAA)

Prep: 7470A

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

General Chemistry

Analyte	LOQ	DL	Units	Method
Alkalinity	5.0	1.1	mg/L	SM 2320B

General Chemistry

Prep: 9012B

Analyte	LOQ	DL	Units	Method
Cyanide, Total	0.010	0.0020	mg/L	9012B

Surrogate Summary

Client: Leidos, Inc.
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

TestAmerica Job ID: 280-115950-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(81-118)	(85-114)	(80-119)	(89-112)
280-115950-4	RQLmw-007-181001-GW	102	98	102	101
280-115950-5	RQLmw-008-181001-GW	105	98	100	101
280-115950-6	FWGTB-181001-TB	105	101	103	99
LCS 280-436416/5	Lab Control Sample	96	96	98	100
MB 280-436416/4	Method Blank	95	98	101	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(43-140)	(44-119)	(19-119)	(44-120)	(10-115)	(50-134)
280-115950-2	LL1mw-088-181001-GW	97	91	92	92	93	111
280-115950-3	LL1mw-088-181002-GW	93	79	73	77	80	110
280-115950-4	RQLmw-007-181001-GW	96	96	95	94	99	97
280-115950-5	RQLmw-008-181001-GW	92	92	89	91	93	96
LCS 280-434912/2-A	Lab Control Sample	95	95	93	96	96	92
LCSD 280-434912/3-A	Lab Control Sample Dup	96	99	100	98	101	94
MB 280-434912/1-A	Method Blank	91	91	95	96	98	102

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(53-106)	(55-111)	(58-132)
280-115950-4	RQLmw-007-181001-GW	74	70	76
280-115950-5	RQLmw-008-181001-GW	70	65	77
LCS 280-434941/2-A	Lab Control Sample	75	73	79
LCSD 280-434941/3-A	Lab Control Sample Dup	71	64	76
MB 280-434941/1-A	Method Blank	76	87	83

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Surrogate Summary

Client: Leidos, Inc.
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

TestAmerica Job ID: 280-115950-1

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	DCBP2 (34-122)	TCX2 (44-124)
280-115950-2	LL1mw-088-181001-GW	89	86
280-115950-3	LL1mw-088-181002-GW	89	91
280-115950-4	RQLmw-007-181001-GW	64	82
280-115950-5	RQLmw-008-181001-GW	61	76
LCS 280-434851/11-A	Lab Control Sample	94	80
LCS 280-434851/2-A	Lab Control Sample	102	83
LCSD 280-434851/12-A	Lab Control Sample Dup	86	77
LCSD 280-434851/3-A	Lab Control Sample Dup	100	81
MB 280-434851/1-A	Method Blank	91	80

Surrogate Legend

DCBP = DCB Decachlorobiphenyl
TCX = Tetrachloro-m-xylene

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	TCX2 (25-120)	DCBP2 (30-136)
280-115950-4	RQLmw-007-181001-GW	87	67
280-115950-5	RQLmw-008-181001-GW	84	69
LCS 280-434851/4-A	Lab Control Sample	83	90
LCSD 280-434851/5-A	Lab Control Sample Dup	86	94
MB 280-434851/1-A	Method Blank	81	89

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCBP = DCB Decachlorobiphenyl

Method: 8330B - Nitroaromatics and Nitramines (HPLC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	12DNB1 (83-119)
280-115950-1	LL1mw-064-181001-GW	96
280-115950-2	LL1mw-088-181001-GW	98
280-115950-3	LL1mw-088-181002-GW	101 M
280-115950-3	LL1mw-088-181002-GW	85
280-115950-4	RQLmw-007-181001-GW	99
280-115950-5	RQLmw-008-181001-GW	108 M
280-115950-5	RQLmw-008-181001-GW	81 Q
LCS 280-434708/2-A	Lab Control Sample	104
LCSD 280-434708/3-A	Lab Control Sample Dup	105
MB 280-434708/1-A	Method Blank	103

Surrogate Legend

12DNB = 1,2-Dinitrobenzene

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-436416/4
Matrix: Water
Analysis Batch: 436416

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.40	U	1.0	0.40	0.16	ug/L		11/05/18 23:51	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		11/05/18 23:51	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		11/05/18 23:51	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		11/05/18 23:51	1
1,1-Dichloroethene	0.80	U	1.0	0.80	0.23	ug/L		11/05/18 23:51	1
1,2-Dibromoethane	0.40	U	1.0	0.40	0.18	ug/L		11/05/18 23:51	1
1,2-Dichloroethane	0.40	U	1.0	0.40	0.13	ug/L		11/05/18 23:51	1
1,2-Dichloroethene, Total	0.20	U	1.0	0.20	0.24	ug/L		11/05/18 23:51	1
1,2-Dichloropropane	0.40	U	1.0	0.40	0.18	ug/L		11/05/18 23:51	1
2-Butanone (MEK)	4.0	U	6.0	4.0	2.0	ug/L		11/05/18 23:51	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		11/05/18 23:51	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		11/05/18 23:51	1
Acetone	6.4	U	10	6.4	1.9	ug/L		11/05/18 23:51	1
Benzene	0.40	U	1.0	0.40	0.16	ug/L		11/05/18 23:51	1
Bromobenzene	0.40	U	1.0	0.40	0.17	ug/L		11/05/18 23:51	1
Bromochloromethane	0.20	U	1.0	0.20	0.10	ug/L		11/05/18 23:51	1
Bromodichloromethane	0.40	U	1.0	0.40	0.17	ug/L		11/05/18 23:51	1
Bromoform	0.40	U	1.0	0.40	0.19	ug/L		11/05/18 23:51	1
Bromomethane	0.80	U	2.0	0.80	0.21	ug/L		11/05/18 23:51	1
Carbon disulfide	1.6	U	2.0	1.6	0.45	ug/L		11/05/18 23:51	1
Carbon tetrachloride	0.40	U	2.0	0.40	0.19	ug/L		11/05/18 23:51	1
Chlorobenzene	0.40	U	1.0	0.40	0.17	ug/L		11/05/18 23:51	1
Chloroethane	1.6	U	2.0	1.6	0.41	ug/L		11/05/18 23:51	1
Chloroform	0.40	U	1.0	0.40	0.16	ug/L		11/05/18 23:51	1
Chloromethane	0.80	U	2.0	0.80	0.30	ug/L		11/05/18 23:51	1
cis-1,3-Dichloropropene	0.40	U	1.0	0.40	0.16	ug/L		11/05/18 23:51	1
Dibromochloromethane	0.40	U	1.0	0.40	0.17	ug/L		11/05/18 23:51	1
Ethylbenzene	0.40	U	1.0	0.40	0.16	ug/L		11/05/18 23:51	1
Methylene Chloride	0.80	U	5.0	0.80	0.32	ug/L		11/05/18 23:51	1
Styrene	0.40	U	1.0	0.40	0.17	ug/L		11/05/18 23:51	1
Tetrachloroethene	0.40	U	1.0	0.40	0.20	ug/L		11/05/18 23:51	1
Toluene	0.40	U	1.0	0.40	0.17	ug/L		11/05/18 23:51	1
trans-1,3-Dichloropropene	0.40	U	1.0	0.40	0.19	ug/L		11/05/18 23:51	1
Trichloroethene	0.40	U	1.0	0.40	0.16	ug/L		11/05/18 23:51	1
Vinyl chloride	0.20	U	1.5	0.20	0.10	ug/L		11/05/18 23:51	1
Xylenes, Total	0.80	U	1.0	0.80	0.19	ug/L		11/05/18 23:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*81 - 118*		*11/05/18 23:51*	*1*
4-Bromofluorobenzene (Surr)	*98*		*85 - 114*		*11/05/18 23:51*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 119*		*11/05/18 23:51*	*1*
Toluene-d8 (Surr)	*101*		*89 - 112*		*11/05/18 23:51*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-436416/5
Matrix: Water
Analysis Batch: 436416

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	5.00		ug/L		100	74 - 131
1,1,2,2-Tetrachloroethane	5.00	5.54		ug/L		111	71 - 121
1,1,2-Trichloroethane	5.00	5.59		ug/L		112	80 - 119
1,1-Dichloroethane	5.00	5.15		ug/L		103	77 - 125
1,1-Dichloroethene	5.00	4.76		ug/L		95	71 - 131
1,2-Dibromoethane	5.00	5.19		ug/L		104	77 - 121
1,2-Dichloroethane	5.00	5.06		ug/L		101	73 - 128
1,2-Dichloropropane	5.00	5.39		ug/L		108	78 - 122
2-Butanone (MEK)	20.0	21.3		ug/L		106	56 - 143
2-Hexanone	20.0	20.1		ug/L		101	57 - 139
4-Methyl-2-pentanone (MIBK)	20.0	21.9		ug/L		109	67 - 130
Acetone	20.0	18.0		ug/L		90	39 - 160
Benzene	5.00	5.24		ug/L		105	79 - 120
Bromobenzene	5.00	5.31		ug/L		106	80 - 120
Bromochloromethane	5.00	5.36		ug/L		107	78 - 123
Bromodichloromethane	5.00	5.27		ug/L		105	79 - 125
Bromoform	5.00	5.39		ug/L		108	66 - 130
Bromomethane	5.00	4.67		ug/L		93	53 - 141
Carbon disulfide	5.00	4.65		ug/L		93	64 - 133
Carbon tetrachloride	5.00	5.04		ug/L		101	72 - 136
Chlorobenzene	5.00	5.17		ug/L		103	82 - 118
Chloroethane	5.00	4.68		ug/L		94	60 - 138
Chloroform	5.00	5.14		ug/L		103	79 - 124
Chloromethane	5.00	4.65		ug/L		93	50 - 139
cis-1,3-Dichloropropene	5.00	5.56		ug/L		111	75 - 124
Dibromochloromethane	5.00	5.47		ug/L		109	74 - 126
Ethylbenzene	5.00	5.31		ug/L		106	79 - 121
Methylene Chloride	5.00	4.50	J	ug/L		90	74 - 124
Styrene	5.00	5.53		ug/L		111	78 - 123
Tetrachloroethene	5.00	5.13		ug/L		103	74 - 129
Toluene	5.00	5.40		ug/L		108	80 - 121
trans-1,3-Dichloropropene	5.00	5.43		ug/L		109	73 - 127
Trichloroethene	5.00	5.23		ug/L		105	79 - 123
Vinyl chloride	5.00	4.83		ug/L		97	58 - 137
Xylenes, Total	10.0	10.8		ug/L		108	79 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*81 - 118*
4-Bromofluorobenzene (Surr)	*96*		*85 - 114*
Dibromofluoromethane (Surr)	*98*		*80 - 119*
Toluene-d8 (Surr)	*100*		*89 - 112*

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

Lab Sample ID: MB 280-434912/1-A
Matrix: Water
Analysis Batch: 435306

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 434912

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2,4,5-Trichlorophenol	1.0	U	20	1.0	0.45	ug/L		10/29/18 11:18	1
2,4,6-Trichlorophenol	1.0	U	20	1.0	0.29	ug/L		10/29/18 11:18	1
2,4-Dichlorophenol	2.0	U	10	2.0	0.64	ug/L		10/29/18 11:18	1
2,4-Dimethylphenol	2.0	U	10	2.0	0.58	ug/L		10/29/18 11:18	1
2,4-Dinitrophenol	30	U	80	30	10	ug/L		10/29/18 11:18	1
2-Chlorophenol	4.4	U	10	4.4	2.0	ug/L		10/29/18 11:18	1
2-Methylphenol	2.0	U	10	2.0	0.98	ug/L		10/29/18 11:18	1
2-Nitrophenol	1.0	U	20	1.0	0.39	ug/L		10/29/18 11:18	1
3 & 4 Methylphenol	0.50	U	20	0.50	0.25	ug/L		10/29/18 11:18	1
4,6-Dinitro-2-methylphenol	8.8	U	80	8.8	4.0	ug/L		10/29/18 11:18	1
4-Chloro-3-methylphenol	5.0	U	20	5.0	2.4	ug/L		10/29/18 11:18	1
4-Nitrophenol	4.0	U	50	4.0	1.2	ug/L		10/29/18 11:18	1
Bis(2-ethylhexyl) phthalate	2.0	U	10	2.0	0.56	ug/L		10/29/18 11:18	1
Butyl benzyl phthalate	2.0	U	20	2.0	1.0	ug/L		10/29/18 11:18	1
Diethyl phthalate	1.0	U	20	1.0	0.38	ug/L		10/29/18 11:18	1
Dimethyl phthalate	0.50	U	20	0.50	0.21	ug/L		10/29/18 11:18	1
Di-n-butyl phthalate	4.4	U	20	4.4	1.2	ug/L		10/29/18 11:18	1
Di-n-octyl phthalate	1.0	U	20	1.0	0.35	ug/L		10/29/18 11:18	1
Pentachlorophenol	60	U	80	60	20	ug/L		10/29/18 11:18	1
Phenol	4.4	U	10	4.4	2.0	ug/L		10/29/18 11:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*91*		*43 - 140*	*10/25/18 13:12*	*10/29/18 11:18*	*1*
2-Fluorobiphenyl	*91*		*44 - 119*	*10/25/18 13:12*	*10/29/18 11:18*	*1*
2-Fluorophenol (Surr)	*95*		*19 - 119*	*10/25/18 13:12*	*10/29/18 11:18*	*1*
Nitrobenzene-d5 (Surr)	*96*		*44 - 120*	*10/25/18 13:12*	*10/29/18 11:18*	*1*
Phenol-d5 (Surr)	*98*		*10 - 115*	*10/25/18 13:12*	*10/29/18 11:18*	*1*
Terphenyl-d14 (Surr)	*102*		*50 - 134*	*10/25/18 13:12*	*10/29/18 11:18*	*1*

Lab Sample ID: LCS 280-434912/2-A
Matrix: Water
Analysis Batch: 435306

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 434912

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	80.0	75.7		ug/L		95	53 - 123
2,4,6-Trichlorophenol	80.0	78.0		ug/L		97	50 - 125
2,4-Dichlorophenol	80.0	74.6		ug/L		93	47 - 121
2,4-Dimethylphenol	80.0	49.2		ug/L		62	31 - 124
2,4-Dinitrophenol	160	140		ug/L		88	23 - 143
2-Chlorophenol	80.0	75.1		ug/L		94	38 - 117
2-Methylphenol	80.0	72.8		ug/L		91	30 - 117
2-Nitrophenol	80.0	76.4		ug/L		96	47 - 123
3 & 4 Methylphenol	80.0	71.2		ug/L		89	29 - 110
4-Chloro-3-methylphenol	80.0	75.6		ug/L		95	52 - 119
4-Nitrophenol	160	144		ug/L		90	59 - 129
Bis(2-ethylhexyl) phthalate	80.0	78.4		ug/L		98	55 - 135
Butyl benzyl phthalate	80.0	77.2		ug/L		96	53 - 134
Diethyl phthalate	80.0	76.5		ug/L		96	56 - 125

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

Lab Sample ID: LCS 280-434912/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 435306 **Prep Batch: 434912**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dimethyl phthalate	80.0	77.4		ug/L		97	45 - 127
Di-n-butyl phthalate	80.0	79.8		ug/L		100	59 - 127
Di-n-octyl phthalate	80.0	72.0		ug/L		90	51 - 140
Pentachlorophenol	160	152		ug/L		95	35 - 138
Phenol	80.0	73.6		ug/L		92	61 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*95*		*43 - 140*
2-Fluorobiphenyl	*95*		*44 - 119*
2-Fluorophenol (Surr)	*93*		*19 - 119*
Nitrobenzene-d5 (Surr)	*96*		*44 - 120*
Phenol-d5 (Surr)	*96*		*10 - 115*
Terphenyl-d14 (Surr)	*92*		*50 - 134*

Lab Sample ID: LCSD 280-434912/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 435306 **Prep Batch: 434912**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,5-Trichlorophenol	80.0	81.4		ug/L		102	53 - 123	7	20
2,4,6-Trichlorophenol	80.0	82.3		ug/L		103	50 - 125	5	20
2,4-Dichlorophenol	80.0	76.2		ug/L		95	47 - 121	2	20
2,4-Dimethylphenol	80.0	52.2		ug/L		65	31 - 124	6	20
2,4-Dinitrophenol	160	146		ug/L		92	23 - 143	4	20
2-Chlorophenol	80.0	79.7		ug/L		100	38 - 117	6	20
2-Methylphenol	80.0	77.1		ug/L		96	30 - 117	6	20
2-Nitrophenol	80.0	76.5		ug/L		96	47 - 123	0	20
3 & 4 Methylphenol	80.0	74.9		ug/L		94	29 - 110	5	20
4-Chloro-3-methylphenol	80.0	75.4		ug/L		94	52 - 119	0	20
4-Nitrophenol	160	147		ug/L		92	59 - 129	2	20
Bis(2-ethylhexyl) phthalate	80.0	80.2		ug/L		100	55 - 135	2	20
Butyl benzyl phthalate	80.0	78.7		ug/L		98	53 - 134	2	20
Diethyl phthalate	80.0	76.8		ug/L		96	56 - 125	0	20
Dimethyl phthalate	80.0	77.5		ug/L		97	45 - 127	0	20
Di-n-butyl phthalate	80.0	79.2		ug/L		99	59 - 127	1	20
Di-n-octyl phthalate	80.0	72.7		ug/L		91	51 - 140	1	20
Pentachlorophenol	160	154		ug/L		96	35 - 138	1	20
Phenol	80.0	77.4		ug/L		97	61 - 120	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*96*		*43 - 140*
2-Fluorobiphenyl	*99*		*44 - 119*
2-Fluorophenol (Surr)	*100*		*19 - 119*
Nitrobenzene-d5 (Surr)	*98*		*44 - 120*
Phenol-d5 (Surr)	*101*		*10 - 115*
Terphenyl-d14 (Surr)	*94*		*50 - 134*

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

Lab Sample ID: MB 280-434941/1-A
Matrix: Water
Analysis Batch: 435950

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 434941

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1-Methylnaphthalene	0.012	U	0.10	0.012	0.0059	ug/L		11/01/18 19:05	1
2-Methylnaphthalene	0.012	U	0.10	0.012	0.0060	ug/L		11/01/18 19:05	1
Acenaphthene	0.040	U M	0.10	0.040	0.0042	ug/L		11/01/18 19:05	1
Acenaphthylene	0.040	U	0.10	0.040	0.0051	ug/L		11/01/18 19:05	1
Anthracene	0.040	U	0.10	0.040	0.0056	ug/L		11/01/18 19:05	1
Benzo[a]anthracene	0.012	U	0.10	0.012	0.0042	ug/L		11/01/18 19:05	1
Benzo[a]pyrene	0.012	U M	0.10	0.012	0.0069	ug/L		11/01/18 19:05	1
Benzo[b]fluoranthene	0.012	U	0.10	0.012	0.0031	ug/L		11/01/18 19:05	1
Benzo[g,h,i]perylene	0.012	U	0.10	0.012	0.0062	ug/L		11/01/18 19:05	1
Benzo[k]fluoranthene	0.012	U M	0.10	0.012	0.0063	ug/L		11/01/18 19:05	1
Chrysene	0.012	U	0.10	0.012	0.0033	ug/L		11/01/18 19:05	1
Dibenz(a,h)anthracene	0.012	U	0.10	0.012	0.0041	ug/L		11/01/18 19:05	1
Fluoranthene	0.012	U	0.10	0.012	0.0048	ug/L		11/01/18 19:05	1
Fluorene	0.040	U	0.10	0.040	0.0055	ug/L		11/01/18 19:05	1
Indeno[1,2,3-cd]pyrene	0.040	U	0.10	0.040	0.0045	ug/L		11/01/18 19:05	1
Naphthalene	0.012	U	0.10	0.012	0.0080	ug/L		11/01/18 19:05	1
Phenanthrene	0.020	U	0.10	0.020	0.0093	ug/L		11/01/18 19:05	1
Pyrene	0.020	U	0.10	0.020	0.0061	ug/L		11/01/18 19:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*53 - 106*	*10/25/18 12:34*	*11/01/18 19:05*	*1*
Nitrobenzene-d5	*87*		*55 - 111*	*10/25/18 12:34*	*11/01/18 19:05*	*1*
Terphenyl-d14	*83*		*58 - 132*	*10/25/18 12:34*	*11/01/18 19:05*	*1*

Lab Sample ID: LCS 280-434941/2-A
Matrix: Water
Analysis Batch: 435422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 434941

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	0.900	0.724		ug/L		80	41 - 115
2-Methylnaphthalene	0.900	0.705		ug/L		78	39 - 114
Acenaphthene	0.900	0.699		ug/L		78	48 - 114
Acenaphthylene	0.900	0.613		ug/L		68	35 - 121
Anthracene	0.900	0.624		ug/L		69	53 - 119
Benzo[a]anthracene	0.900	0.648		ug/L		72	59 - 120
Benzo[a]pyrene	0.900	0.559		ug/L		62	53 - 120
Benzo[b]fluoranthene	0.900	0.650		ug/L		72	53 - 126
Benzo[g,h,i]perylene	0.900	0.603		ug/L		67	44 - 128
Benzo[k]fluoranthene	0.900	0.680		ug/L		76	54 - 125
Chrysene	0.900	0.816		ug/L		91	57 - 120
Dibenz(a,h)anthracene	0.900	0.502		ug/L		56	44 - 131
Fluoranthene	0.900	0.711		ug/L		79	58 - 120
Fluorene	0.900	0.702		ug/L		78	50 - 118
Indeno[1,2,3-cd]pyrene	0.900	0.524		ug/L		58	48 - 130
Naphthalene	0.900	0.716		ug/L		80	43 - 114
Phenanthrene	0.900	0.730		ug/L		81	53 - 115
Pyrene	0.900	0.691		ug/L		77	53 - 121

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

Lab Sample ID: LCS 280-434941/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 435422 **Prep Batch: 434941**

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	75		53 - 106
Nitrobenzene-d5	73		55 - 111
Terphenyl-d14	79		58 - 132

Lab Sample ID: LCSD 280-434941/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 435422 **Prep Batch: 434941**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene			0.900	0.606		ug/L		67	41 - 115	18	20
2-Methylnaphthalene			0.900	0.574		ug/L		64	39 - 114	20	20
Acenaphthene			0.900	0.578		ug/L		64	48 - 114	19	20
Acenaphthylene			0.900	0.507		ug/L		56	35 - 121	19	20
Anthracene			0.900	0.537		ug/L		60	53 - 119	15	20
Benzo[a]anthracene			0.900	0.558		ug/L		62	59 - 120	15	20
Benzo[a]pyrene			0.900	0.477		ug/L		53	53 - 120	16	20
Benzo[b]fluoranthene			0.900	0.557		ug/L		62	53 - 126	15	20
Benzo[g,h,i]perylene			0.900	0.529		ug/L		59	44 - 128	13	20
Benzo[k]fluoranthene			0.900	0.587		ug/L		65	54 - 125	15	20
Chrysene			0.900	0.717		ug/L		80	57 - 120	13	20
Dibenz(a,h)anthracene			0.900	0.464		ug/L		52	44 - 131	8	20
Fluoranthene			0.900	0.606		ug/L		67	58 - 120	16	20
Fluorene			0.900	0.578		ug/L		64	50 - 118	19	20
Indeno[1,2,3-cd]pyrene			0.900	0.452		ug/L		50	48 - 130	15	20
Naphthalene			0.900	0.586		ug/L		65	43 - 114	20	20
Phenanthrene			0.900	0.626		ug/L		70	53 - 115	15	20
Pyrene			0.900	0.588		ug/L		65	53 - 121	16	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	71		53 - 106
Nitrobenzene-d5	64		55 - 111
Terphenyl-d14	76		58 - 132

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 280-434851/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 438595 **Prep Batch: 434851**

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4,4'-DDD	0.020	U	0.050	0.020	0.0077	ug/L		11/23/18 20:11	1
4,4'-DDE	0.020	U	0.050	0.020	0.0075	ug/L		11/23/18 20:11	1
4,4'-DDT	0.050	U	0.050	0.050	0.015	ug/L		11/23/18 20:11	1
Aldrin	0.020	U	0.050	0.020	0.0059	ug/L		11/23/18 20:11	1
alpha-BHC	0.020	U	0.050	0.020	0.0053	ug/L		11/23/18 20:11	1
alpha-Chlordane	0.020	U	0.050	0.020	0.0053	ug/L		11/23/18 20:11	1
beta-BHC	0.020	U	0.050	0.020	0.0087	ug/L		11/23/18 20:11	1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 280-434851/1-A
Matrix: Water
Analysis Batch: 438595

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 434851

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
delta-BHC	0.020	U	0.050	0.020	0.0058	ug/L		11/23/18 20:11	1
Dieldrin	0.020	U	0.050	0.020	0.0063	ug/L		11/23/18 20:11	1
Endosulfan I	0.020	U	0.050	0.020	0.0058	ug/L		11/23/18 20:11	1
Endosulfan II	0.020	U	0.050	0.020	0.0070	ug/L		11/23/18 20:11	1
Endosulfan sulfate	0.020	U	0.050	0.020	0.0057	ug/L		11/23/18 20:11	1
Endrin	0.020	U	0.050	0.020	0.0079	ug/L		11/23/18 20:11	1
Endrin aldehyde	0.020	U	0.050	0.020	0.0088	ug/L		11/23/18 20:11	1
Endrin ketone	0.020	U	0.050	0.020	0.0070	ug/L		11/23/18 20:11	1
gamma-BHC (Lindane)	0.020	U	0.050	0.020	0.0069	ug/L		11/23/18 20:11	1
gamma-Chlordane	0.020	U	0.050	0.020	0.0091	ug/L		11/23/18 20:11	1
Heptachlor	0.020	U	0.050	0.020	0.0077	ug/L		11/23/18 20:11	1
Heptachlor epoxide	0.020	U	0.050	0.020	0.0075	ug/L		11/23/18 20:11	1
Methoxychlor	0.050	U	0.050	0.050	0.013	ug/L		11/23/18 20:11	1
Toxaphene	0.80	U	2.0	0.80	0.37	ug/L		11/23/18 20:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*91*		*34 - 122*	*10/25/18 09:01*	*11/23/18 20:11*	*1*
Tetrachloro-m-xylene	*80*		*44 - 124*	*10/25/18 09:01*	*11/23/18 20:11*	*1*

Lab Sample ID: LCS 280-434851/11-A
Matrix: Water
Analysis Batch: 438595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 434851

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Toxaphene			2.00	2.58		ug/L		129	33 - 134		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*94*		*34 - 122*
Tetrachloro-m-xylene	*80*		*44 - 124*

Lab Sample ID: LCS 280-434851/2-A
Matrix: Water
Analysis Batch: 438595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 434851

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
4,4'-DDD			0.500	0.575		ug/L		115	56 - 143		
4,4'-DDE			0.500	0.561		ug/L		112	57 - 135		
4,4'-DDT			0.500	0.636		ug/L		127	51 - 143		
Aldrin			0.500	0.548		ug/L		110	45 - 134		
alpha-BHC			0.500	0.533		ug/L		107	54 - 138		
alpha-Chlordane			0.500	0.573		ug/L		115	60 - 129		
beta-BHC			0.500	0.505		ug/L		101	56 - 136		
delta-BHC			0.500	0.546		ug/L		109	52 - 142		
Dieldrin			0.500	0.569		ug/L		114	60 - 136		
Endosulfan I			0.500	0.560		ug/L		112	62 - 126		
Endosulfan II			0.500	0.528		ug/L		106	52 - 135		
Endosulfan sulfate			0.500	0.579		ug/L		116	62 - 133		
Endrin			0.500	0.612		ug/L		122	60 - 138		

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 280-434851/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 438595
Prep Batch: 434851

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Endrin aldehyde	0.500	0.367		ug/L		73	51 - 132
Endrin ketone	0.500	0.575		ug/L		115	58 - 134
gamma-BHC (Lindane)	0.500	0.551		ug/L		110	59 - 134
gamma-Chlordane	0.500	0.565		ug/L		113	56 - 136
Heptachlor	0.500	0.574		ug/L		115	54 - 130
Heptachlor epoxide	0.500	0.577		ug/L		115	61 - 133
Methoxychlor	0.500	0.600		ug/L		120	54 - 145

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*102*		*34 - 122*
Tetrachloro-m-xylene	*83*		*44 - 124*

Lab Sample ID: LCSD 280-434851/12-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 438595
Prep Batch: 434851

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toxaphene	2.00	2.79	Q	ug/L		139	33 - 134	8	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*86*		*34 - 122*
Tetrachloro-m-xylene	*77*		*44 - 124*

Lab Sample ID: LCSD 280-434851/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 438595
Prep Batch: 434851

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	0.500	0.569		ug/L		114	56 - 143	1	30
4,4'-DDE	0.500	0.556		ug/L		111	57 - 135	1	30
4,4'-DDT	0.500	0.628		ug/L		126	51 - 143	1	30
Aldrin	0.500	0.553		ug/L		111	45 - 134	1	30
alpha-BHC	0.500	0.533		ug/L		107	54 - 138	0	30
alpha-Chlordane	0.500	0.570		ug/L		114	60 - 129	0	30
beta-BHC	0.500	0.509		ug/L		102	56 - 136	1	30
delta-BHC	0.500	0.550		ug/L		110	52 - 142	1	30
Dieldrin	0.500	0.566		ug/L		113	60 - 136	1	30
Endosulfan I	0.500	0.557		ug/L		111	62 - 126	0	30
Endosulfan II	0.500	0.521		ug/L		104	52 - 135	1	30
Endosulfan sulfate	0.500	0.567		ug/L		113	62 - 133	2	30
Endrin	0.500	0.601		ug/L		120	60 - 138	2	30
Endrin aldehyde	0.500	0.279		ug/L		56	51 - 132	27	30
Endrin ketone	0.500	0.566		ug/L		113	58 - 134	2	30
gamma-BHC (Lindane)	0.500	0.555		ug/L		111	59 - 134	1	30
gamma-Chlordane	0.500	0.564		ug/L		113	56 - 136	0	30
Heptachlor	0.500	0.583		ug/L		117	54 - 130	2	30
Heptachlor epoxide	0.500	0.578		ug/L		116	61 - 133	0	30
Methoxychlor	0.500	0.616		ug/L		123	54 - 145	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl	100		34 - 122
Tetrachloro-m-xylene	81		44 - 124

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

Lab Sample ID: MB 280-434851/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 437748 — **Prep Batch: 434851**

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
PCB-1016	0.40	U M	1.0	0.40	0.12	ug/L		11/16/18 01:42	1
PCB-1221	0.25	U M	1.0	0.25	0.21	ug/L		11/16/18 01:42	1
PCB-1232	0.60	U M	1.0	0.60	0.17	ug/L		11/16/18 01:42	1
PCB-1242	0.30	U M	1.0	0.30	0.10	ug/L		11/16/18 01:42	1
PCB-1248	0.30	U M	1.0	0.30	0.092	ug/L		11/16/18 01:42	1
PCB-1254	0.25	U	1.0	0.25	0.11	ug/L		11/16/18 01:42	1
PCB-1260	0.40	U	1.0	0.40	0.16	ug/L		11/16/18 01:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	81		25 - 120	10/25/18 09:01	11/16/18 01:42	1
DCB Decachlorobiphenyl	89		30 - 136	10/25/18 09:01	11/16/18 01:42	1

Lab Sample ID: LCS 280-434851/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 437748 — **Prep Batch: 434851**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
PCB-1016			2.00	1.94	M	ug/L		97	46 - 129		
PCB-1260			2.00	1.98	M	ug/L		99	45 - 134		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	83		25 - 120
DCB Decachlorobiphenyl	90		30 - 136

Lab Sample ID: LCSD 280-434851/5-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 437748 — **Prep Batch: 434851**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016			2.00	2.00	M	ug/L		100	46 - 129	3	30
PCB-1260			2.00	2.06	M	ug/L		103	45 - 134	4	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tetrachloro-m-xylene	86		25 - 120
DCB Decachlorobiphenyl	94		30 - 136

Method: 8330B - Nitroaromatics and Nitramines (HPLC)

Lab Sample ID: MB 280-434708/1-A
Matrix: Water
Analysis Batch: 435098

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 434708

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,3,5-Trinitrobenzene	0.40	U	1.0	0.40	0.20	ug/L		10/27/18 02:48	1
1,3-Dinitrobenzene	0.20	U	0.40	0.20	0.089	ug/L		10/27/18 02:48	1
2,4,6-Trinitrotoluene	0.20	U	0.40	0.20	0.072	ug/L		10/27/18 02:48	1
2,4-Dinitrotoluene	0.20	U	0.40	0.20	0.084	ug/L		10/27/18 02:48	1
2,6-Dinitrotoluene	0.20	U	0.20	0.20	0.065	ug/L		10/27/18 02:48	1
2-Amino-4,6-dinitrotoluene	0.12	U	0.20	0.12	0.051	ug/L		10/27/18 02:48	1
2-Nitrotoluene	0.20	U	0.40	0.20	0.086	ug/L		10/27/18 02:48	1
3-Nitrotoluene	0.20	U	0.40	0.20	0.083	ug/L		10/27/18 02:48	1
4-Amino-2,6-dinitrotoluene	0.12	U	0.20	0.12	0.058	ug/L		10/27/18 02:48	1
4-Nitrotoluene	0.40	U	1.0	0.40	0.20	ug/L		10/27/18 02:48	1
HMX	0.20	U	0.40	0.20	0.088	ug/L		10/27/18 02:48	1
Nitrobenzene	0.20	U	0.40	0.20	0.091	ug/L		10/27/18 02:48	1
Nitroglycerin	2.0	U	3.0	2.0	0.92	ug/L		10/27/18 02:48	1
PETN	1.2	U	2.0	1.2	0.42	ug/L		10/27/18 02:48	1
RDX	0.12	U	0.20	0.12	0.052	ug/L		10/27/18 02:48	1
Tetryl	0.20	U	0.24	0.20	0.079	ug/L		10/27/18 02:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dinitrobenzene	*103*		*83 - 119*	*10/24/18 12:14*	*10/27/18 02:48*	*1*

Lab Sample ID: LCS 280-434708/2-A
Matrix: Water
Analysis Batch: 435098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 434708

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trinitrobenzene	2.00	2.15		ug/L		107	73 - 125
1,3-Dinitrobenzene	2.00	2.04		ug/L		102	78 - 120
2,4,6-Trinitrotoluene	2.00	1.97		ug/L		98	71 - 123
2,4-Dinitrotoluene	2.00	1.93		ug/L		97	78 - 120
2,6-Dinitrotoluene	2.00	1.93		ug/L		97	77 - 127
2-Amino-4,6-dinitrotoluene	2.00	1.97		ug/L		99	79 - 120
2-Nitrotoluene	2.00	1.53		ug/L		77	70 - 127
3-Nitrotoluene	2.00	1.57		ug/L		79	73 - 125
4-Amino-2,6-dinitrotoluene	2.00	1.82		ug/L		91	76 - 125
4-Nitrotoluene	2.00	1.74		ug/L		87	71 - 127
HMX	2.00	1.97		ug/L		98	65 - 135
Nitrobenzene	2.00	1.76		ug/L		88	65 - 134
Nitroglycerin	20.0	21.3		ug/L		107	74 - 127
PETN	20.0	20.2		ug/L		101	73 - 127
RDX	2.00	2.02		ug/L		101	68 - 130
Tetryl	2.00	2.15		ug/L		107	64 - 128

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

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

Lab Sample ID: LCSD 280-434708/3-A
Matrix: Water
Analysis Batch: 435098

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 434708

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3,5-Trinitrobenzene			2.00	2.18		ug/L		109	73 - 125	2	20
1,3-Dinitrobenzene			2.00	2.07		ug/L		103	78 - 120	1	20
2,4,6-Trinitrotoluene			2.00	2.01		ug/L		101	71 - 123	2	20
2,4-Dinitrotoluene			2.00	1.97		ug/L		99	78 - 120	2	20
2,6-Dinitrotoluene			2.00	1.96		ug/L		98	77 - 127	1	20
2-Amino-4,6-dinitrotoluene			2.00	1.97		ug/L		99	79 - 120	0	20
2-Nitrotoluene			2.00	1.44		ug/L		72	70 - 127	6	20
3-Nitrotoluene			2.00	1.52		ug/L		76	73 - 125	3	20
4-Amino-2,6-dinitrotoluene			2.00	1.78		ug/L		89	76 - 125	2	20
4-Nitrotoluene			2.00	1.65		ug/L		82	71 - 127	6	20
HMX			2.00	2.02		ug/L		101	65 - 135	2	20
Nitrobenzene			2.00	1.72		ug/L		86	65 - 134	2	20
Nitroglycerin			20.0	20.9		ug/L		104	74 - 127	2	20
PETN			20.0	20.4		ug/L		102	73 - 127	1	20
RDX			2.00	2.06		ug/L		103	68 - 130	2	20
Tetryl			2.00	2.18		ug/L		109	64 - 128	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dinitrobenzene	*105*		*83 - 119*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-434973/1-A
Matrix: Water
Analysis Batch: 435469

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 434973

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	300	70	18	ug/L		10/30/18 00:29	1
Phosphorus	50	U	3000	50	14	ug/L		10/30/18 00:29	1
Calcium	54.2	J	1000	140	35	ug/L		10/30/18 00:29	1
Iron	85	U	100	85	22	ug/L		10/30/18 00:29	1
Magnesium	40	U	500	40	11	ug/L		10/30/18 00:29	1
Potassium	940	U	3000	940	240	ug/L		10/30/18 00:29	1
Sodium	350	U	5000	350	120	ug/L		10/30/18 00:29	1

Lab Sample ID: LCS 280-434973/2-A
Matrix: Water
Analysis Batch: 435469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 434973

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum			2000	2120		ug/L		106	86 - 115
Phosphorus			10000	10700		ug/L		107	88 - 113
Calcium			50000	53900		ug/L		108	87 - 113
Iron			1000	1060		ug/L		106	87 - 115
Magnesium			50000	50200		ug/L		100	85 - 113
Potassium			50000	50300		ug/L		101	86 - 114
Sodium			50000	50400		ug/L		101	87 - 115

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

Lab Sample ID: LCSD 280-434973/3-A
Matrix: Water
Analysis Batch: 435469

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 434973

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum			2000	2110		ug/L		105	86 - 115	0	20
Phosphorus			10000	10600		ug/L		106	88 - 113	0	20
Calcium			50000	53700		ug/L		107	87 - 113	0	20
Iron			1000	1070		ug/L		107	87 - 115	1	20
Magnesium			50000	50100		ug/L		100	85 - 113	0	20
Potassium			50000	50000		ug/L		100	86 - 114	1	20
Sodium			50000	50200		ug/L		100	87 - 115	0	20

Lab Sample ID: 280-115950-2 MS
Matrix: Water
Analysis Batch: 435469

Client Sample ID: LL1mw-088-181001-GW
Prep Type: Total/NA
Prep Batch: 434973

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	39	J	2000	2150		ug/L		105	86 - 115
Calcium	88000		50000	139000		ug/L		103	87 - 113
Iron	1600		1000	2640		ug/L		100	87 - 115
Magnesium	35000		50000	85300		ug/L		100	85 - 113
Potassium	2500	J	50000	53800		ug/L		102	86 - 114
Sodium	25000		50000	76900		ug/L		103	87 - 115

Lab Sample ID: 280-115950-2 MSD
Matrix: Water
Analysis Batch: 435469

Client Sample ID: LL1mw-088-181001-GW
Prep Type: Total/NA
Prep Batch: 434973

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	39	J	2000	2130		ug/L		105	86 - 115	1	20
Calcium	88000		50000	140000		ug/L		104	87 - 113	1	20
Iron	1600		1000	2670		ug/L		103	87 - 115	1	20
Magnesium	35000		50000	85300		ug/L		100	85 - 113	0	20
Potassium	2500	J	50000	53200		ug/L		101	86 - 114	1	20
Sodium	25000		50000	76700		ug/L		103	87 - 115	0	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 280-434761/1-A
Matrix: Water
Analysis Batch: 436227

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 434761

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Antimony	1.0	U	6.0	1.0	0.40	ug/L		11/02/18 23:01	1
Arsenic	1.0	U	5.0	1.0	0.33	ug/L		11/02/18 23:01	1
Barium	0.95	U	3.0	0.95	0.29	ug/L		11/02/18 23:01	1
Beryllium	0.30	U	1.0	0.30	0.080	ug/L		11/02/18 23:01	1
Cadmium	1.0	U	1.0	1.0	0.27	ug/L		11/02/18 23:01	1
Chromium	1.8	U	10	1.8	0.50	ug/L		11/02/18 23:01	1
Cobalt	0.20	U	1.0	0.20	0.054	ug/L		11/02/18 23:01	1
Copper	1.8	U	2.0	1.8	0.56	ug/L		11/02/18 23:01	1
Lead	0.70	U	3.0	0.70	0.18	ug/L		11/02/18 23:01	1

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

Lab Sample ID: MB 280-434761/1-A
Matrix: Water
Analysis Batch: 436227

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 434761

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Manganese	0.624	J	3.5	0.95	0.31	ug/L		11/02/18 23:01	1
Nickel	1.0	U	3.0	1.0	0.30	ug/L		11/02/18 23:01	1
Selenium	2.0	U	5.0	2.0	0.70	ug/L		11/02/18 23:01	1
Silver	0.10	U	5.0	0.10	0.033	ug/L		11/02/18 23:01	1
Thallium	0.20	U	1.0	0.20	0.050	ug/L		11/02/18 23:01	1
Vanadium	2.0	U	6.0	2.0	0.50	ug/L		11/02/18 23:01	1
Zinc	8.0	U	20	8.0	2.0	ug/L		11/02/18 23:01	1

Lab Sample ID: LCS 280-434761/2-A
Matrix: Water
Analysis Batch: 436227

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 434761

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	40.0	39.4		ug/L		99	85 - 117
Arsenic	40.0	37.3		ug/L		93	84 - 116
Barium	40.0	40.8		ug/L		102	86 - 114
Beryllium	40.0	39.9		ug/L		100	83 - 121
Cadmium	40.0	38.7		ug/L		97	87 - 115
Chromium	40.0	40.1		ug/L		100	85 - 116
Cobalt	40.0	39.9		ug/L		100	86 - 115
Copper	40.0	38.8		ug/L		97	85 - 118
Lead	40.0	40.6		ug/L		102	88 - 115
Manganese	40.0	42.4		ug/L		106	87 - 115
Nickel	40.0	38.9		ug/L		97	85 - 117
Selenium	40.0	37.8		ug/L		94	80 - 120
Silver	40.0	39.7		ug/L		99	85 - 116
Thallium	40.0	39.9		ug/L		100	82 - 116
Vanadium	40.0	37.7		ug/L		94	86 - 115
Zinc	40.0	39.5		ug/L		99	83 - 119

Lab Sample ID: LCSD 280-434761/3-A
Matrix: Water
Analysis Batch: 436227

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 434761

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	40.0	39.0		ug/L		98	85 - 117	1	20
Arsenic	40.0	38.0		ug/L		95	84 - 116	2	20
Barium	40.0	38.1		ug/L		95	86 - 114	7	20
Beryllium	40.0	38.8		ug/L		97	83 - 121	3	20
Cadmium	40.0	38.2		ug/L		96	87 - 115	1	20
Chromium	40.0	39.5		ug/L		99	85 - 116	1	20
Cobalt	40.0	40.1		ug/L		100	86 - 115	1	20
Copper	40.0	39.1		ug/L		98	85 - 118	1	20
Lead	40.0	40.4		ug/L		101	88 - 115	1	20
Manganese	40.0	41.6		ug/L		104	87 - 115	2	20
Nickel	40.0	40.0		ug/L		100	85 - 117	3	20
Selenium	40.0	38.0		ug/L		95	80 - 120	1	20
Silver	40.0	39.2		ug/L		98	85 - 116	1	20
Thallium	40.0	39.9		ug/L		100	82 - 116	0	20

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

Lab Sample ID: LCSD 280-434761/3-A
Matrix: Water
Analysis Batch: 436227

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 434761

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vanadium			40.0	38.7		ug/L		97	86 - 115	3	20
Zinc			40.0	41.1		ug/L		103	83 - 119	4	20

Lab Sample ID: 280-115950-2 MS
Matrix: Water
Analysis Batch: 436227

Client Sample ID: LL1mw-088-181001-GW
Prep Type: Total/NA
Prep Batch: 434761

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	1.0	U	40.0	39.8		ug/L		99	85 - 117
Arsenic	29		40.0	68.1		ug/L		97	84 - 116
Barium	37		40.0	75.9		ug/L		98	86 - 114
Beryllium	0.30	U	40.0	39.4		ug/L		98	83 - 121
Cadmium	1.0	U	40.0	38.0		ug/L		95	87 - 115
Chromium	1.8	U	40.0	39.0		ug/L		98	85 - 116
Cobalt	0.096	J	40.0	37.6		ug/L		94	86 - 115
Copper	1.8	U	40.0	36.5		ug/L		91	85 - 118
Lead	0.70	U	40.0	39.5		ug/L		99	88 - 115
Manganese	45		40.0	85.1		ug/L		100	87 - 115
Nickel	1.0	U	40.0	36.7		ug/L		92	85 - 117
Selenium	2.0	U	40.0	37.4		ug/L		94	80 - 120
Silver	0.10	U	40.0	38.2		ug/L		96	85 - 116
Thallium	0.20	U	40.0	39.3		ug/L		98	82 - 116
Vanadium	2.0	U	40.0	37.6		ug/L		94	86 - 115
Zinc	8.0	U	40.0	37.5		ug/L		94	83 - 119

Lab Sample ID: 280-115950-2 MSD
Matrix: Water
Analysis Batch: 436227

Client Sample ID: LL1mw-088-181001-GW
Prep Type: Total/NA
Prep Batch: 434761

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	1.0	U	40.0	41.0		ug/L		102	85 - 117	3	20
Arsenic	29		40.0	68.3		ug/L		97	84 - 116	0	20
Barium	37		40.0	74.0		ug/L		93	86 - 114	3	20
Beryllium	0.30	U	40.0	40.1		ug/L		100	83 - 121	2	20
Cadmium	1.0	U	40.0	36.4		ug/L		91	87 - 115	4	20
Chromium	1.8	U	40.0	39.5		ug/L		99	85 - 116	1	20
Cobalt	0.096	J	40.0	38.5		ug/L		96	86 - 115	2	20
Copper	1.8	U	40.0	37.2		ug/L		93	85 - 118	2	20
Lead	0.70	U	40.0	39.8		ug/L		99	88 - 115	1	20
Manganese	45		40.0	87.6		ug/L		107	87 - 115	3	20
Nickel	1.0	U	40.0	37.3		ug/L		93	85 - 117	2	20
Selenium	2.0	U	40.0	37.3		ug/L		93	80 - 120	0	20
Silver	0.10	U	40.0	38.8		ug/L		97	85 - 116	2	20
Thallium	0.20	U	40.0	39.9		ug/L		100	82 - 116	2	20
Vanadium	2.0	U	40.0	36.8		ug/L		92	86 - 115	2	20
Zinc	8.0	U	40.0	37.2		ug/L		93	83 - 119	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 280-436187/1-A
Matrix: Water
Analysis Batch: 436252

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 436187

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	0.027	ug/L		11/03/18 18:27	1

Lab Sample ID: LCS 280-436187/2-A
Matrix: Water
Analysis Batch: 436252

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436187

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	4.99		ug/L		100	82 - 119

Lab Sample ID: LCSD 280-436187/3-A
Matrix: Water
Analysis Batch: 436252

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 436187

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	5.00	5.10		ug/L		102	82 - 119	2	20

Lab Sample ID: 280-115950-2 MS
Matrix: Water
Analysis Batch: 436252

Client Sample ID: LL1mw-088-181001-GW
Prep Type: Total/NA
Prep Batch: 436187

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.080	U	5.00	5.28		ug/L		106	82 - 119

Lab Sample ID: 280-115950-2 MSD
Matrix: Water
Analysis Batch: 436252

Client Sample ID: LL1mw-088-181001-GW
Prep Type: Total/NA
Prep Batch: 436187

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.080	U	5.00	5.31		ug/L		106	82 - 119	1	20

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

Lab Sample ID: MB 280-436064/4-A
Matrix: Water
Analysis Batch: 436413

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 436064

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Cyanide, Total	0.0050	U	0.010	0.0050	0.0020	mg/L		11/05/18 17:02	1

Lab Sample ID: HLCS 280-436064/1-A
Matrix: Water
Analysis Batch: 436413

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436064

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.350	0.352		mg/L		101	90 - 110

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

Lab Sample ID: LCS 280-436064/3-A
Matrix: Water
Analysis Batch: 436413

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436064

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.108		mg/L		108	83 - 116

Lab Sample ID: LLCS 280-436064/2-A
Matrix: Water
Analysis Batch: 436413

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436064

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.0995		mg/L		100	44 - 167

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-435318/5
Matrix: Water
Analysis Batch: 435318

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	5.0	U	5.0	5.0	1.1	mg/L		10/26/18 19:43	1

Lab Sample ID: LCS 280-435318/4
Matrix: Water
Analysis Batch: 435318

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	191		mg/L		96	90 - 110

QC Association Summary

Client: Leidos, Inc.
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

TestAmerica Job ID: 280-115950-1

GC/MS VOA

Analysis Batch: 436416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	8260B	
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	8260B	
280-115950-6	FWGTB-181001-TB	Total/NA	Water	8260B	
MB 280-436416/4	Method Blank	Total/NA	Water	8260B	
LCS 280-436416/5	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 434912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-2	LL1mw-088-181001-GW	Total/NA	Water	3520C	
280-115950-3	LL1mw-088-181002-GW	Total/NA	Water	3520C	
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	3520C	
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	3520C	
MB 280-434912/1-A	Method Blank	Total/NA	Water	3520C	
LCS 280-434912/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 280-434912/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Prep Batch: 434941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	3510C	
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	3510C	
MB 280-434941/1-A	Method Blank	Total/NA	Water	3510C	
LCS 280-434941/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 280-434941/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 435306

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-2	LL1mw-088-181001-GW	Total/NA	Water	8270D	434912
280-115950-3	LL1mw-088-181002-GW	Total/NA	Water	8270D	434912
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	8270D	434912
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	8270D	434912
MB 280-434912/1-A	Method Blank	Total/NA	Water	8270D	434912
LCS 280-434912/2-A	Lab Control Sample	Total/NA	Water	8270D	434912
LCSD 280-434912/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	434912

Analysis Batch: 435422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	8270D SIM	434941
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	8270D SIM	434941
LCS 280-434941/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	434941
LCSD 280-434941/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	434941

Analysis Batch: 435950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-434941/1-A	Method Blank	Total/NA	Water	8270D SIM	434941

GC Semi VOA

Prep Batch: 434851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-2	LL1mw-088-181001-GW	Total/NA	Water	3510C	
280-115950-3	LL1mw-088-181002-GW	Total/NA	Water	3510C	
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	3510C	
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	3510C	
MB 280-434851/1-A	Method Blank	Total/NA	Water	3510C	
LCS 280-434851/11-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 280-434851/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 280-434851/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 280-434851/12-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 280-434851/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 280-434851/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 437748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	8082A	434851
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	8082A	434851
MB 280-434851/1-A	Method Blank	Total/NA	Water	8082A	434851
LCS 280-434851/4-A	Lab Control Sample	Total/NA	Water	8082A	434851
LCSD 280-434851/5-A	Lab Control Sample Dup	Total/NA	Water	8082A	434851

Analysis Batch: 438595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-2	LL1mw-088-181001-GW	Total/NA	Water	8081B	434851
280-115950-3	LL1mw-088-181002-GW	Total/NA	Water	8081B	434851
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	8081B	434851
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	8081B	434851
MB 280-434851/1-A	Method Blank	Total/NA	Water	8081B	434851
LCS 280-434851/11-A	Lab Control Sample	Total/NA	Water	8081B	434851
LCS 280-434851/2-A	Lab Control Sample	Total/NA	Water	8081B	434851
LCSD 280-434851/12-A	Lab Control Sample Dup	Total/NA	Water	8081B	434851
LCSD 280-434851/3-A	Lab Control Sample Dup	Total/NA	Water	8081B	434851

HPLC/IC

Prep Batch: 434708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-1	LL1mw-064-181001-GW	Total/NA	Water	3535	
280-115950-2	LL1mw-088-181001-GW	Total/NA	Water	3535	
280-115950-3	LL1mw-088-181002-GW	Total/NA	Water	3535	
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	3535	
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	3535	
MB 280-434708/1-A	Method Blank	Total/NA	Water	3535	
LCS 280-434708/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 280-434708/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 435098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-1	LL1mw-064-181001-GW	Total/NA	Water	8330B	434708
280-115950-2	LL1mw-088-181001-GW	Total/NA	Water	8330B	434708
280-115950-3	LL1mw-088-181002-GW	Total/NA	Water	8330B	434708

HPLC/IC (Continued)

Analysis Batch: 435098 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	8330B	434708
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	8330B	434708
MB 280-434708/1-A	Method Blank	Total/NA	Water	8330B	434708
LCS 280-434708/2-A	Lab Control Sample	Total/NA	Water	8330B	434708
LCSD 280-434708/3-A	Lab Control Sample Dup	Total/NA	Water	8330B	434708

Analysis Batch: 435336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-3	LL1mw-088-181002-GW	Total/NA	Water	8330B	434708
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	8330B	434708

Metals

Prep Batch: 434761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-1	LL1mw-064-181001-GW	Total/NA	Water	3020A	
280-115950-2	LL1mw-088-181001-GW	Total/NA	Water	3020A	
280-115950-3	LL1mw-088-181002-GW	Total/NA	Water	3020A	
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	3020A	
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	3020A	
MB 280-434761/1-A	Method Blank	Total/NA	Water	3020A	
LCS 280-434761/2-A	Lab Control Sample	Total/NA	Water	3020A	
LCSD 280-434761/3-A	Lab Control Sample Dup	Total/NA	Water	3020A	
280-115950-2 MS	LL1mw-088-181001-GW	Total/NA	Water	3020A	
280-115950-2 MSD	LL1mw-088-181001-GW	Total/NA	Water	3020A	

Prep Batch: 434973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-1	LL1mw-064-181001-GW	Total/NA	Water	3010A	
280-115950-2	LL1mw-088-181001-GW	Total/NA	Water	3010A	
280-115950-3	LL1mw-088-181002-GW	Total/NA	Water	3010A	
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	3010A	
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	3010A	
MB 280-434973/1-A	Method Blank	Total/NA	Water	3010A	
LCS 280-434973/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 280-434973/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
280-115950-2 MS	LL1mw-088-181001-GW	Total/NA	Water	3010A	
280-115950-2 MSD	LL1mw-088-181001-GW	Total/NA	Water	3010A	

Analysis Batch: 435469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-1	LL1mw-064-181001-GW	Total/NA	Water	6010C	434973
280-115950-2	LL1mw-088-181001-GW	Total/NA	Water	6010C	434973
280-115950-3	LL1mw-088-181002-GW	Total/NA	Water	6010C	434973
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	6010C	434973
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	6010C	434973
MB 280-434973/1-A	Method Blank	Total/NA	Water	6010C	434973
LCS 280-434973/2-A	Lab Control Sample	Total/NA	Water	6010C	434973
LCSD 280-434973/3-A	Lab Control Sample Dup	Total/NA	Water	6010C	434973
280-115950-2 MS	LL1mw-088-181001-GW	Total/NA	Water	6010C	434973

Metals (Continued)

Analysis Batch: 435469 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-2 MSD	LL1mw-088-181001-GW	Total/NA	Water	6010C	434973

Prep Batch: 436187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-1	LL1mw-064-181001-GW	Total/NA	Water	7470A	
280-115950-2	LL1mw-088-181001-GW	Total/NA	Water	7470A	
280-115950-3	LL1mw-088-181002-GW	Total/NA	Water	7470A	
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	7470A	
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	7470A	
MB 280-436187/1-A	Method Blank	Total/NA	Water	7470A	
LCS 280-436187/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 280-436187/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	
280-115950-2 MS	LL1mw-088-181001-GW	Total/NA	Water	7470A	
280-115950-2 MSD	LL1mw-088-181001-GW	Total/NA	Water	7470A	

Analysis Batch: 436227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-1	LL1mw-064-181001-GW	Total/NA	Water	6020A	434761
280-115950-2	LL1mw-088-181001-GW	Total/NA	Water	6020A	434761
280-115950-3	LL1mw-088-181002-GW	Total/NA	Water	6020A	434761
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	6020A	434761
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	6020A	434761
MB 280-434761/1-A	Method Blank	Total/NA	Water	6020A	434761
LCS 280-434761/2-A	Lab Control Sample	Total/NA	Water	6020A	434761
LCSD 280-434761/3-A	Lab Control Sample Dup	Total/NA	Water	6020A	434761
280-115950-2 MS	LL1mw-088-181001-GW	Total/NA	Water	6020A	434761
280-115950-2 MSD	LL1mw-088-181001-GW	Total/NA	Water	6020A	434761

Analysis Batch: 436252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-1	LL1mw-064-181001-GW	Total/NA	Water	7470A	436187
280-115950-2	LL1mw-088-181001-GW	Total/NA	Water	7470A	436187
280-115950-3	LL1mw-088-181002-GW	Total/NA	Water	7470A	436187
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	7470A	436187
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	7470A	436187
MB 280-436187/1-A	Method Blank	Total/NA	Water	7470A	436187
LCS 280-436187/2-A	Lab Control Sample	Total/NA	Water	7470A	436187
LCSD 280-436187/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	436187
280-115950-2 MS	LL1mw-088-181001-GW	Total/NA	Water	7470A	436187
280-115950-2 MSD	LL1mw-088-181001-GW	Total/NA	Water	7470A	436187

General Chemistry

Analysis Batch: 435318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-2	LL1mw-088-181001-GW	Total/NA	Water	SM 2320B	
MB 280-435318/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-435318/4	Lab Control Sample	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Prep Batch: 436064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	9012B	
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	9012B	
MB 280-436064/4-A	Method Blank	Total/NA	Water	9012B	
HLCS 280-436064/1-A	Lab Control Sample	Total/NA	Water	9012B	
LCS 280-436064/3-A	Lab Control Sample	Total/NA	Water	9012B	
LLCS 280-436064/2-A	Lab Control Sample	Total/NA	Water	9012B	

Analysis Batch: 436413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-115950-4	RQLmw-007-181001-GW	Total/NA	Water	9012B	436064
280-115950-5	RQLmw-008-181001-GW	Total/NA	Water	9012B	436064
MB 280-436064/4-A	Method Blank	Total/NA	Water	9012B	436064
HLCS 280-436064/1-A	Lab Control Sample	Total/NA	Water	9012B	436064
LCS 280-436064/3-A	Lab Control Sample	Total/NA	Water	9012B	436064
LLCS 280-436064/2-A	Lab Control Sample	Total/NA	Water	9012B	436064

Client Sample ID: LL1mw-064-181001-GW — Lab Sample ID: 280-115950-1

Date Collected: 10/22/18 12:20 **Matrix: Water**
Date Received: 10/23/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			489.5 mL	5 mL	434708	10/24/18 12:14	CBB	TAL DEN
Total/NA	Analysis	8330B		1			435098	10/27/18 08:32	HKF	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	434973	10/27/18 05:30	THP	TAL DEN
Total/NA	Analysis	6010C		1			435469	10/30/18 00:40	CML	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	434761	10/25/18 14:30	DAL	TAL DEN
Total/NA	Analysis	6020A		1			436227	11/02/18 23:20	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	436187	11/03/18 12:15	THP	TAL DEN
Total/NA	Analysis	7470A		1			436252	11/04/18 08:49	THP	TAL DEN

Client Sample ID: LL1mw-088-181001-GW — Lab Sample ID: 280-115950-2

Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			952.2 mL	1 mL	434912	10/25/18 13:12	JZ	TAL DEN
Total/NA	Analysis	8270D		1			435306	10/29/18 15:31	DCK	TAL DEN
Total/NA	Prep	3510C			946 mL	10 mL	434851	10/25/18 09:01	KJS	TAL DEN
Total/NA	Analysis	8081B		1			438595	11/23/18 21:04	TEM	TAL DEN
Total/NA	Prep	3535			473.2 mL	5 mL	434708	10/24/18 12:14	CBB	TAL DEN
Total/NA	Analysis	8330B		1			435098	10/27/18 08:55	HKF	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	434973	10/27/18 05:30	THP	TAL DEN
Total/NA	Analysis	6010C		1			435469	10/30/18 00:43	CML	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	434761	10/25/18 14:30	DAL	TAL DEN
Total/NA	Analysis	6020A		1			436227	11/02/18 23:35	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	436187	11/03/18 12:15	THP	TAL DEN
Total/NA	Analysis	7470A		1			436252	11/04/18 08:51	THP	TAL DEN
Total/NA	Analysis	SM 2320B		1			435318	10/26/18 20:32	SGB	TAL DEN

Client Sample ID: LL1mw-088-181002-GW — Lab Sample ID: 280-115950-3

Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			950.9 mL	1 mL	434912	10/25/18 13:12	JZ	TAL DEN
Total/NA	Analysis	8270D		1			435306	10/29/18 16:00	DCK	TAL DEN
Total/NA	Prep	3510C			953.7 mL	10 mL	434851	10/25/18 09:01	KJS	TAL DEN
Total/NA	Analysis	8081B		1			438595	11/23/18 21:22	TEM	TAL DEN
Total/NA	Prep	3535			471.3 mL	5 mL	434708	10/24/18 12:14	CBB	TAL DEN
Total/NA	Analysis	8330B		1			435336	10/30/18 17:09	HKF	TAL DEN
Total/NA	Prep	3535			471.3 mL	5 mL	434708	10/24/18 12:14	CBB	TAL DEN
Total/NA	Analysis	8330B		1			435098	10/27/18 09:18	HKF	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	434973	10/27/18 05:30	THP	TAL DEN
Total/NA	Analysis	6010C		1			435469	10/30/18 01:13	CML	TAL DEN

Client Sample ID: LL1mw-088-181002-GW — Lab Sample ID: 280-115950-3

Date Collected: 10/22/18 10:40 **Matrix: Water**
Date Received: 10/23/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3020A			50 mL	50 mL	434761	10/25/18 14:30	DAL	TAL DEN
Total/NA	Analysis	6020A		1			436227	11/02/18 23:54	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	436187	11/03/18 12:15	THP	TAL DEN
Total/NA	Analysis	7470A		1			436252	11/04/18 09:02	THP	TAL DEN

Client Sample ID: RQLmw-007-181001-GW — Lab Sample ID: 280-115950-4

Date Collected: 10/22/18 12:50 **Matrix: Water**
Date Received: 10/23/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	436416	11/06/18 04:14	RSN	TAL DEN
Total/NA	Prep	3520C			967.5 mL	1 mL	434912	10/25/18 13:12	JZ	TAL DEN
Total/NA	Analysis	8270D		1			435306	10/29/18 16:29	DCK	TAL DEN
Total/NA	Prep	3510C			233.6 mL	1 mL	434941	10/25/18 12:34	KJS	TAL DEN
Total/NA	Analysis	8270D SIM		1			435422	10/30/18 06:58	MKW	TAL DEN
Total/NA	Prep	3510C			1034.8 mL	10 mL	434851	10/25/18 09:01	KJS	TAL DEN
Total/NA	Analysis	8081B		1			438595	11/23/18 21:39	TEM	TAL DEN
Total/NA	Prep	3510C			1034.8 mL	10 mL	434851	10/25/18 09:01	KJS	TAL DEN
Total/NA	Analysis	8082A		1			437748	11/16/18 03:07	BJP	TAL DEN
Total/NA	Prep	3535			474.5 mL	5 mL	434708	10/24/18 12:14	CBB	TAL DEN
Total/NA	Analysis	8330B		1			435098	10/27/18 09:41	HKF	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	434973	10/27/18 05:30	THP	TAL DEN
Total/NA	Analysis	6010C		1			435469	10/30/18 01:17	CML	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	434761	10/25/18 14:30	DAL	TAL DEN
Total/NA	Analysis	6020A		1			436227	11/02/18 23:58	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	436187	11/03/18 12:15	THP	TAL DEN
Total/NA	Analysis	7470A		1			436252	11/04/18 09:05	THP	TAL DEN
Total/NA	Prep	9012B			50 mL	50 mL	436064	11/02/18 11:32	RK	TAL DEN
Total/NA	Analysis	9012B		1	50 mL	50 mL	436413	11/05/18 17:26	RK	TAL DEN

Client Sample ID: RQLmw-008-181001-GW — Lab Sample ID: 280-115950-5

Date Collected: 10/22/18 10:05 **Matrix: Water**
Date Received: 10/23/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	436416	11/06/18 04:34	RSN	TAL DEN
Total/NA	Prep	3520C			973.1 mL	1 mL	434912	10/25/18 13:12	JZ	TAL DEN
Total/NA	Analysis	8270D		1			435306	10/29/18 16:58	DCK	TAL DEN
Total/NA	Prep	3510C			253.7 mL	1 mL	434941	10/25/18 12:34	KJS	TAL DEN
Total/NA	Analysis	8270D SIM		1			435422	10/30/18 07:27	MKW	TAL DEN
Total/NA	Prep	3510C			972.1 mL	10 mL	434851	10/25/18 09:01	KJS	TAL DEN
Total/NA	Analysis	8081B		1			438595	11/23/18 21:57	TEM	TAL DEN
Total/NA	Prep	3510C			972.1 mL	10 mL	434851	10/25/18 09:01	KJS	TAL DEN

Lab Chronicle

Client: Leidos, Inc.
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

TestAmerica Job ID: 280-115950-1

Client Sample ID: RQLmw-008-181001-GW

Lab Sample ID: 280-115950-5
Matrix: Water
Date Collected: 10/22/18 10:05
Date Received: 10/23/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8082A		1			437748	11/16/18 03:28	BJP	TAL DEN
Total/NA	Prep	3535			474.3 mL	5 mL	434708	10/24/18 12:14	CBB	TAL DEN
Total/NA	Analysis	8330B		1			435336	10/30/18 17:44	HKF	TAL DEN
Total/NA	Prep	3535			474.3 mL	5 mL	434708	10/24/18 12:14	CBB	TAL DEN
Total/NA	Analysis	8330B		1			435098	10/27/18 10:04	HKF	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	434973	10/27/18 05:30	THP	TAL DEN
Total/NA	Analysis	6010C		1			435469	10/30/18 01:20	CML	TAL DEN
Total/NA	Prep	3020A			50 mL	50 mL	434761	10/25/18 14:30	DAL	TAL DEN
Total/NA	Analysis	6020A		1			436227	11/03/18 00:01	LMT	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	436187	11/03/18 12:15	THP	TAL DEN
Total/NA	Analysis	7470A		1			436252	11/04/18 09:07	THP	TAL DEN
Total/NA	Prep	9012B			50 mL	50 mL	436064	11/02/18 11:32	RK	TAL DEN
Total/NA	Analysis	9012B		1	50 mL	50 mL	436413	11/05/18 17:27	RK	TAL DEN

Client Sample ID: FWGTB-181001-TB

Lab Sample ID: 280-115950-6
Matrix: Water
Date Collected: 10/22/18 10:05
Date Received: 10/23/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	436416	11/06/18 04:54	RSN	TAL DEN

Laboratory References:

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

Accreditation/Certification Summary

Client: Leidos, Inc. TestAmerica Job ID: 280-115950-1
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

Laboratory: TestAmerica Denver

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

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-19

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

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

Method Summary

Client: Leidos, Inc. TestAmerica Job ID: 280-115950-1
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL DEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL DEN
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL DEN
8081B	Organochlorine Pesticides (GC)	SW846	TAL DEN
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL DEN
8330B	Nitroaromatics and Nitramines (HPLC)	EPA	TAL DEN
6010C	Metals (ICP)	SW846	TAL DEN
6020A	Metals (ICP/MS)	SW846	TAL DEN
7470A	Mercury (CVAA)	SW846	TAL DEN
9012B	Cyanide, Total and/or Amenable	EPA	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
3010A	Preparation, Total Metals	SW846	TAL DEN
3020A	Preparation, Total Metals	SW846	TAL DEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL DEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL DEN
3535	Solid-Phase Extraction (SPE)	SW846	TAL DEN
5030B	Purge and Trap	SW846	TAL DEN
7470A	Preparation, Mercury	SW846	TAL DEN
9012B	Cyanide, Total and/or Amenable, Distillation	SW846	TAL DEN

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

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

Sample Summary

Client: Leidos, Inc. TestAmerica Job ID: 280-115950-1
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-115950-1	LL1mw-064-181001-GW	Water	10/22/18 12:20	10/23/18 08:50
280-115950-2	LL1mw-088-181001-GW	Water	10/22/18 10:40	10/23/18 08:50
280-115950-3	LL1mw-088-181002-GW	Water	10/22/18 10:40	10/23/18 08:50
280-115950-4	RQLmw-007-181001-GW	Water	10/22/18 12:50	10/23/18 08:50
280-115950-5	RQLmw-008-181001-GW	Water	10/22/18 10:05	10/23/18 08:50
280-115950-6	FWGTB-181001-TB	Water	10/22/18 10:05	10/23/18 08:50

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: VMS_G Analysis Batch Number: 435406

Lab Sample ID: STD005 280-435406/10 IC Client Sample ID:

Date Analyzed: 10/29/18 20:00 Lab File ID: G0942.D GC Column: DB-624 v1 ID: 32(um)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloroethane	6.25	Assign Peak	newcomer	10/29/18 21:18
Isobutyl alcohol		Invalid Compound ID	newcomer	10/29/18 23:08
sec-Butyl Alcohol		Invalid Compound ID	newcomer	10/29/18 21:18
t-Butyl alcohol		Invalid Compound ID	newcomer	10/29/18 21:18
Naphthalene	13.49	Assign Peak	newcomer	10/29/18 21:21

Lab Sample ID: STD01 280-435406/11 IC Client Sample ID:

Date Analyzed: 10/29/18 20:20 Lab File ID: G0943.D GC Column: DB-624 v1 ID: 32(um)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
sec-Butyl Alcohol	5.55	Assign Peak	newcomer	10/29/18 21:24
Tetrahydrofuran	5.77	Assign Peak	newcomer	10/29/18 21:24
Isobutyl alcohol	5.99	Assign Peak	newcomer	10/29/18 21:24
1,4-Dioxane	7.04	Assign Peak	newcomer	10/30/18 01:27
1,2-Dibromo-3-Chloropropane	12.33	Assign Peak	newcomer	10/29/18 21:25

Lab Sample ID: STD02 280-435406/12 IC Client Sample ID:

Date Analyzed: 10/29/18 20:40 Lab File ID: G0944.D GC Column: DB-624 v1 ID: 32(um)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
sec-Butyl Alcohol	5.55	Assign Peak	newcomer	10/29/18 21:26
Isobutyl alcohol	5.99	Assign Peak	newcomer	10/29/18 21:26

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: VMS_G Analysis Batch Number: 435406

Lab Sample ID: STD05 280-435406/13 IC Client Sample ID:

Date Analyzed: 10/29/18 21:01 Lab File ID: G0945.D GC Column: DB-624 v1 ID: 32(um)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
sec-Butyl Alcohol	5.55	Assign Peak	newcomer	10/29/18 21:31
Isobutyl alcohol	5.99	Split Peak	newcomer	10/29/18 21:31

Lab Sample ID: ICIS 280-435406/14 Client Sample ID:

Date Analyzed: 10/29/18 21:21 Lab File ID: G0946.D GC Column: DB-624 v1 ID: 32(um)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
sec-Butyl Alcohol	5.55	Assign Peak	newcomer	10/29/18 22:15

Lab Sample ID: STD25 280-435406/15 IC Client Sample ID:

Date Analyzed: 10/29/18 21:42 Lab File ID: G0947.D GC Column: DB-624 v1 ID: 32(um)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
sec-Butyl Alcohol	5.54	Peak assignment corrected	newcomer	10/29/18 22:16

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: VMS_G Analysis Batch Number: 436416

Lab Sample ID: 280-115950-4 Client Sample ID: RQLmw-007-181001-GW

Date Analyzed: 11/06/18 04:14 Lab File ID: G1296.D GC Column: DB-624 v1 ID: 32(um)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	newcomer	11/06/18 22:39

Lab Sample ID: 280-115950-5 Client Sample ID: RQLmw-008-181001-GW

Date Analyzed: 11/06/18 04:34 Lab File ID: G1297.D GC Column: DB-624 v1 ID: 32(um)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	newcomer	11/06/18 22:39

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SMS_K Analysis Batch Number: 434399

Lab Sample ID: ICIS 280-434399/3 Client Sample ID:

Date Analyzed: 10/23/18 13:33 Lab File ID: K27112.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Caprolactam	6.03	Split Peak	kiekeld	10/23/18 14:27

Lab Sample ID: STD004 280-434399/4 IC Client Sample ID:

Date Analyzed: 10/23/18 14:01 Lab File ID: K27113.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	1.96	Baseline	kiekeld	10/23/18 14:29
Benzoic acid	5.33	Wrong peak	kiekeld	10/23/18 14:29

Lab Sample ID: STD010 280-434399/5 IC Client Sample ID:

Date Analyzed: 10/23/18 14:30 Lab File ID: K27114.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	1.96	Baseline	kiekeld	10/23/18 15:33
Benzoic acid	5.35	Wrong peak	kiekeld	10/23/18 15:33

Lab Sample ID: STD020 280-434399/6 IC Client Sample ID:

Date Analyzed: 10/23/18 14:59 Lab File ID: K27115.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	5.36	Wrong peak	kiekeld	10/23/18 15:34

Lab Sample ID: STD050 280-434399/7 IC Client Sample ID:

Date Analyzed: 10/23/18 15:28 Lab File ID: K27116.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	5.39	Wrong peak	kiekeld	10/23/18 16:25

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SMS_K Analysis Batch Number: 434399

Lab Sample ID: STD120 280-434399/8 IC Client Sample ID:

Date Analyzed: 10/23/18 15:57 Lab File ID: K27117.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Caprolactam	6.03	Split Peak	kiekeld	10/23/18 16:27

Lab Sample ID: STD160 280-434399/9 IC Client Sample ID:

Date Analyzed: 10/23/18 16:25 Lab File ID: K27118.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Caprolactam	6.04	Split Peak	kiekeld	10/23/18 16:53

Lab Sample ID: STD200 280-434399/10 IC Client Sample ID:

Date Analyzed: 10/23/18 16:54 Lab File ID: K27119.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Caprolactam	6.05	Split Peak	kiekeld	10/24/18 05:19

Lab Sample ID: ICV 280-434399/12 Client Sample ID:

Date Analyzed: 10/23/18 17:52 Lab File ID: K27121.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Caprolactam	6.01	Wrong peak	kiekeld	10/24/18 05:23

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SMS_K Analysis Batch Number: 435306

Lab Sample ID: CCV 280-435306/3 Client Sample ID:

Date Analyzed: 10/29/18 09:03 Lab File ID: K27217.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
N-Nitrosodiphenylamine	7.98	Wrong peak	kiekeld	10/29/18 09:30
4-Bromophenyl phenyl ether	8.35	Wrong peak	kiekeld	10/29/18 09:30
Phenanthrene	8.84	Wrong peak	kiekeld	10/29/18 09:30
Anthracene	8.88	Wrong peak	kiekeld	10/29/18 09:30

Lab Sample ID: 280-115950-4 Client Sample ID: RQLmw-007-181001-GW

Date Analyzed: 10/29/18 16:29 Lab File ID: K27233.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Di-n-octyl phthalate		Invalid Compound ID	kiekeld	10/30/18 07:05

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SMS_F Analysis Batch Number: 435404

Lab Sample ID: STD0001 280-435404/4 IC Client Sample ID:

Date Analyzed: 10/29/18 16:32 Lab File ID: F4399.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrobenzene-d5 (Surr)	5.26	Assign Peak	wickhamm	10/29/18 19:07
1-Methylnaphthalene	6.76	Assign Peak	wickhamm	10/29/18 19:08
2-Fluorobiphenyl	7.03	Assign Peak	wickhamm	10/29/18 19:07
Acenaphthene-d10	7.71	Baseline	wickhamm	10/29/18 19:07
Benzo[k]fluoranthene		Invalid Compound ID	wickhamm	10/29/18 19:09
Fluoranthene-d10	10.61	Assign Peak	wickhamm	10/29/18 19:09
Terphenyl-d14 (Surr)	11.20	Assign Peak	wickhamm	10/29/18 19:08
Indeno[1,2,3-cd]pyrene	20.52	Incomplete Integration	wickhamm	10/29/18 19:09

Lab Sample ID: STD0002 280-435404/5 IC Client Sample ID:

Date Analyzed: 10/29/18 17:02 Lab File ID: F4400.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrobenzene-d5 (Surr)	5.26	Baseline	wickhamm	10/29/18 19:10
2-Fluorobiphenyl	7.03	Baseline	wickhamm	10/29/18 19:10
Acenaphthene-d10	7.71	Baseline	wickhamm	10/29/18 19:09
Acenaphthene	7.75	Baseline	wickhamm	10/29/18 19:10
Terphenyl-d14 (Surr)	11.20	Baseline	wickhamm	10/29/18 19:10
Benzo[k]fluoranthene	16.34	Baseline	wickhamm	10/29/18 19:10
Indeno[1,2,3-cd]pyrene	20.51	Baseline	wickhamm	10/29/18 19:10

Lab Sample ID: STD0500 280-435404/6 IC Client Sample ID:

Date Analyzed: 10/29/18 17:32 Lab File ID: F4401.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrobenzene-d5 (Surr)	5.26	Peak assignment corrected	wickhamm	10/29/18 19:11

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SMS_F Analysis Batch Number: 435404

Lab Sample ID: STD0100 280-435404/7 IC Client Sample ID:

Date Analyzed: 10/29/18 18:01 Lab File ID: F4402.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acenaphthene-d10	7.71	Baseline	wickhamm	10/29/18 19:11
Acenaphthene	7.74	Baseline	wickhamm	10/29/18 19:12
Benzo[k]fluoranthene	16.33	Baseline	wickhamm	10/29/18 19:12

Lab Sample ID: STD0300 280-435404/8 IC Client Sample ID:

Date Analyzed: 10/29/18 18:31 Lab File ID: F4403.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acenaphthene	7.74	Baseline	wickhamm	10/29/18 19:13
Benzo[k]fluoranthene	16.33	Baseline	wickhamm	10/29/18 19:13

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SMS_F Analysis Batch Number: 435422

Lab Sample ID: LCSD 280-434941/3-A Client Sample ID:

Date Analyzed: 10/30/18 06:29 Lab File ID: F4428.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acenaphthene-d10	7.71	Baseline	wickhamm	10/30/18 19:03

Lab Sample ID: 280-115950-4 Client Sample ID: RQLmw-007-181001-GW

Date Analyzed: 10/30/18 06:58 Lab File ID: F4429.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Anthracene	9.27	Peak assignment corrected	wickhamm	10/30/18 19:04
Acenaphthene		Invalid Compound ID	wickhamm	10/30/18 19:04
Benzo[a]pyrene		Invalid Compound ID	wickhamm	10/30/18 19:04
Benzo[k]fluoranthene		Invalid Compound ID	wickhamm	10/30/18 19:04

Lab Sample ID: 280-115950-5 Client Sample ID: RQLmw-008-181001-GW

Date Analyzed: 10/30/18 07:27 Lab File ID: F4430.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[a]pyrene		Invalid Compound ID	wickhamm	10/30/18 19:05
Benzo[k]fluoranthene		Invalid Compound ID	wickhamm	10/30/18 19:05

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SMS_F Analysis Batch Number: 435950

Lab Sample ID: CCV 280-435950/3 Client Sample ID:

Date Analyzed: 11/01/18 18:29 Lab File ID: F4474.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acenaphthene-d10	7.72	Baseline	wickhamm	11/01/18 18:55

Lab Sample ID: MB 280-434941/1-A Client Sample ID:

Date Analyzed: 11/01/18 19:05 Lab File ID: F4475.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acenaphthene		Invalid Compound ID	wickhamm	11/02/18 17:01
Benzo[a]pyrene		Invalid Compound ID	wickhamm	11/02/18 17:02
Benzo[k]fluoranthene		Invalid Compound ID	wickhamm	11/02/18 17:02

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_P2 Analysis Batch Number: 433303

Lab Sample ID: STD6 280-433303/16 IC Client Sample ID:

Date Analyzed: 10/13/18 16:10 Lab File ID: 011F1901.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	5.78	Baseline Smoothing	mooret	10/14/18 21:36
Toxaphene Peak 2	7.14	Baseline Smoothing	mooret	10/14/18 21:36
Toxaphene Peak 3	7.28	Baseline Smoothing	mooret	10/14/18 21:36
Toxaphene Peak 4	7.80	Baseline Smoothing	mooret	10/14/18 21:36
Toxaphene Peak 5	8.09	Baseline Smoothing	mooret	10/14/18 21:36

Lab Sample ID: STD4 280-433303/18 IC Client Sample ID:

Date Analyzed: 10/13/18 16:45 Lab File ID: 013F2101.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	6.25	Baseline Smoothing	mooret	10/14/18 21:37
Toxaphene Peak 2	6.85	Baseline Smoothing	mooret	10/14/18 21:37
Toxaphene Peak 3	7.53	Baseline Smoothing	mooret	10/14/18 21:37
Toxaphene Peak 4	7.89	Baseline Smoothing	mooret	10/14/18 21:37
Toxaphene Peak 5	8.20	Baseline Smoothing	mooret	10/14/18 21:37

Lab Sample ID: STD4 280-433303/18 IC Client Sample ID:

Date Analyzed: 10/13/18 16:45 Lab File ID: 013F2101.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	5.78	Baseline Smoothing	mooret	10/14/18 21:37
Toxaphene Peak 2	7.15	Baseline Smoothing	mooret	10/14/18 21:37
Toxaphene Peak 3	7.29	Baseline Smoothing	mooret	10/14/18 21:37
Toxaphene Peak 4	7.80	Baseline Smoothing	mooret	10/14/18 21:37
Toxaphene Peak 5	8.10	Baseline Smoothing	mooret	10/14/18 21:37

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_P2 Analysis Batch Number: 433303

Lab Sample ID: STD3 280-433303/19 IC Client Sample ID:

Date Analyzed: 10/13/18 17:03 Lab File ID: 014F2201.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	6.24	Baseline Smoothing	mooret	10/14/18 21:33
Toxaphene Peak 2	6.85	Baseline Smoothing	mooret	10/14/18 21:33
Toxaphene Peak 3	7.53	Baseline Smoothing	mooret	10/14/18 21:33
Toxaphene Peak 4	7.89	Baseline Smoothing	mooret	10/14/18 21:33
Toxaphene Peak 5	8.20	Baseline Smoothing	mooret	10/14/18 21:33

Lab Sample ID: STD2 280-433303/20 IC Client Sample ID:

Date Analyzed: 10/13/18 17:20 Lab File ID: 015F2301.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	6.24	Baseline Smoothing	mooret	10/14/18 21:33
Toxaphene Peak 2	6.85	Baseline Smoothing	mooret	10/14/18 21:33
Toxaphene Peak 3	7.53	Baseline Smoothing	mooret	10/14/18 21:33
Toxaphene Peak 4	7.89	Baseline Smoothing	mooret	10/14/18 21:33
Toxaphene Peak 5	8.20	Baseline Smoothing	mooret	10/14/18 21:33

Lab Sample ID: STD2 280-433303/20 IC Client Sample ID:

Date Analyzed: 10/13/18 17:20 Lab File ID: 015F2301.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	5.78	Baseline Smoothing	mooret	10/14/18 21:33
Toxaphene Peak 2	7.14	Baseline Smoothing	mooret	10/14/18 21:33
Toxaphene Peak 3	7.28	Baseline Smoothing	mooret	10/14/18 21:33
Toxaphene Peak 4	7.80	Baseline Smoothing	mooret	10/14/18 21:33
Toxaphene Peak 5	8.10	Baseline Smoothing	mooret	10/14/18 21:33

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_P2 Analysis Batch Number: 433303

Lab Sample ID: STD1 280-433303/21 IC Client Sample ID:

Date Analyzed: 10/13/18 17:37 Lab File ID: 016F2401.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	6.25	Baseline Smoothing	mooret	10/14/18 21:34
Toxaphene Peak 2	6.85	Baseline Smoothing	mooret	10/14/18 21:34
Toxaphene Peak 3	7.53	Baseline Smoothing	mooret	10/14/18 21:34
Toxaphene Peak 4	7.89	Baseline Smoothing	mooret	10/14/18 21:34
Toxaphene Peak 5	8.20	Baseline Smoothing	mooret	10/14/18 21:34

Lab Sample ID: STD1 280-433303/21 IC Client Sample ID:

Date Analyzed: 10/13/18 17:37 Lab File ID: 016F2401.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	5.78	Baseline Smoothing	mooret	10/14/18 21:34
Toxaphene Peak 2	7.14	Baseline Smoothing	mooret	10/14/18 21:34
Toxaphene Peak 3	7.28	Baseline Smoothing	mooret	10/14/18 21:34
Toxaphene Peak 4	7.80	Baseline Smoothing	mooret	10/14/18 21:34
Toxaphene Peak 5	8.10	Baseline Smoothing	mooret	10/14/18 21:34

Lab Sample ID: STD2 280-433303/31 IC Client Sample ID:

Date Analyzed: 10/13/18 20:32 Lab File ID: 026F3401.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Heptachlor epoxide	5.93	Incomplete Integration	mooret	10/14/18 09:17

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_P2 Analysis Batch Number: 433303

Lab Sample ID: ICV 280-433303/34 Client Sample ID:

Date Analyzed: 10/13/18 21:24 Lab File ID: 029F3701.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene		Unspecified		
Toxaphene Peak 1	6.23	Unspecified	mooret	10/14/18 21:42
Toxaphene Peak 2	6.85	Baseline Smoothing	mooret	10/14/18 21:40
Toxaphene Peak 3	7.52	Unspecified	mooret	10/14/18 21:42
Toxaphene Peak 4	7.89	Baseline Smoothing	mooret	10/14/18 21:40
Toxaphene Peak 5	8.20	Baseline Smoothing	mooret	10/14/18 21:40

Lab Sample ID: ICV 280-433303/34 Client Sample ID:

Date Analyzed: 10/13/18 21:24 Lab File ID: 029F3701.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene		Unspecified		
Toxaphene Peak 1	5.77	Baseline Smoothing	mooret	10/14/18 21:40
Toxaphene Peak 2	7.14	Baseline Smoothing	mooret	10/14/18 21:40
Toxaphene Peak 3	7.28	Baseline Smoothing	mooret	10/14/18 21:40
Toxaphene Peak 4	7.78	Unspecified	mooret	10/14/18 21:43
Toxaphene Peak 5	8.09	Baseline Smoothing	mooret	10/14/18 21:40

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_P2 Analysis Batch Number: 438595

Lab Sample ID: CCV 280-438595/11 Client Sample ID:

Date Analyzed: 11/23/18 19:19 Lab File ID: 11230011.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	6.22	Baseline Smoothing	mooret	11/25/18 19:10
Toxaphene Peak 2	6.82	Baseline Smoothing	mooret	11/25/18 19:10
Toxaphene Peak 3	7.49	Baseline Smoothing	mooret	11/25/18 19:10
Toxaphene Peak 4	7.85	Baseline Smoothing	mooret	11/25/18 19:10
Toxaphene Peak 5	8.17	Baseline Smoothing	mooret	11/25/18 19:10

Lab Sample ID: CCV 280-438595/11 Client Sample ID:

Date Analyzed: 11/23/18 19:19 Lab File ID: 11230011.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	5.73	Baseline Smoothing	mooret	11/25/18 19:10
Toxaphene Peak 2	7.08	Baseline Smoothing	mooret	11/25/18 19:10
Toxaphene Peak 3	7.22	Baseline Smoothing	mooret	11/25/18 19:10
Toxaphene Peak 4	7.74	Baseline Smoothing	mooret	11/25/18 19:10
Toxaphene Peak 5	8.03	Baseline Smoothing	mooret	11/25/18 19:10

Lab Sample ID: 280-115950-5 Client Sample ID: RQLmw-008-181001-GW

Date Analyzed: 11/23/18 21:57 Lab File ID: 11230020.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	9.41	Baseline Smoothing	mooret	11/25/18 19:17

Lab Sample ID: LCS 280-434851/11-A Client Sample ID:

Date Analyzed: 11/23/18 22:14 Lab File ID: 11230021.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 4	7.72	Peak assignment corrected	mooret	11/25/18 19:17

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_P2 Analysis Batch Number: 438595

Lab Sample ID: LCSD 280-434851/12-A Client Sample ID:

Date Analyzed: 11/23/18 22:32 Lab File ID: 11230022.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	6.20	Baseline Smoothing	mooret	11/25/18 19:18
Toxaphene Peak 2	6.82	Baseline Smoothing	mooret	11/25/18 19:18
Toxaphene Peak 3	7.49	Baseline Smoothing	mooret	11/25/18 19:18
Toxaphene Peak 4	7.86	Baseline Smoothing	mooret	11/25/18 19:18
Toxaphene Peak 5	8.18	Baseline Smoothing	mooret	11/25/18 19:18

Lab Sample ID: LCSD 280-434851/12-A Client Sample ID:

Date Analyzed: 11/23/18 22:32 Lab File ID: 11230022.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	5.73	Baseline Smoothing	mooret	11/25/18 19:18
Toxaphene Peak 2	7.08	Baseline Smoothing	mooret	11/25/18 19:18
Toxaphene Peak 3	7.22	Baseline Smoothing	mooret	11/25/18 19:18
Toxaphene Peak 4	7.72	Baseline Smoothing	mooret	11/25/18 19:18
Toxaphene Peak 5	8.03	Baseline Smoothing	mooret	11/25/18 19:18

Lab Sample ID: CCV 280-438595/24 Client Sample ID:

Date Analyzed: 11/23/18 23:07 Lab File ID: 11230024.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	6.22	Baseline Smoothing	mooret	11/25/18 19:19
Toxaphene Peak 2	6.82	Baseline Smoothing	mooret	11/25/18 19:19
Toxaphene Peak 3	7.49	Baseline Smoothing	mooret	11/25/18 19:19
Toxaphene Peak 4	7.85	Baseline Smoothing	mooret	11/25/18 19:19
Toxaphene Peak 5	8.17	Baseline Smoothing	mooret	11/25/18 19:19

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 437583

Lab Sample ID: STDL71248 280-437583/5 Client Sample ID:

Date Analyzed: 11/14/18 13:07 Lab File ID: 11141805.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1248 Peak 1	3.77	Baseline Smoothing	patadiab	11/14/18 14:22
PCB-1248 Peak 2	4.28	Baseline Smoothing	patadiab	11/14/18 14:22
PCB-1248 Peak 3	4.92	Baseline Smoothing	patadiab	11/14/18 14:22
PCB-1248 Peak 4	5.72	Baseline Smoothing	patadiab	11/14/18 14:22
PCB-1248 Peak 5	6.23	Baseline Smoothing	patadiab	11/14/18 14:22

Lab Sample ID: STDL71660 280-437583/19 Client Sample ID:

Date Analyzed: 11/14/18 18:04 Lab File ID: 11141819.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016 Peak 1	3.40	Baseline Smoothing	patadiab	11/15/18 09:30
PCB-1016 Peak 2	3.82	Baseline Smoothing	patadiab	11/15/18 09:30
PCB-1016 Peak 3	4.30	Split Peak	patadiab	11/15/18 09:31
PCB-1016 Peak 4	4.45	Baseline Smoothing	patadiab	11/15/18 09:30
PCB-1016 Peak 5	4.69	Baseline Smoothing	patadiab	11/15/18 09:30
PCB-1260 Peak 1	6.89	Baseline Smoothing	patadiab	11/15/18 09:31
PCB-1260 Peak 2	7.37	Baseline Smoothing	patadiab	11/15/18 09:31
PCB-1260 Peak 3	7.91	Baseline Smoothing	patadiab	11/15/18 09:31
PCB-1260 Peak 4	8.27	Baseline Smoothing	patadiab	11/15/18 09:31
PCB-1260 Peak 5	8.78	Baseline Smoothing	patadiab	11/15/18 09:31

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 437583

Lab Sample ID: STDL21660 280-437583/24 Client Sample ID:

Date Analyzed: 11/14/18 19:49 Lab File ID: 11141824.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1260 Peak 1	6.90	Baseline Smoothing	patadiab	11/15/18 09:34
PCB-1260 Peak 2	7.38	Baseline Smoothing	patadiab	11/15/18 09:34
PCB-1260 Peak 3	7.91	Baseline Smoothing	patadiab	11/15/18 09:34
PCB-1260 Peak 4	8.28	Baseline Smoothing	patadiab	11/15/18 09:34
PCB-1260 Peak 5	8.79	Baseline Smoothing	patadiab	11/15/18 09:34

Lab Sample ID: STDL33262 280-437583/30 Client Sample ID:

Date Analyzed: 11/14/18 21:56 Lab File ID: 11141830.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1232 Peak 1	3.40	Split Peak	patadiab	11/15/18 09:42
PCB-1232 Peak 2	3.81	Split Peak	patadiab	11/15/18 09:42
PCB-1232 Peak 3	4.29	Split Peak	patadiab	11/15/18 09:42
PCB-1232 Peak 4	4.44	Split Peak	patadiab	11/15/18 09:42
PCB-1232 Peak 5	5.13	Split Peak	patadiab	11/15/18 09:42

Lab Sample ID: ICV 280-437583/44 Client Sample ID:

Date Analyzed: 11/15/18 02:52 Lab File ID: 11141844.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1242		Unspecified		
PCB-1242 Peak 1	3.78	Baseline Smoothing	patadiab	11/15/18 10:20
PCB-1242 Peak 2	4.29	Baseline Smoothing	patadiab	11/15/18 10:20
PCB-1242 Peak 3	4.44	Baseline Smoothing	patadiab	11/15/18 10:20
PCB-1242 Peak 4	5.45	Baseline Smoothing	patadiab	11/15/18 10:20
PCB-1242 Peak 5	5.48	Baseline Smoothing	patadiab	11/15/18 10:20

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 437583

Lab Sample ID: ICV 280-437583/44 Client Sample ID:

Date Analyzed: 11/15/18 02:52 Lab File ID: 11141844.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1242		Unspecified		
PCB-1242 Peak 1	3.81	Baseline Smoothing	patadiab	11/15/18 10:21
PCB-1242 Peak 2	4.29	Split Peak	patadiab	11/15/18 10:21
PCB-1242 Peak 3	4.45	Baseline Smoothing	patadiab	11/15/18 10:21
PCB-1242 Peak 4	4.99	Baseline Smoothing	patadiab	11/15/18 10:21
PCB-1242 Peak 5	5.13	Baseline Smoothing	patadiab	11/15/18 10:21

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 437748

Lab Sample ID: CCVIS 280-437748/4 Client Sample ID:

Date Analyzed: 11/15/18 12:38 Lab File ID: 11151804.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1016 Peak 1	3.40	Unspecified		
PCB-1016 Peak 2	3.78	Unspecified		
PCB-1016 Peak 3	4.29	Unspecified		
PCB-1016 Peak 4	4.45	Unspecified		
PCB-1016 Peak 5	4.93	Unspecified		

Lab Sample ID: CCVIS 280-437748/4 Client Sample ID:

Date Analyzed: 11/15/18 12:38 Lab File ID: 11151804.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1016 Peak 1	3.41	Baseline Smoothing	patadiab	11/16/18 07:49
PCB-1016 Peak 2	3.82	Baseline Smoothing	patadiab	11/16/18 07:49
PCB-1016 Peak 3	4.30	Split Peak	patadiab	11/16/18 07:49
PCB-1016 Peak 4	4.45	Baseline Smoothing	patadiab	11/16/18 07:51
PCB-1016 Peak 5	4.69	Baseline Smoothing	patadiab	11/16/18 07:49
PCB-1260 Peak 1	6.90	Baseline Smoothing	patadiab	11/16/18 07:50
PCB-1260 Peak 2	7.38	Baseline Smoothing	patadiab	11/16/18 07:50
PCB-1260 Peak 3	7.91	Baseline Smoothing	patadiab	11/16/18 07:50
PCB-1260 Peak 4	8.28	Baseline Smoothing	patadiab	11/16/18 07:50
PCB-1260 Peak 5	8.79	Baseline Smoothing	patadiab	11/16/18 07:50

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 437748

Lab Sample ID: CCV 280-437748/40 Client Sample ID:

Date Analyzed: 11/16/18 01:21 Lab File ID: 11151840.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1016 Peak 1	3.42	Unspecified		
PCB-1016 Peak 2	3.80	Unspecified		
PCB-1016 Peak 3	4.32	Unspecified		
PCB-1016 Peak 4	4.47	Peak assignment corrected	patadiab	11/19/18 10:52
PCB-1016 Peak 5	4.96	Unspecified		
PCB-1260		Unspecified		
PCB-1260 Peak 1	6.52	Baseline Smoothing	patadiab	11/19/18 10:53
PCB-1260 Peak 2	7.28	Baseline Smoothing	patadiab	11/19/18 10:53
PCB-1260 Peak 3	7.79	Baseline Smoothing	patadiab	11/19/18 10:53
PCB-1260 Peak 4	8.23	Baseline Smoothing	patadiab	11/19/18 10:53
PCB-1260 Peak 5	8.63	Baseline Smoothing	patadiab	11/19/18 10:53

Lab Sample ID: CCV 280-437748/40 Client Sample ID:

Date Analyzed: 11/16/18 01:21 Lab File ID: 11151840.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1016 Peak 1	3.42	Unspecified		
PCB-1016 Peak 2	3.84	Unspecified		
PCB-1016 Peak 3	4.32	Unspecified		
PCB-1016 Peak 4	4.47	Unspecified		
PCB-1016 Peak 5	4.72	Unspecified		
PCB-1260		Unspecified		
PCB-1260 Peak 1	6.93	Baseline Smoothing	patadiab	11/19/18 10:54
PCB-1260 Peak 2	7.41	Baseline Smoothing	patadiab	11/19/18 10:54
PCB-1260 Peak 3	7.95	Baseline Smoothing	patadiab	11/19/18 10:54
PCB-1260 Peak 4	8.31	Baseline Smoothing	patadiab	11/19/18 10:54
PCB-1260 Peak 5	8.82	Baseline Smoothing	patadiab	11/19/18 10:54

8082A

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 437748

Lab Sample ID: MB 280-434851/1-A Client Sample ID:

Date Analyzed: 11/16/18 01:42 Lab File ID: 11151841.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1016 Peak 1		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1016 Peak 2		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1016 Peak 3		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1016 Peak 4		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1016 Peak 5		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1221 Peak 1		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1221 Peak 2		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1221 Peak 3		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1232 Peak 1		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1232 Peak 2		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1232 Peak 3		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1232 Peak 4		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1232 Peak 5		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1242 Peak 1		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1242 Peak 2		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1242 Peak 3		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1242 Peak 4		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1242 Peak 5		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1248 Peak 1		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1248 Peak 2		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1248 Peak 3		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1248 Peak 4		Invalid Compound ID	patadiab	11/19/18 10:55
PCB-1248 Peak 5		Invalid Compound ID	patadiab	11/19/18 10:55

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 437748

Lab Sample ID: MB 280-434851/1-A Client Sample ID:

Date Analyzed: 11/16/18 01:42 Lab File ID: 11151841.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1016 Peak 1		Unspecified		
PCB-1016 Peak 2		Unspecified		
PCB-1016 Peak 3		Unspecified		
PCB-1016 Peak 4		Unspecified		
PCB-1016 Peak 5		Unspecified		
PCB-1221 Peak 1		Unspecified		
PCB-1221 Peak 2		Unspecified		
PCB-1221 Peak 3		Unspecified		
PCB-1232 Peak 1		Unspecified		
PCB-1232 Peak 2		Unspecified		
PCB-1232 Peak 3		Unspecified		
PCB-1232 Peak 4		Unspecified		
PCB-1232 Peak 5		Unspecified		
PCB-1242 Peak 1		Unspecified		
PCB-1242 Peak 2		Unspecified		
PCB-1242 Peak 3		Unspecified		
PCB-1242 Peak 4		Unspecified		
PCB-1242 Peak 5		Unspecified		
PCB-1248 Peak 1		Unspecified		
PCB-1248 Peak 2		Unspecified		
PCB-1248 Peak 3		Unspecified		
PCB-1248 Peak 4		Unspecified		
PCB-1248 Peak 5		Unspecified		

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 437748

Lab Sample ID: LCS 280-434851/4-A Client Sample ID:

Date Analyzed: 11/16/18 02:03 Lab File ID: 11151842.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1260		Unspecified		
PCB-1016 Peak 1	3.42	Unspecified		
PCB-1016 Peak 2	3.80	Unspecified		
PCB-1016 Peak 3	4.32	Unspecified		
PCB-1016 Peak 4	4.47	Peak assignment corrected	patadiab	11/19/18 10:56
PCB-1016 Peak 5	4.96	Unspecified		
PCB-1260 Peak 1	6.52	Unspecified		
PCB-1260 Peak 2	7.28	Unspecified		
PCB-1260 Peak 3	7.78	Unspecified		
PCB-1260 Peak 4	8.23	Unspecified		
PCB-1260 Peak 5	8.63	Unspecified		

Lab Sample ID: LCS 280-434851/4-A Client Sample ID:

Date Analyzed: 11/16/18 02:03 Lab File ID: 11151842.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1260		Unspecified		
PCB-1016 Peak 1	3.42	Unspecified		
PCB-1016 Peak 2	3.84	Unspecified		
PCB-1016 Peak 3	4.32	Unspecified		
PCB-1016 Peak 4	4.47	Unspecified		
PCB-1016 Peak 5	4.71	Unspecified		
PCB-1260 Peak 1	6.93	Unspecified		
PCB-1260 Peak 2	7.41	Unspecified		
PCB-1260 Peak 3	7.94	Peak assignment corrected	patadiab	11/19/18 10:56
PCB-1260 Peak 4	8.31	Unspecified		
PCB-1260 Peak 5	8.82	Unspecified		

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 437748

Lab Sample ID: LCSD 280-434851/5-A Client Sample ID:

Date Analyzed: 11/16/18 02:24 Lab File ID: 11151843.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1260		Unspecified		
PCB-1016 Peak 1	3.42	Unspecified		
PCB-1016 Peak 2	3.80	Unspecified		
PCB-1016 Peak 3	4.32	Unspecified		
PCB-1016 Peak 4	4.47	Peak assignment corrected	patadiab	11/16/18 09:07
PCB-1016 Peak 5	4.96	Unspecified		
PCB-1260 Peak 1	6.52	Unspecified		
PCB-1260 Peak 2	7.28	Unspecified		
PCB-1260 Peak 3	7.78	Unspecified		
PCB-1260 Peak 4	8.23	Unspecified		
PCB-1260 Peak 5	8.63	Unspecified		

Lab Sample ID: LCSD 280-434851/5-A Client Sample ID:

Date Analyzed: 11/16/18 02:24 Lab File ID: 11151843.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1260		Unspecified		
PCB-1016 Peak 1	3.42	Unspecified		
PCB-1016 Peak 2	3.84	Unspecified		
PCB-1016 Peak 3	4.32	Unspecified		
PCB-1016 Peak 4	4.47	Unspecified		
PCB-1016 Peak 5	4.71	Unspecified		
PCB-1260 Peak 1	6.93	Peak assignment corrected	patadiab	11/16/18 09:07
PCB-1260 Peak 2	7.41	Peak assignment corrected	patadiab	11/16/18 09:07
PCB-1260 Peak 3	7.94	Peak assignment corrected	patadiab	11/16/18 09:07
PCB-1260 Peak 4	8.31	Peak assignment corrected	patadiab	11/16/18 09:07
PCB-1260 Peak 5	8.82	Baseline Smoothing	patadiab	11/19/18 10:58

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 437748

Lab Sample ID: 280-115950-4 Client Sample ID: RQLmw-007-181001-GW

Date Analyzed: 11/16/18 03:07 Lab File ID: 11151845.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1221 Peak 1		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1221 Peak 2		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1221 Peak 3		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1232 Peak 1		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1232 Peak 2		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1232 Peak 3		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1232 Peak 4		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1232 Peak 5		Invalid Compound ID	patadiab	11/19/18 10:59

Lab Sample ID: 280-115950-4 Client Sample ID: RQLmw-007-181001-GW

Date Analyzed: 11/16/18 03:07 Lab File ID: 11151845.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1221 Peak 1		Unspecified		
PCB-1221 Peak 2		Unspecified		
PCB-1221 Peak 3		Unspecified		
PCB-1232 Peak 1		Unspecified		
PCB-1232 Peak 2		Unspecified		
PCB-1232 Peak 3		Unspecified		
PCB-1232 Peak 4		Unspecified		
PCB-1232 Peak 5		Unspecified		

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 437748

Lab Sample ID: 280-115950-5 Client Sample ID: RQLmw-008-181001-GW

Date Analyzed: 11/16/18 03:28 Lab File ID: 11151846.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1016 Peak 1		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1016 Peak 2		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1016 Peak 3		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1016 Peak 4		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1016 Peak 5		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1221 Peak 1		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1221 Peak 2		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1221 Peak 3		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1232 Peak 1		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1232 Peak 2		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1232 Peak 3		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1232 Peak 4		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1232 Peak 5		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1242 Peak 1		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1242 Peak 2		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1242 Peak 3		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1242 Peak 4		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1242 Peak 5		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1248 Peak 1		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1248 Peak 2		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1248 Peak 3		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1248 Peak 4		Invalid Compound ID	patadiab	11/19/18 10:59
PCB-1248 Peak 5		Invalid Compound ID	patadiab	11/19/18 10:59

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 437748

Lab Sample ID: 280-115950-5 Client Sample ID: RQLmw-008-181001-GW

Date Analyzed: 11/16/18 03:28 Lab File ID: 11151846.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1016 Peak 1		Unspecified		
PCB-1016 Peak 2		Unspecified		
PCB-1016 Peak 3		Unspecified		
PCB-1016 Peak 4		Unspecified		
PCB-1016 Peak 5		Unspecified		
PCB-1221 Peak 1		Unspecified		
PCB-1221 Peak 2		Unspecified		
PCB-1221 Peak 3		Unspecified		
PCB-1232 Peak 1		Unspecified		
PCB-1232 Peak 2		Unspecified		
PCB-1232 Peak 3		Unspecified		
PCB-1232 Peak 4		Unspecified		
PCB-1232 Peak 5		Unspecified		
PCB-1242 Peak 1		Unspecified		
PCB-1242 Peak 2		Unspecified		
PCB-1242 Peak 3		Unspecified		
PCB-1242 Peak 4		Unspecified		
PCB-1242 Peak 5		Unspecified		
PCB-1248 Peak 1		Unspecified		
PCB-1248 Peak 2		Unspecified		
PCB-1248 Peak 3		Unspecified		
PCB-1248 Peak 4		Unspecified		
PCB-1248 Peak 5		Unspecified		

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Analysis Batch Number: 437748

Lab Sample ID: CCV 280-437748/52 Client Sample ID:

Date Analyzed: 11/16/18 05:35 Lab File ID: 11151852.D GC Column: CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1016 Peak 1	3.42	Unspecified		
PCB-1016 Peak 2	3.80	Unspecified		
PCB-1016 Peak 3	4.32	Unspecified		
PCB-1016 Peak 4	4.47	Peak assignment corrected	patadiab	11/19/18 11:10
PCB-1016 Peak 5	4.96	Unspecified		
PCB-1260		Unspecified		
PCB-1260 Peak 1	6.52	Unspecified		
PCB-1260 Peak 2	7.28	Unspecified		
PCB-1260 Peak 3	7.79	Unspecified		
PCB-1260 Peak 4	8.23	Unspecified		
PCB-1260 Peak 5	8.63	Peak assignment corrected	patadiab	11/19/18 11:11

Lab Sample ID: CCV 280-437748/52 Client Sample ID:

Date Analyzed: 11/16/18 05:35 Lab File ID: 11151852.D GC Column: CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1016 Peak 1	3.42	Unspecified		
PCB-1016 Peak 2	3.84	Unspecified		
PCB-1016 Peak 3	4.32	Unspecified		
PCB-1016 Peak 4	4.47	Unspecified		
PCB-1016 Peak 5	4.71	Unspecified		
PCB-1260		Unspecified		
PCB-1260 Peak 1	6.93	Unspecified		
PCB-1260 Peak 2	7.41	Unspecified		
PCB-1260 Peak 3	7.94	Peak assignment corrected	patadiab	11/19/18 11:11
PCB-1260 Peak 4	8.31	Unspecified		
PCB-1260 Peak 5	8.82	Unspecified		

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: CHHPLC_G2_LUNA Analysis Batch Number: 433312

Lab Sample ID: IC 280-433312/10 Client Sample ID:

Date Analyzed: 10/13/18 18:08 Lab File ID: 10130010.D GC Column: Luna-phenylhe ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetryl	23.72	Baseline Smoothing	fiedlerh	10/14/18 13:52

Lab Sample ID: IC 280-433312/11 Client Sample ID:

Date Analyzed: 10/13/18 18:43 Lab File ID: 10130011.D GC Column: Luna-phenylhe ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetryl	23.72	Baseline Smoothing	fiedlerh	10/14/18 13:51

Lab Sample ID: IC 280-433312/13 Client Sample ID:

Date Analyzed: 10/13/18 19:53 Lab File ID: 10130013.D GC Column: Luna-phenylhe ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetryl	23.72	Baseline Smoothing	fiedlerh	10/14/18 13:58
2,4,6-Trinitrotoluene	24.74	Baseline Smoothing	fiedlerh	10/14/18 13:58

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: CHHPLC_G2_LUNA Analysis Batch Number: 433312

Lab Sample ID: IC 280-433312/14 Client Sample ID:

Date Analyzed: 10/13/18 20:28 Lab File ID: 10130014.D GC Column: Luna-phenylhe ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HMX	7.14	Baseline Smoothing	fiedlerh	10/14/18 13:55
RDX	9.22	Baseline Smoothing	fiedlerh	10/14/18 13:56
Nitrobenzene	12.16	Baseline Smoothing	fiedlerh	10/14/18 13:56
1,2-Dinitrobenzene	13.16	Baseline Smoothing	fiedlerh	10/14/18 13:58
3,5-Dinitroaniline	15.12	Baseline Smoothing	fiedlerh	10/14/18 13:56
1,3-Dinitrobenzene	15.72	Baseline Smoothing	fiedlerh	10/14/18 13:53
2-Nitrotoluene	16.50	Baseline Smoothing	fiedlerh	10/14/18 13:57
4-Nitrotoluene	16.82	Baseline Smoothing	fiedlerh	10/14/18 13:57
4-Amino-2,6-dinitrotoluene	17.22	Baseline Smoothing	fiedlerh	10/14/18 13:57
3-Nitrotoluene	17.74	Baseline Smoothing	fiedlerh	10/14/18 13:56
2-Amino-4,6-dinitrotoluene	18.26	Baseline Smoothing	fiedlerh	10/14/18 13:56
2,6-Dinitrotoluene	19.84	Baseline Smoothing	fiedlerh	10/14/18 13:57
Tetryl	23.72	Baseline Smoothing	fiedlerh	10/14/18 13:57
2,4,6-Trinitrotoluene	24.75	Baseline Smoothing	fiedlerh	10/14/18 13:57
PETN	25.15	Baseline Smoothing	fiedlerh	10/14/18 13:57

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: CHHPLC_G2_LUNA Analysis Batch Number: 435336

Lab Sample ID: 280-115950-5 Client Sample ID: RQLmw-008-181001-GW

Date Analyzed: 10/30/18 17:44 Lab File ID: 10290055.D GC Column: Luna-phenylhe ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
3-Nitrotoluene		Invalid Compound ID	fiedlerh	10/31/18 14:05
PETN		Invalid Compound ID	fiedlerh	10/31/18 14:06
Tetryl		Invalid Compound ID	fiedlerh	10/31/18 14:06

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: CHHPLC_X3 Analysis Batch Number: 435098

Lab Sample ID: 280-115950-1 Client Sample ID: LL1mw-064-181001-GW

Date Analyzed: 10/27/18 08:32 Lab File ID: 10260059.D GC Column: UltraCarb5uOD ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HMX		Invalid Compound ID	fiedlerh	10/29/18 11:10

Lab Sample ID: 280-115950-2 Client Sample ID: LL1mw-088-181001-GW

Date Analyzed: 10/27/18 08:55 Lab File ID: 10260060.D GC Column: UltraCarb5uOD ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HMX		Invalid Compound ID	fiedlerh	10/29/18 11:11

Lab Sample ID: 280-115950-3 Client Sample ID: LL1mw-088-181002-GW

Date Analyzed: 10/27/18 09:18 Lab File ID: 10260061.D GC Column: UltraCarb5uOD ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
RDX	7.73	Baseline Smoothing	fiedlerh	10/29/18 11:11
1,2-Dinitrobenzene	8.72	Baseline Smoothing	fiedlerh	10/29/18 11:11
3-Nitrotoluene		Invalid Compound ID	fiedlerh	10/29/18 11:11
HMX		Invalid Compound ID	fiedlerh	10/29/18 11:11
2,4-Dinitrotoluene	12.01	Baseline Smoothing	fiedlerh	10/29/18 11:11

Lab Sample ID: 280-115950-4 Client Sample ID: RQLmw-007-181001-GW

Date Analyzed: 10/27/18 09:41 Lab File ID: 10260062.D GC Column: UltraCarb5uOD ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HMX		Invalid Compound ID	fiedlerh	10/29/18 11:11

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: CHHPLC_X3 Analysis Batch Number: 435098

Lab Sample ID: 280-115950-5 Client Sample ID: RQLmw-008-181001-GW

Date Analyzed: 10/27/18 10:04 Lab File ID: 10260063.D GC Column: UltraCarb5uOD ID: 4.6(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HMX	6.60	Baseline Smoothing	fiedlerh	10/29/18 11:12
RDX	7.73	Baseline Smoothing	fiedlerh	10/29/18 11:12
1,2-Dinitrobenzene	8.72	Baseline Smoothing	fiedlerh	10/29/18 11:12
2-Nitrotoluene		Invalid Compound ID	fiedlerh	10/29/18 11:12
3-Nitrotoluene		Invalid Compound ID	fiedlerh	10/29/18 11:12
4-Amino-2,6-dinitrotoluene		Invalid Compound ID	fiedlerh	10/29/18 11:12
4-Nitrotoluene		Invalid Compound ID	fiedlerh	10/29/18 11:12
Nitroglycerin		Invalid Compound ID	fiedlerh	10/29/18 11:12

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
8081 LCS_00448	10/31/18	10/24/18	P&T Methanol, Lot MethanolP&T_00216	50 mL	8081HCBPrim_00001	0.5 mL	Hexachlorobenzene	0.5 ug/mL
					8081LCSPrim_00041	0.5 mL	4,4'-DDD	0.5 ug/mL
							4,4'-DDE	0.5 ug/mL
							4,4'-DDT	0.5 ug/mL
							Aldrin	0.5 ug/mL
							alpha-BHC	0.5 ug/mL
							alpha-Chlordane	0.5 ug/mL
							beta-BHC	0.5 ug/mL
							delta-BHC	0.5 ug/mL
							Dieldrin	0.5 ug/mL
							Endosulfan I	0.5 ug/mL
							Endosulfan II	0.5 ug/mL
							Endosulfan sulfate	0.5 ug/mL
							Endrin	0.5 ug/mL
							Endrin aldehyde	0.5 ug/mL
							Endrin ketone	0.5 ug/mL
							gamma-BHC (Lindane)	0.5 ug/mL
							gamma-Chlordane	0.5 ug/mL
							Heptachlor	0.5 ug/mL
							Heptachlor epoxide	0.5 ug/mL
							Methoxychlor	0.5 ug/mL
.8081HCBPrim_00001	06/14/19	06/14/18	Hexane, Lot Hexane Cycl 00050	10 mL	8081HCBStkSS_00036	0.5 mL	Hexachlorobenzene	50 ug/mL
..8081HCBStkSS_00036	06/14/19	Ultra Scientific, Lot CR-5129			(Purchased Reagent)		Hexachlorobenzene	1000 ug/mL
.8081LCSPrim_00041	01/30/19	07/30/18	Hexane, Lot Hexane_Cycl_00051	10 mL	8081ABResPS_00028	0.25 mL	4,4'-DDD	50 ug/mL
							4,4'-DDE	50 ug/mL
							4,4'-DDT	50 ug/mL
							Aldrin	50 ug/mL
							alpha-BHC	50 ug/mL
							alpha-Chlordane	50 ug/mL
							beta-BHC	50 ug/mL
							delta-BHC	50 ug/mL
							Dieldrin	50 ug/mL
							Endosulfan I	50 ug/mL
							Endosulfan II	50 ug/mL
							Endosulfan sulfate	50 ug/mL
							Endrin	50 ug/mL
							Endrin aldehyde	50 ug/mL
							Endrin ketone	50 ug/mL
							gamma-BHC (Lindane)	50 ug/mL
							gamma-Chlordane	50 ug/mL
							Heptachlor	50 ug/mL
							Heptachlor epoxide	50 ug/mL
							Methoxychlor	50 ug/mL
..8081ABResPS_00028	04/30/22	Restek, Lot A0108399			(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							alpha-Chlordane	2000 ug/mL
							beta-BHC	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							gamma-Chlordane	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
8081/82 Surr_00105	03/25/19	09/25/18	ACETONE, Lot Acetone_00232	1000 mL	AR_SURR_RES_00084	1 mL	DCB Decachlorobiphenyl	0.2 ug/mL
							Tetrachloro-m-xylene	0.2 ug/mL
.AR_SURR_RES_00084	11/30/23		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
8081_EvalBPEM_00013	02/27/19	08/27/18	Hexane, Lot 173156	100 mL	8081EvalBStk2_00020	20 uL	4,4'-DDT	0.04 ug/mL
							Endrin	0.04 ug/mL
.8081EvalBStk2_00020	02/27/19		AccuStandard, Inc, Lot 217101288		(Purchased Reagent)		4,4'-DDT	200 ug/mL
							Endrin	200 ug/mL
8081_IS_00008	12/02/18	06/02/18	Hexane, Lot 189035	500 mL	BNB stock_00014	1 mL	1-Bromo-2-nitrobenzene	2 ug/mL
.BNB stock_00014	08/31/20		Restek, Lot A0127264		(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
8081ABICVL3_00035	02/28/19	10/13/18	Hexane, Lot 190112	100 mL	8081ABICVStk_00034	2.5 mL	4,4'-DDD	25 ng/mL
							4,4'-DDE	25 ng/mL
							4,4'-DDT	25 ng/mL
							Aldrin	25 ng/mL
							alpha-BHC	25 ng/mL
							alpha-Chlordane	25 ng/mL
							beta-BHC	25 ng/mL
							delta-BHC	25 ng/mL
							Dieldrin	25 ng/mL
							Endosulfan I	25 ng/mL
							Endosulfan II	25 ng/mL
							Endosulfan sulfate	25 ng/mL
							Endrin	25 ng/mL
							Endrin aldehyde	25 ng/mL
							Endrin ketone	25 ng/mL
							gamma-BHC (Lindane)	25 ng/mL
							gamma-Chlordane	25 ng/mL
							Heptachlor	25 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Heptachlor epoxide	25 ng/mL
							Methoxychlor	25 ng/mL
							DCB Decachlorobiphenyl	25 ng/mL
							Tetrachloro-m-xylene	25 ng/mL
.8081ABICVStk_00034	02/28/19	10/13/18	Hexane, Lot 190112	50 mL	8081ABResSS_00012	0.025 mL	4,4'-DDD	1000 ng/mL
							4,4'-DDE	1000 ng/mL
							4,4'-DDT	1000 ng/mL
							Aldrin	1000 ng/mL
							alpha-BHC	1000 ng/mL
							alpha-Chlordane	1000 ng/mL
							beta-BHC	1000 ng/mL
							delta-BHC	1000 ng/mL
							Dieldrin	1000 ng/mL
							Endosulfan I	1000 ng/mL
							Endosulfan II	1000 ng/mL
							Endosulfan sulfate	1000 ng/mL
							Endrin	1000 ng/mL
							Endrin aldehyde	1000 ng/mL
							Endrin ketone	1000 ng/mL
							gamma-BHC (Lindane)	1000 ng/mL
							gamma-Chlordane	1000 ng/mL
							Heptachlor	1000 ng/mL
							Heptachlor epoxide	1000 ng/mL
							Methoxychlor	1000 ng/mL
					AR_SURR_RES_00093	0.25 mL	DCB Decachlorobiphenyl	1000 ng/mL
							Tetrachloro-m-xylene	1000 ng/mL
..8081ABResSS_00012	02/28/19		Restek, Lot A0108854		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							alpha-Chlordane	2000 ug/mL
							beta-BHC	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							gamma-Chlordane	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
..AR_SURR_RES_00093	04/13/19		RESTEK, Lot A0136320		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
8081IcalL1_00025	12/20/18	06/20/18	Hexane, Lot 192742	100 mL	8081ABCalStk_00033	0.4 mL	4,4'-DDD	4 ng/mL
							4,4'-DDE	4 ng/mL
							4,4'-DDT	4 ng/mL
							Aldrin	4 ng/mL
							alpha-BHC	4 ng/mL
							alpha-Chlordane	4 ng/mL
							beta-BHC	4 ng/mL
							delta-BHC	4 ng/mL
							Dieldrin	4 ng/mL
							Endosulfan I	4 ng/mL
							Endosulfan II	4 ng/mL
							Endosulfan sulfate	4 ng/mL
							Endrin	4 ng/mL
							Endrin aldehyde	4 ng/mL
							Endrin ketone	4 ng/mL
							gamma-BHC (Lindane)	4 ng/mL
							gamma-Chlordane	4 ng/mL
							Heptachlor	4 ng/mL
							Heptachlor epoxide	4 ng/mL
							Methoxychlor	4 ng/mL
							Hexachlorobenzene	4 ng/mL
							DCB Decachlorobiphenyl	4 ng/mL
							Tetrachloro-m-xylene	4 ng/mL
.8081ABCalStk_00033	12/20/18	06/20/18	Hexane, Lot 192742	100 mL	8081ABResPS_00026	0.05 mL	4,4'-DDD	1000 ng/mL
							4,4'-DDE	1000 ng/mL
							4,4'-DDT	1000 ng/mL
							Aldrin	1000 ng/mL
							alpha-BHC	1000 ng/mL
							alpha-Chlordane	1000 ng/mL
							beta-BHC	1000 ng/mL
							delta-BHC	1000 ng/mL
							Dieldrin	1000 ng/mL
							Endosulfan I	1000 ng/mL
							Endosulfan II	1000 ng/mL
							Endosulfan sulfate	1000 ng/mL
							Endrin	1000 ng/mL
							Endrin aldehyde	1000 ng/mL
							Endrin ketone	1000 ng/mL
							gamma-BHC (Lindane)	1000 ng/mL
							gamma-Chlordane	1000 ng/mL
							Heptachlor	1000 ng/mL
							Heptachlor epoxide	1000 ng/mL
							Methoxychlor	1000 ng/mL
					8081HCBStkPS_00021	1 mL	Hexachlorobenzene	1000 ng/mL
					AR_SURR_RES_00073	0.5 mL	DCB Decachlorobiphenyl	1000 ng/mL
							Tetrachloro-m-xylene	1000 ng/mL
..8081ABResPS_00026	12/20/18		Restek, Lot A0129369		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							alpha-Chlordane	2000 ug/mL
							beta-BHC	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							gamma-Chlordane	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
..8081HCBStkPS_00021	12/20/18	Accustandard, Inc., Lot 216101286			(Purchased Reagent)		Hexachlorobenzene	100 ug/mL
..AR_SURR_RES_00073	12/20/18	RESTEK, Lot A0121594			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
8081IcalL2_00025	12/20/18	06/20/18	Hexane, Lot 192742	100 mL	8081ABCalStk_00033	1 mL	4,4'-DDD	10 ng/mL
							4,4'-DDE	10 ng/mL
							4,4'-DDT	10 ng/mL
							Aldrin	10 ng/mL
							alpha-BHC	10 ng/mL
							alpha-Chlordane	10 ng/mL
							beta-BHC	10 ng/mL
							delta-BHC	10 ng/mL
							Dieldrin	10 ng/mL
							Endosulfan I	10 ng/mL
							Endosulfan II	10 ng/mL
							Endosulfan sulfate	10 ng/mL
							Endrin	10 ng/mL
							Endrin aldehyde	10 ng/mL
							Endrin ketone	10 ng/mL
							gamma-BHC (Lindane)	10 ng/mL
							gamma-Chlordane	10 ng/mL
							Heptachlor	10 ng/mL
							Heptachlor epoxide	10 ng/mL
							Methoxychlor	10 ng/mL
							Hexachlorobenzene	10 ng/mL
							DCB Decachlorobiphenyl	10 ng/mL
							Tetrachloro-m-xylene	10 ng/mL
.8081ABCalStk_00033	12/20/18	06/20/18	Hexane, Lot 192742	100 mL	8081ABResPS_00026	0.05 mL	4,4'-DDD	1000 ng/mL
							4,4'-DDE	1000 ng/mL
							4,4'-DDT	1000 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Aldrin	1000 ng/mL
							alpha-BHC	1000 ng/mL
							alpha-Chlordane	1000 ng/mL
							beta-BHC	1000 ng/mL
							delta-BHC	1000 ng/mL
							Dieldrin	1000 ng/mL
							Endosulfan I	1000 ng/mL
							Endosulfan II	1000 ng/mL
							Endosulfan sulfate	1000 ng/mL
							Endrin	1000 ng/mL
							Endrin aldehyde	1000 ng/mL
							Endrin ketone	1000 ng/mL
							gamma-BHC (Lindane)	1000 ng/mL
							gamma-Chlordane	1000 ng/mL
							Heptachlor	1000 ng/mL
							Heptachlor epoxide	1000 ng/mL
							Methoxychlor	1000 ng/mL
					8081HCBStkPS_00021	1 mL	Hexachlorobenzene	1000 ng/mL
					AR_SURR_RES_00073	0.5 mL	DCB Decachlorobiphenyl	1000 ng/mL
							Tetrachloro-m-xylene	1000 ng/mL
..8081ABResPS_00026	12/20/18		Restek, Lot A0129369		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							alpha-Chlordane	2000 ug/mL
							beta-BHC	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							gamma-Chlordane	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
..8081HCBStkPS_00021	12/20/18		Accustandard, Inc., Lot 216101286		(Purchased Reagent)		Hexachlorobenzene	100 ug/mL
..AR_SURR_RES_00073	12/20/18		RESTEK, Lot A0121594		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
8081IcalL3_00028	12/20/18	06/20/18	Hexane, Lot 192742	100 mL	8081ABCalStk_00033	2.5 mL	4,4'-DDD	25 ng/mL
							4,4'-DDE	25 ng/mL
							4,4'-DDT	25 ng/mL
							Aldrin	25 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							alpha-BHC	25 ng/mL
							alpha-Chlordane	25 ng/mL
							beta-BHC	25 ng/mL
							delta-BHC	25 ng/mL
							Dieldrin	25 ng/mL
							Endosulfan I	25 ng/mL
							Endosulfan II	25 ng/mL
							Endosulfan sulfate	25 ng/mL
							Endrin	25 ng/mL
							Endrin aldehyde	25 ng/mL
							Endrin ketone	25 ng/mL
							gamma-BHC (Lindane)	25 ng/mL
							gamma-Chlordane	25 ng/mL
							Heptachlor	25 ng/mL
							Heptachlor epoxide	25 ng/mL
							Methoxychlor	25 ng/mL
							Hexachlorobenzene	25 ng/mL
							DCB Decachlorobiphenyl	25 ng/mL
							Tetrachloro-m-xylene	25 ng/mL
.8081ABCalStk_00033	12/20/18	06/20/18	Hexane, Lot 192742	100 mL	8081ABResPS_00026	0.05 mL	4,4'-DDD	1000 ng/mL
							4,4'-DDE	1000 ng/mL
							4,4'-DDT	1000 ng/mL
							Aldrin	1000 ng/mL
							alpha-BHC	1000 ng/mL
							alpha-Chlordane	1000 ng/mL
							beta-BHC	1000 ng/mL
							delta-BHC	1000 ng/mL
							Dieldrin	1000 ng/mL
							Endosulfan I	1000 ng/mL
							Endosulfan II	1000 ng/mL
							Endosulfan sulfate	1000 ng/mL
							Endrin	1000 ng/mL
							Endrin aldehyde	1000 ng/mL
							Endrin ketone	1000 ng/mL
							gamma-BHC (Lindane)	1000 ng/mL
							gamma-Chlordane	1000 ng/mL
							Heptachlor	1000 ng/mL
							Heptachlor epoxide	1000 ng/mL
							Methoxychlor	1000 ng/mL
					8081HCBStkPS_00021	1 mL	Hexachlorobenzene	1000 ng/mL
					AR_SURR_RES_00073	0.5 mL	DCB Decachlorobiphenyl	1000 ng/mL
							Tetrachloro-m-xylene	1000 ng/mL
..8081ABResPS_00026	12/20/18		Restek, Lot A0129369		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							alpha-Chlordane	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							beta-BHC	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							gamma-Chlordane	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
..8081HCBStkPS_00021	12/20/18	Accustandard, Inc., Lot 216101286			(Purchased Reagent)		Hexachlorobenzene	100 ug/mL
..AR_SURR_RES_00073	12/20/18	RESTEK, Lot A0121594			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
8081IcalL4_00031	12/20/18	06/20/18	Hexane, Lot 192742	500 mL	8081ABCalStk_00033	25 mL	4,4'-DDD	50 ng/mL
							4,4'-DDE	50 ng/mL
							4,4'-DDT	50 ng/mL
							Aldrin	50 ng/mL
							alpha-BHC	50 ng/mL
							alpha-Chlordane	50 ng/mL
							beta-BHC	50 ng/mL
							delta-BHC	50 ng/mL
							Dieldrin	50 ng/mL
							Endosulfan I	50 ng/mL
							Endosulfan II	50 ng/mL
							Endosulfan sulfate	50 ng/mL
							Endrin	50 ng/mL
							Endrin aldehyde	50 ng/mL
							Endrin ketone	50 ng/mL
							gamma-BHC (Lindane)	50 ng/mL
							gamma-Chlordane	50 ng/mL
							Heptachlor	50 ng/mL
							Heptachlor epoxide	50 ng/mL
							Methoxychlor	50 ng/mL
							Hexachlorobenzene	50 ng/mL
							DCB Decachlorobiphenyl	50 ng/mL
							Tetrachloro-m-xylene	50 ng/mL
.8081ABCalStk_00033	12/20/18	06/20/18	Hexane, Lot 192742	100 mL	8081ABResPS_00026	0.05 mL	4,4'-DDD	1000 ng/mL
							4,4'-DDE	1000 ng/mL
							4,4'-DDT	1000 ng/mL
							Aldrin	1000 ng/mL
							alpha-BHC	1000 ng/mL
							alpha-Chlordane	1000 ng/mL
							beta-BHC	1000 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							delta-BHC	1000 ng/mL
							Dieldrin	1000 ng/mL
							Endosulfan I	1000 ng/mL
							Endosulfan II	1000 ng/mL
							Endosulfan sulfate	1000 ng/mL
							Endrin	1000 ng/mL
							Endrin aldehyde	1000 ng/mL
							Endrin ketone	1000 ng/mL
							gamma-BHC (Lindane)	1000 ng/mL
							gamma-Chlordane	1000 ng/mL
							Heptachlor	1000 ng/mL
							Heptachlor epoxide	1000 ng/mL
							Methoxychlor	1000 ng/mL
					8081HCBStkPS_00021	1 mL	Hexachlorobenzene	1000 ng/mL
					AR_SURR_RES_00073	0.5 mL	DCB Decachlorobiphenyl	1000 ng/mL
							Tetrachloro-m-xylene	1000 ng/mL
..8081ABResPS_00026	12/20/18		Restek, Lot A0129369		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							alpha-Chlordane	2000 ug/mL
							beta-BHC	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							gamma-Chlordane	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
..8081HCBStkPS_00021	12/20/18		Accustandard, Inc., Lot 216101286		(Purchased Reagent)		Hexachlorobenzene	100 ug/mL
..AR_SURR_RES_00073	12/20/18		RESTEK, Lot A0121594		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
8081IcalL5_00026	12/20/18	06/20/18	Hexane, Lot 192742	100 mL	8081ABCalStk_00033	7.5 mL	4,4'-DDD	75 ng/mL
							4,4'-DDE	75 ng/mL
							4,4'-DDT	75 ng/mL
							Aldrin	75 ng/mL
							alpha-BHC	75 ng/mL
							alpha-Chlordane	75 ng/mL
							beta-BHC	75 ng/mL
							delta-BHC	75 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dieldrin	75 ng/mL
							Endosulfan I	75 ng/mL
							Endosulfan II	75 ng/mL
							Endosulfan sulfate	75 ng/mL
							Endrin	75 ng/mL
							Endrin aldehyde	75 ng/mL
							Endrin ketone	75 ng/mL
							gamma-BHC (Lindane)	75 ng/mL
							gamma-Chlordane	75 ng/mL
							Heptachlor	75 ng/mL
							Heptachlor epoxide	75 ng/mL
							Methoxychlor	75 ng/mL
							Hexachlorobenzene	75 ng/mL
							DCB Decachlorobiphenyl	75 ng/mL
							Tetrachloro-m-xylene	75 ng/mL
.8081ABCalStk_00033	12/20/18	06/20/18	Hexane, Lot 192742	100 mL	8081ABResPS_00026	0.05 mL	4,4'-DDD	1000 ng/mL
							4,4'-DDE	1000 ng/mL
							4,4'-DDT	1000 ng/mL
							Aldrin	1000 ng/mL
							alpha-BHC	1000 ng/mL
							alpha-Chlordane	1000 ng/mL
							beta-BHC	1000 ng/mL
							delta-BHC	1000 ng/mL
							Dieldrin	1000 ng/mL
							Endosulfan I	1000 ng/mL
							Endosulfan II	1000 ng/mL
							Endosulfan sulfate	1000 ng/mL
							Endrin	1000 ng/mL
							Endrin aldehyde	1000 ng/mL
							Endrin ketone	1000 ng/mL
							gamma-BHC (Lindane)	1000 ng/mL
							gamma-Chlordane	1000 ng/mL
							Heptachlor	1000 ng/mL
							Heptachlor epoxide	1000 ng/mL
							Methoxychlor	1000 ng/mL
					8081HCBStkPS_00021	1 mL	Hexachlorobenzene	1000 ng/mL
					AR_SURR_RES_00073	0.5 mL	DCB Decachlorobiphenyl	1000 ng/mL
							Tetrachloro-m-xylene	1000 ng/mL
..8081ABResPS_00026	12/20/18		Restek, Lot A0129369		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							alpha-Chlordane	2000 ug/mL
							beta-BHC	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							gamma-Chlordane	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
..8081HCBStkPS_00021	12/20/18	Accustandard, Inc., Lot 216101286			(Purchased Reagent)		Hexachlorobenzene	100 ug/mL
..AR_SURR_RES_00073	12/20/18	RESTEK, Lot A0121594			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
8081IcalL6_00025	12/20/18	06/20/18	Hexane, Lot 192742	100 mL	8081ABCalStk_00033	10 mL	4,4'-DDD	100 ng/mL
							4,4'-DDE	100 ng/mL
							4,4'-DDT	100 ng/mL
							Aldrin	100 ng/mL
							alpha-BHC	100 ng/mL
							alpha-Chlordane	100 ng/mL
							beta-BHC	100 ng/mL
							delta-BHC	100 ng/mL
							Dieldrin	100 ng/mL
							Endosulfan I	100 ng/mL
							Endosulfan II	100 ng/mL
							Endosulfan sulfate	100 ng/mL
							Endrin	100 ng/mL
							Endrin aldehyde	100 ng/mL
							Endrin ketone	100 ng/mL
							gamma-BHC (Lindane)	100 ng/mL
							gamma-Chlordane	100 ng/mL
							Heptachlor	100 ng/mL
							Heptachlor epoxide	100 ng/mL
							Methoxychlor	100 ng/mL
							Hexachlorobenzene	100 ng/mL
							DCB Decachlorobiphenyl	100 ng/mL
							Tetrachloro-m-xylene	100 ng/mL
.8081ABCalStk_00033	12/20/18	06/20/18	Hexane, Lot 192742	100 mL	8081ABResPS_00026	0.05 mL	4,4'-DDD	1000 ng/mL
							4,4'-DDE	1000 ng/mL
							4,4'-DDT	1000 ng/mL
							Aldrin	1000 ng/mL
							alpha-BHC	1000 ng/mL
							alpha-Chlordane	1000 ng/mL
							beta-BHC	1000 ng/mL
							delta-BHC	1000 ng/mL
							Dieldrin	1000 ng/mL
							Endosulfan I	1000 ng/mL
							Endosulfan II	1000 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Endosulfan sulfate	1000 ng/mL
							Endrin	1000 ng/mL
							Endrin aldehyde	1000 ng/mL
							Endrin ketone	1000 ng/mL
							gamma-BHC (Lindane)	1000 ng/mL
							gamma-Chlordane	1000 ng/mL
							Heptachlor	1000 ng/mL
							Heptachlor epoxide	1000 ng/mL
							Methoxychlor	1000 ng/mL
					8081HCBStkPS_00021	1 mL	Hexachlorobenzene	1000 ng/mL
					AR_SURR_RES_00073	0.5 mL	DCB Decachlorobiphenyl	1000 ng/mL
							Tetrachloro-m-xylene	1000 ng/mL
..8081ABResPS_00026	12/20/18		Restek, Lot A0129369		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							alpha-Chlordane	2000 ug/mL
							beta-BHC	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							gamma-Chlordane	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
..8081HCBStkPS_00021	12/20/18		Accustandard, Inc., Lot 216101286		(Purchased Reagent)		Hexachlorobenzene	100 ug/mL
..AR_SURR_RES_00073	12/20/18		RESTEK, Lot A0121594		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
8081Toxaphene_00031	11/13/18	05/16/18	ACETONE, Lot Acetone 000196	500 mL	8081 ToxStock_00018	1 mL	Toxaphene	2 ug/mL
.8081 ToxStock_00018	01/30/25		AccuStandard, Lot 215011420		(Purchased Reagent)		Toxaphene	1000 ug/mL
8081TOXCCVL4_00014	11/12/18	05/12/18	Hexane, Lot 189045	250 mL	8081ToxPS_00034	0.1 mL	Toxaphene Peak 1	2000 ng/mL
							Toxaphene Peak 2	2000 ng/mL
							Toxaphene Peak 3	2000 ng/mL
							Toxaphene Peak 4	2000 ng/mL
							Toxaphene Peak 5	2000 ng/mL
.8081ToxPS_00034	03/31/21		Restek, Lot A0123422		(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Toxaphene Peak 5	5000 ug/mL
8081TOXCCVL4_00015	05/12/19	11/12/18	Hexane, Lot 189045	250 mL	8081ToxPS_00039	0.1 mL	Toxaphene	2000 ng/mL
.8081ToxPS_00039	05/12/19		Restek, Lot A0128388		(Purchased Reagent)		Toxaphene	5000 ug/mL
8081ToxICVL3_00013	03/19/19	09/19/18	Hexane, Lot 190112	100 mL	8081ToxSS_00020	0.1 mL	Toxaphene	1000 ng/mL
.8081ToxSS_00020	03/19/19		Accustandard, Inc., Lot 217071319		(Purchased Reagent)		Toxaphene	1000 ug/mL
8081ToxL1_00020	11/12/18	05/12/18	Hexane, Lot 189045	100 mL	8081ToxPS_00034	0.004 mL	Toxaphene Peak 1	200 ng/mL
							Toxaphene Peak 2	200 ng/mL
							Toxaphene Peak 3	200 ng/mL
							Toxaphene Peak 4	200 ng/mL
							Toxaphene Peak 5	200 ng/mL
.8081ToxPS_00034	03/31/21		Restek, Lot A0123422		(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
							Toxaphene Peak 5	5000 ug/mL
8081ToxL2_00021	11/12/18	05/12/18	Hexane, Lot 175756	100 mL	8081ToxPS_00034	0.01 mL	Toxaphene Peak 1	500 ng/mL
							Toxaphene Peak 2	500 ng/mL
							Toxaphene Peak 3	500 ng/mL
							Toxaphene Peak 4	500 ng/mL
							Toxaphene Peak 5	500 ng/mL
.8081ToxPS_00034	03/31/21		Restek, Lot A0123422		(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
							Toxaphene Peak 5	5000 ug/mL
8081ToxL3_00020	11/12/18	05/12/18	Hexane, Lot 189045	100 mL	8081ToxPS_00034	0.02 mL	Toxaphene Peak 1	1000 ng/mL
							Toxaphene Peak 2	1000 ng/mL
							Toxaphene Peak 3	1000 ng/mL
							Toxaphene Peak 4	1000 ng/mL
							Toxaphene Peak 5	1000 ng/mL
.8081ToxPS_00034	03/31/21		Restek, Lot A0123422		(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
							Toxaphene Peak 5	5000 ug/mL
8081ToxL5_00021	11/12/18	05/12/18	Hexane, Lot 189045	100 mL	8081ToxPS_00034	0.1 mL	Toxaphene Peak 1	5000 ng/mL
							Toxaphene Peak 2	5000 ng/mL
							Toxaphene Peak 3	5000 ng/mL
							Toxaphene Peak 4	5000 ng/mL
							Toxaphene Peak 5	5000 ng/mL
.8081ToxPS_00034	03/31/21		Restek, Lot A0123422		(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
							Toxaphene Peak 5	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
8081ToxL6_00023	11/12/18	05/12/18	Hexane, Lot 189045	100 mL	8081ToxPS_00034	0.2 mL	Toxaphene Peak 1	10000 ng/mL
							Toxaphene Peak 2	10000 ng/mL
							Toxaphene Peak 3	10000 ng/mL
							Toxaphene Peak 4	10000 ng/mL
							Toxaphene Peak 5	10000 ng/mL
.8081ToxPS_00034	03/31/21	Restek, Lot A0123422			(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
							Toxaphene Peak 5	5000 ug/mL
8082 LCS_00049	12/11/18	07/11/18	ACETONE, Lot Acetone_00221	500 mL	8082LCSSTOCK_00034	1 mL	PCB-1016	2 ug/mL
							PCB-1260	2 ug/mL
.8082LCSSTOCK_00034	07/11/19	RESTEK, Lot A0116282			(Purchased Reagent)		PCB-1016	1000 ug/mL
							PCB-1260	1000 ug/mL
8270_LCS_Main_00055	05/31/19	10/01/18	P&T Methanol, Lot MethanolP&T_00214	500 mL	571995_00044	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	160 ug/mL
					571995_00049	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Methylphenol	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]pyrene	80 ug/mL
							Benzo[b]fluoranthene	80 ug/mL
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Carbazole	80 ug/mL
							Chrysene	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	160 ug/mL
							Hexachloroethane	80 ug/mL
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	160 ug/mL
					571995_00050	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	160 ug/mL
							Hexachloroethane	80 ug/mL
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	160 ug/mL
					571995_00051	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Methylphenol	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL
							Benzo[a]pyrene	80 ug/mL
							Benzo[b]fluoranthene	80 ug/mL
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Carbazole	80 ug/mL
							Chrysene	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	160 ug/mL
							Hexachloroethane	80 ug/mL
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	160 ug/mL
					571995_00052	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Methylphenol	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					571995_00053	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Methylphenol	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL
							Benzo[a]pyrene	80 ug/mL
							Benzo[b]fluoranthene	80 ug/mL
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Carbazole	80 ug/mL
							Chrysene	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	160 ug/mL
							Hexachloroethane	80 ug/mL
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	160 ug/mL
					571995_00055	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Diphenylamine	68 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	160 ug/mL
							Hexachloroethane	80 ug/mL
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	160 ug/mL
					571995_00056	5 mL	1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL
							1,3-Dichlorobenzene	80 ug/mL
							1,3-Dinitrobenzene	80 ug/mL
							1,4-Dichlorobenzene	80 ug/mL
							1,4-Dioxane	80 ug/mL
							1-Methylnaphthalene	80 ug/mL
							2,2'-oxybis[1-chloropropane]	80 ug/mL
							2,3,4,6-Tetrachlorophenol	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2,4-Dinitrotoluene	80 ug/mL
							2,6-Dichlorophenol	80 ug/mL
							2,6-Dinitrotoluene	80 ug/mL
							2-Chloronaphthalene	80 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylnaphthalene	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitroaniline	80 ug/mL
							2-Nitrophenol	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							3 & 4 Methylphenol	80 ug/mL
							3-Methylphenol	80 ug/mL
							3-Nitroaniline	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Bromophenyl phenyl ether	80 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Chloroaniline	80 ug/mL
							4-Chlorophenyl phenyl ether	80 ug/mL
							4-Methylphenol	80 ug/mL
							4-Nitroaniline	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Acenaphthene	80 ug/mL
							Acenaphthylene	80 ug/mL
							Acetophenone	80 ug/mL
							Aniline	80 ug/mL
							Anthracene	80 ug/mL
							Azobenzene	80 ug/mL
							Benzo[a]anthracene	80 ug/mL
							Benzo[a]pyrene	80 ug/mL
							Benzo[b]fluoranthene	80 ug/mL
							Benzo[g,h,i]perylene	80 ug/mL
							Benzo[k]fluoranthene	80 ug/mL
							Benzyl alcohol	80 ug/mL
							Bis(2-chloroethoxy)methane	80 ug/mL
							Bis(2-chloroethyl)ether	80 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Carbazole	80 ug/mL
							Chrysene	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	160 ug/mL
							Hexachloroethane	80 ug/mL
							Hexadecane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							n-Decane	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosodiphenylamine	80 ug/mL
							n-Octadecane	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	160 ug/mL
					MS-569731_00095	5 mL	Benzoic acid	80 ug/mL
							Indene	80 ug/mL
					MS-569731_00096	5 mL	Benzoic acid	80 ug/mL
							Indene	80 ug/mL
					MS-569731_00097	5 mL	Benzoic acid	80 ug/mL
							Indene	80 ug/mL
					MS-569731_00100	5 mL	Benzoic acid	80 ug/mL
							Indene	80 ug/mL
					OP-572556_00003	5 mL	Hexachlorocyclopentadiene	160 ug/mL
					OP-572556_00006	5 mL	Hexachlorocyclopentadiene	160 ug/mL
.571995_00044	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.571995_00049	10/01/19		Restek, Lot A0140111		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.571995_00050	10/01/19		Restek, Lot A0140111		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.571995_00051	10/01/19		Restek, Lot A0140111		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.571995_00052	10/01/19		Restek, Lot A0140111		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.571995_00053	10/01/19		Restek, Lot A0140111		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.571995_00055	10/01/19		Restek, Lot A0140111		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.571995_00056	10/01/19		Restek, Lot A0140111		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.MS-569731_00095	05/31/19		Restek, Lot A0132744		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
.MS-569731_00096	05/31/19		Restek, Lot A0132744		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
.MS-569731_00097	05/31/19		Restek, Lot A0132744		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
.MS-569731_00100	05/31/19		Restek, Lot A0132744		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
.OP-572556_00003	10/01/19		Restek, Lot A0127376		(Purchased Reagent)		Hexachlorocyclopentadiene	4000 ug/mL
.OP-572556_00006	10/01/19		Restek, Lot A0127376		(Purchased Reagent)		Hexachlorocyclopentadiene	4000 ug/mL
8270_LCS_Supp_00308	11/01/18	10/25/18	P&T Methanol, Lot MethanolP&T_00216	50 mL	OP-569732_00001	1 mL	Atrazine	80 ug/mL
							Benzaldehyde	80 ug/mL
							Caprolactam	80 ug/mL
					OP-569732_00002	1 mL	Atrazine	80 ug/mL
							Benzaldehyde	80 ug/mL
							Caprolactam	80 ug/mL
					OP-CustBenz_00026	2 mL	3,3'-Dichlorobenzidine	160 ug/mL
							Benzidine	160 ug/mL
.OP-569732_00001	10/31/19		Restek, Lot A0137125		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
.OP-569732_00002	10/05/19		Restek, Lot A0137125		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
.OP-CustBenz_00026	07/31/22		Restek, Lot A0139914		(Purchased Reagent)		3,3'-Dichlorobenzidine	4000 ug/mL
							Benzidine	4000 ug/mL
8270BO-SIMLCS_00031	09/30/19	10/11/18	P&T Methanol, Lot MethanolP&T_00215	250 mL	571995_00043	225 uL	1,1'-Biphenyl	0.9 ug/mL
							1,2,4,5-Tetrachlorobenzene	0.9 ug/mL
							1,2,4-Trichlorobenzene	0.9 ug/mL
							1,2-Dichlorobenzene	0.9 ug/mL
							1,2-Diphenylhydrazine	0.909877 ug/mL
							1,3-Dichlorobenzene	0.9 ug/mL
							1,3-Dinitrobenzene	0.9 ug/mL
							1,4-Dichlorobenzene	0.9 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dioxane	0.9 ug/mL
							1-Methylnaphthalene	0.9 ug/mL
							2,2'-oxybis[1-chloropropane]	0.9 ug/mL
							2,3,4,6-Tetrachlorophenol	0.9 ug/mL
							2,4,5-Trichlorophenol	0.9 ug/mL
							2,4,6-Trichlorophenol	0.9 ug/mL
							2,4-Dichlorophenol	0.9 ug/mL
							2,4-Dimethylphenol	0.9 ug/mL
							2,4-Dinitrophenol	1.8 ug/mL
							2,4-Dinitrotoluene	0.9 ug/mL
							2,6-Dichlorophenol	0.9 ug/mL
							2,6-Dinitrotoluene	0.9 ug/mL
							2-Chloronaphthalene	0.9 ug/mL
							2-Chlorophenol	0.9 ug/mL
							2-Methylnaphthalene	0.9 ug/mL
							2-Methylphenol	0.9 ug/mL
							2-Nitroaniline	0.9 ug/mL
							2-Nitrophenol	0.9 ug/mL
							3 & 4 Methylphenol	0.9 ug/mL
							3-Methylphenol	0.9 ug/mL
							3-Nitroaniline	0.9 ug/mL
							4,6-Dinitro-2-methylphenol	1.8 ug/mL
							4-Bromophenyl phenyl ether	0.9 ug/mL
							4-Chloro-3-methylphenol	0.9 ug/mL
							4-Chloroaniline	0.9 ug/mL
							4-Chlorophenyl phenyl ether	0.9 ug/mL
							4-Methylphenol	0.9 ug/mL
							4-Nitroaniline	0.9 ug/mL
							4-Nitrophenol	1.8 ug/mL
							Acenaphthene	0.9 ug/mL
							Acenaphthylene	0.9 ug/mL
							Acetophenone	0.9 ug/mL
							Aniline	0.9 ug/mL
							Anthracene	0.9 ug/mL
							Azobenzene	0.9 ug/mL
							Benzo[a]anthracene	0.9 ug/mL
							Benzo[a]pyrene	0.9 ug/mL
							Benzo[b]fluoranthene	0.9 ug/mL
							Benzo[g,h,i]perylene	0.9 ug/mL
							Benzo[k]fluoranthene	0.9 ug/mL
							Benzyl alcohol	0.9 ug/mL
							Bis(2-chloroethoxy)methane	0.9 ug/mL
							Bis(2-chloroethyl)ether	0.9 ug/mL
							Bis(2-ethylhexyl) phthalate	0.9 ug/mL
							Butyl benzyl phthalate	0.9 ug/mL
							Carbazole	0.9 ug/mL
							Chrysene	0.9 ug/mL
							Di-n-butyl phthalate	0.9 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Di-n-octyl phthalate	0.9 ug/mL
							Dibenz(a,h)anthracene	0.9 ug/mL
							Dibenzofuran	0.9 ug/mL
							Diethyl phthalate	0.9 ug/mL
							Dimethyl phthalate	0.9 ug/mL
							Diphenylamine	0.765 ug/mL
							Fluoranthene	0.9 ug/mL
							Fluorene	0.9 ug/mL
							Hexachlorobenzene	0.9 ug/mL
							Hexachlorobutadiene	0.9 ug/mL
							Hexachlorocyclopentadiene	0.9 ug/mL
							Hexachloroethane	0.9 ug/mL
							Hexadecane	0.9 ug/mL
							Indeno[1,2,3-cd]pyrene	0.9 ug/mL
							Isophorone	0.9 ug/mL
							n-Decane	0.9 ug/mL
							N-Nitrosodi-n-propylamine	0.9 ug/mL
							N-Nitrosodimethylamine	0.9 ug/mL
							N-Nitrosodiphenylamine	0.9 ug/mL
							n-Octadecane	0.9 ug/mL
							Naphthalene	0.9 ug/mL
							Nitrobenzene	0.9 ug/mL
							Pentachlorophenol	1.8 ug/mL
							Phenanthrene	0.9 ug/mL
							Phenol	0.9 ug/mL
							Pyrene	0.9 ug/mL
							Pyridine	1.8 ug/mL
.571995_00043	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
8270Surrogate_00128	07/09/19	10/17/18	ACETONE, Lot Acetone_00232	1000 mL	8270SurStkHL_00282	5 mL	2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Phenol-d6	100 ug/mL
							Terphenyl-d14	100 ug/mL
					8270SurStkHL_00283	5 mL	2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Phenol-d6	100 ug/mL
							Terphenyl-d14	100 ug/mL
					8270SurStkHL_00289	5 mL	2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Phenol-d6	100 ug/mL
							Terphenyl-d14	100 ug/mL
					8270SurStkHL_00290	5 mL	2,4,6 - Tribromophenol	100 ug/mL
							2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Phenol-d6	100 ug/mL
							Terphenyl-d14	100 ug/mL
.8270SurStkHL_00282	10/17/19		Restek, Lot A0133251		(Purchased Reagent)		2,4,6 - Tribromophenol	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
.8270SurStkHL_00283	10/17/19		Restek, Lot A0133251		(Purchased Reagent)		2,4,6 - Tribromophenol	5000 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
.8270SurStkHL_00289	10/17/19		Restek, Lot A0133251		(Purchased Reagent)		2,4,6 - Tribromophenol	5000 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
.8270SurStkHL_00290	12/31/22		Restek, Lot A0133251		(Purchased Reagent)		2,4,6 - Tribromophenol	5000 ug/mL
							2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Phenol-d6	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
8330 LCS_00078	04/30/18	02/08/18	Acetonitrile, Lot ACN_00209	100 mL	8330 LCSMix2_00102	1 mL	2,6-Dinitrotoluene	10 ug/mL
							2-Amino-4,6-dinitrotoluene	10 ug/mL
							2-Nitrotoluene	10 ug/mL
							3-Nitrotoluene	10 ug/mL
							4-Amino-2,6-dinitrotoluene	10 ug/mL
							4-Nitrotoluene	10 ug/mL
							Tetryl	10 ug/mL
					8330_NG_Stk_00061	1 mL	Nitroglycerin	100 ug/mL
					8330_NG_Stk_00062	1 mL	Nitroglycerin	100 ug/mL
					8330_PETN_Stk_00069	1 mL	PETN	100 ug/mL
					8330_PETN_Stk_00070	1 mL	PETN	100 ug/mL
					8330LCSMix1_00097	1 mL	1,3,5-Trinitrobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							2,4,6-Trinitrotoluene	10 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							HMX	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nitrobenzene	10 ug/mL
							RDX	10 ug/mL
.8330 LCSMix2_00102	02/08/19		Restek, Lot A0122699		(Purchased Reagent)		2,6-Dinitrotoluene	1000 ug/mL
							2-Amino-4,6-dinitrotoluene	1000 ug/mL
							2-Nitrotoluene	1000 ug/mL
							3-Nitrotoluene	1000 ug/mL
							4-Amino-2,6-dinitrotoluene	1000 ug/mL
							4-Nitrotoluene	1000 ug/mL
							Tetryl	1000 ug/mL
.8330_NG_Stk_00061	02/08/19		Restek, Lot A0128695		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_NG_Stk_00062	02/08/19		Restek, Lot A0128695		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_PETN_Stk_00069	02/08/19		Restek, Lot A0127970		(Purchased Reagent)		PETN	5000 ug/mL
.8330_PETN_Stk_00070	02/08/19		Restek, Lot A0127970		(Purchased Reagent)		PETN	5000 ug/mL
.8330LCSMix1_00097	02/08/19		Restek, Lot A0122924		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							2,4,6-Trinitrotoluene	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							HMX	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							RDX	1000 ug/mL
8330 LCS_00081	06/28/19	06/13/18	Acetonitrile, Lot ACN_00204	100 mL	8330 LCSMix2_00103	1 mL	2,6-Dinitrotoluene	10 ug/mL
							2-Amino-4,6-dinitrotoluene	10 ug/mL
							2-Nitrotoluene	10 ug/mL
							3-Nitrotoluene	10 ug/mL
							4-Amino-2,6-dinitrotoluene	10 ug/mL
							4-Nitrotoluene	10 ug/mL
							Tetryl	10 ug/mL
					8330_NG_Stk_00057	1 mL	Nitroglycerin	100 ug/mL
					8330_NG_Stk_00063	1 mL	Nitroglycerin	100 ug/mL
					8330_PETN_Stk_00049	1 mL	PETN	100 ug/mL
					8330_PETN_Stk_00066	1 mL	PETN	100 ug/mL
					8330LCSMix1_00102	1 mL	1,3,5-Trinitrobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							2,4,6-Trinitrotoluene	10 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							HMX	10 ug/mL
							Nitrobenzene	10 ug/mL
							RDX	10 ug/mL
.8330 LCSMix2_00103	11/30/21		Restek, Lot A0122699		(Purchased Reagent)		2,6-Dinitrotoluene	1000 ug/mL
							2-Amino-4,6-dinitrotoluene	1000 ug/mL
							2-Nitrotoluene	1000 ug/mL
							3-Nitrotoluene	1000 ug/mL
							4-Amino-2,6-dinitrotoluene	1000 ug/mL
							4-Nitrotoluene	1000 ug/mL
							Tetryl	1000 ug/mL
.8330_NG_Stk_00057	07/31/19		Restek, Lot A0128695		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_NG_Stk_00063	07/31/19		Restek, Lot A0128695		(Purchased Reagent)		Nitroglycerin	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.8330_PETN_Stk_00049	06/30/19		Restek, Lot A0120082		(Purchased Reagent)		PETN	5000 ug/mL
.8330_PETN_Stk_00066	05/31/20		Restek, Lot A0127970		(Purchased Reagent)		PETN	5000 ug/mL
.8330LCSMix1_00102	06/20/22		Restek, Lot A0128688		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							2,4,6-Trinitrotoluene	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							HMX	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							RDX	1000 ug/mL
8330 LCS_00083	03/07/19	09/07/18	Acetonitrile, Lot ACN_00215	100 mL	8330 LCSMix2_00104	1 mL	2,6-Dinitrotoluene	10 ug/mL
							2-Amino-4,6-dinitrotoluene	10 ug/mL
							2-Nitrotoluene	10 ug/mL
							3-Nitrotoluene	10 ug/mL
							4-Amino-2,6-dinitrotoluene	10 ug/mL
							4-Nitrotoluene	10 ug/mL
							Tetryl	10 ug/mL
					8330_NG_Stk_00067	1 mL	Nitroglycerin	100 ug/mL
					8330_NG_Stk_00068	1 mL	Nitroglycerin	100 ug/mL
					8330_PETN_Stk_00067	1 mL	PETN	100 ug/mL
					8330_PETN_Stk_00068	1 mL	PETN	100 ug/mL
					8330LCSMix1_00105	1 mL	1,3,5-Trinitrobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							2,4,6-Trinitrotoluene	10 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							HMX	10 ug/mL
							Nitrobenzene	10 ug/mL
							RDX	10 ug/mL
					PicricARestek_00080	1 mL	2,4,6-Trinitrophenol	10 ug/mL
.8330 LCSMix2_00104	09/07/19		Restek, Lot A0122699		(Purchased Reagent)		2,6-Dinitrotoluene	1000 ug/mL
							2-Amino-4,6-dinitrotoluene	1000 ug/mL
							2-Nitrotoluene	1000 ug/mL
							3-Nitrotoluene	1000 ug/mL
							4-Amino-2,6-dinitrotoluene	1000 ug/mL
							4-Nitrotoluene	1000 ug/mL
							Tetryl	1000 ug/mL
.8330_NG_Stk_00067	09/07/19		Restek, Lot A0129124		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_NG_Stk_00068	09/07/19		Restek, Lot A0129124		(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_PETN_Stk_00067	09/07/19		Restek, Lot A0127970		(Purchased Reagent)		PETN	5000 ug/mL
.8330_PETN_Stk_00068	09/07/19		Restek, Lot A0127970		(Purchased Reagent)		PETN	5000 ug/mL
.8330LCSMix1_00105	09/07/19		Restek, Lot A0128688		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							2,4,6-Trinitrotoluene	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							HMX	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							RDX	1000 ug/mL
.PicricARestek_00080	09/07/19		Restek, Lot A0105913		(Purchased Reagent)		2,4,6-Trinitrophenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
8330_ADDs_00017	03/01/19	07/23/18	Acetonitrile, Lot 184115	5 mL	3,5-DNA Stock_00029	0.1 mL	3,5-Dinitroaniline	20 ug/mL
.3,5-DNA Stock_00029	02/28/22	Restek, Lot A0129440			(Purchased Reagent)		3,5-Dinitroaniline	1000 ug/mL
8330IntermStk_00055	07/14/18	05/02/18	Acetonitrile, Lot 184115	10 mL	8330ICALStock_00026	1 mL	1,3,5-Trinitrobenzene	10 ug/mL
							1,3-Dinitrobenzene	10.01 ug/mL
							2,4,6-Trinitrotoluene	10.04 ug/mL
							2,4-Dinitrotoluene	10.02 ug/mL
							2,6-Dinitrotoluene	10.03 ug/mL
							2-Amino-4,6-dinitrotoluene	10.03 ug/mL
							2-Nitrotoluene	10.03 ug/mL
							3-Nitrotoluene	10.04 ug/mL
							4-Amino-2,6-dinitrotoluene	10.03 ug/mL
							4-Nitrotoluene	10.04 ug/mL
							HMX	10 ug/mL
							Nitrobenzene	10.02 ug/mL
							RDX	10 ug/mL
							Tetryl	10 ug/mL
							1,2-Dinitrobenzene	10 ug/mL
					8330PAStkPS_00054	1 mL	2,4,6-Trinitrophenol	10 ug/mL
					NG__00002	1 mL	Nitroglycerin	100 ug/mL
					PETN_00002	1 mL	PETN	100 ug/mL
.8330ICALStock_00026	07/14/18	07/14/17	Acetonitrile, Lot ACN_00178	10 mL	8330 Stock_TS_00009	1 mL	1,3,5-Trinitrobenzene	100 ug/mL
							1,3-Dinitrobenzene	100.1 ug/mL
							2,4,6-Trinitrotoluene	100.4 ug/mL
							2,4-Dinitrotoluene	100.2 ug/mL
							2,6-Dinitrotoluene	100.3 ug/mL
							2-Amino-4,6-dinitrotoluene	100.3 ug/mL
							2-Nitrotoluene	100.3 ug/mL
							3-Nitrotoluene	100.4 ug/mL
							4-Amino-2,6-dinitrotoluene	100.3 ug/mL
							4-Nitrotoluene	100.4 ug/mL
							HMX	100 ug/mL
							Nitrobenzene	100.2 ug/mL
							RDX	100 ug/mL
							Tetryl	100 ug/mL
					8330SurrStock_00161	1 mL	1,2-Dinitrobenzene	100 ug/mL
..8330 Stock_TS_00009	04/30/20	Ultra Scientific, Lot CR-1002			(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1001 ug/mL
							2,4,6-Trinitrotoluene	1004 ug/mL
							2,4-Dinitrotoluene	1002 ug/mL
							2,6-Dinitrotoluene	1003 ug/mL
							2-Amino-4,6-dinitrotoluene	1003 ug/mL
							2-Nitrotoluene	1003 ug/mL
							3-Nitrotoluene	1004 ug/mL
							4-Amino-2,6-dinitrotoluene	1003 ug/mL
							4-Nitrotoluene	1004 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							HMX	1000 ug/mL
							Nitrobenzene	1002 ug/mL
							RDX	1000 ug/mL
							Tetryl	1000 ug/mL
..8330SurrStock_00161	08/15/24	AccuStandard, Lot 214081391			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330PAStkPS_00054	07/19/19	AccuStandard, Lot 216061376-01			(Purchased Reagent)		2,4,6-Trinitrophenol	100 ug/mL
.NG__00002	07/14/18	07/14/17	Acetonitrile, Lot 0000130057	5 mL	8330_NG_Stk_00049	1 mL	Nitroglycerin	1000 ug/mL
..8330_NG_Stk_00049	01/01/20	Restek, Lot A0124122			(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.PETN_00002	07/14/18	07/14/17	Acetonitrile, Lot 0000130057	5 mL	8330_PETN_Stk_00052	1 mL	PETN	1000 mL
..8330_PETN_Stk_00052	01/01/20	Restek, Lot A0124124			(Purchased Reagent)		PETN	5000 ug/mL
8330IntermStk_00056	01/16/19	07/16/18	Acetonitrile, Lot 194301	5 mL	8330_NG_Stk_00051	200 uL	Nitroglycerin	200 ug/mL
					8330_PETN_Stk_00053	200 uL	PETN	200 ug/mL
					8330ICALStock_00028	1 mL	1,3,5-Trinitrobenzene	20 ug/mL
							1,3-Dinitrobenzene	20.02 ug/mL
							2,4,6-Trinitrotoluene	20.08 ug/mL
							2,4-Dinitrotoluene	20.04 ug/mL
							2,6-Dinitrotoluene	20.06 ug/mL
							2-Amino-4,6-dinitrotoluene	20.06 ug/mL
							2-Nitrotoluene	20.06 ug/mL
							3-Nitrotoluene	20.08 ug/mL
							4-Amino-2,6-dinitrotoluene	20.06 ug/mL
							4-Nitrotoluene	20.08 ug/mL
							HMX	20 ug/mL
							Nitrobenzene	20.04 ug/mL
							RDX	20 ug/mL
							Tetryl	20 ug/mL
							1,2-Dinitrobenzene	20 ug/mL
					8330PAStkPS_00056	1 mL	2,4,6-Trinitrophenol	20 ug/mL
.8330_NG_Stk_00051	01/01/20	Restek, Lot A0124122			(Purchased Reagent)		Nitroglycerin	5000 ug/mL
.8330_PETN_Stk_00053	01/01/20	Restek, Lot A0124124			(Purchased Reagent)		PETN	5000 ug/mL
.8330ICALStock_00028	07/16/19	07/16/18	Acetonitrile, Lot ACN_194301	10 mL	8330 Stock_TS_00011	1 mL	1,3,5-Trinitrobenzene	100 ug/mL
							1,3-Dinitrobenzene	100.1 ug/mL
							2,4,6-Trinitrotoluene	100.4 ug/mL
							2,4-Dinitrotoluene	100.2 ug/mL
							2,6-Dinitrotoluene	100.3 ug/mL
							2-Amino-4,6-dinitrotoluene	100.3 ug/mL
							2-Nitrotoluene	100.3 ug/mL
							3-Nitrotoluene	100.4 ug/mL
							4-Amino-2,6-dinitrotoluene	100.3 ug/mL
							4-Nitrotoluene	100.4 ug/mL
							HMX	100 ug/mL
							Nitrobenzene	100.2 ug/mL
							RDX	100 ug/mL
							Tetryl	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					8330SurrStock_00162	1 mL	1,2-Dinitrobenzene	100 ug/mL
..8330 Stock_TS_00011	04/30/20	Ultra Scientific, Lot CR-1002			(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1001 ug/mL
							2,4,6-Trinitrotoluene	1004 ug/mL
							2,4-Dinitrotoluene	1002 ug/mL
							2,6-Dinitrotoluene	1003 ug/mL
							2-Amino-4,6-dinitrotoluene	1003 ug/mL
							2-Nitrotoluene	1003 ug/mL
							3-Nitrotoluene	1004 ug/mL
							4-Amino-2,6-dinitrotoluene	1003 ug/mL
							4-Nitrotoluene	1004 ug/mL
							HMX	1000 ug/mL
							Nitrobenzene	1002 ug/mL
							RDX	1000 ug/mL
							Tetryl	1000 ug/mL
..8330SurrStock_00162	08/15/24	AccuStandard, Lot 214081391			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330PAStkPS_00056	04/12/20	AccuStandard, Lot 218031154			(Purchased Reagent)		2,4,6-Trinitrophenol	100 ug/mL
8330Surrogate_00098	03/01/19	03/01/18	Acetonitrile, Lot ACN_00210	500 mL	8330SurrStkSS_00123	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00124	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00125	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00126	1 mL	1,2-Dinitrobenzene	10 ug/mL
					8330SurrStkSS_00127	1 mL	1,2-Dinitrobenzene	10 ug/mL
.8330SurrStkSS_00123	03/01/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS_00124	03/01/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS_00125	03/01/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS_00126	03/01/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
.8330SurrStkSS_00127	03/01/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
8330Surrogate_00100	03/07/19	09/07/18	Acetonitrile, Lot ACN_00215	500 mL	8330SurrStkSS_00130	1 mL	1,2-Dinitrobenzene	10 ug/mL
							1,2-Dinitrobenzene (Surr)	10 ug/mL
					8330SurrStkSS_00131	1 mL	1,2-Dinitrobenzene	10 ug/mL
							1,2-Dinitrobenzene (Surr)	10 ug/mL
					8330SurrStkSS_00132	1 mL	1,2-Dinitrobenzene	10 ug/mL
							1,2-Dinitrobenzene (Surr)	10 ug/mL
					8330SurrStkSS_00133	1 mL	1,2-Dinitrobenzene	10 ug/mL
							1,2-Dinitrobenzene (Surr)	10 ug/mL
					8330SurrStkSS_00141	1 mL	1,2-Dinitrobenzene	10 ug/mL
							1,2-Dinitrobenzene (Surr)	10 ug/mL
.8330SurrStkSS_00130	09/07/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
							1,2-Dinitrobenzene (Surr)	1000 ug/mL
.8330SurrStkSS_00131	09/07/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
							1,2-Dinitrobenzene (Surr)	1000 ug/mL
.8330SurrStkSS_00132	09/07/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
							1,2-Dinitrobenzene (Surr)	1000 ug/mL
.8330SurrStkSS_00133	09/07/19	Restek, Lot A0124792			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
							1,2-Dinitrobenzene (Surr)	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.8330SurrStkSS_00141	09/07/19	Restek, Lot A0131413			(Purchased Reagent)		1,2-Dinitrobenzene	1000 ug/mL
							1,2-Dinitrobenzene (Surr)	1000 ug/mL
Alk daily lcs_00781	11/01/18	10/25/18	Di Water, Lot na	1000 mL	Alk stk std_00014	4 mL	Alkalinity	200 mg/L
.Alk stk std_00014	04/30/19	Fischer, Lot 172632			(Purchased Reagent)		Alkalinity	50 g/L
Alt CRI_00302	10/30/18	10/29/18	5%5%HNO3HCL, Lot See Reagent Log	100 mL	10 ppm Fe_00012	1 mL	Iron	100 ppb
.10 ppm Fe_00012	03/20/19	09/20/18	5%HNO3/5% HCl, Lot see log book	100 mL	10000 Fe_00021	0.1 mL	Iron	10 mg/L
..10000 Fe_00021	08/08/19	Inorganic Ventures, Lot M2-FE659835			(Purchased Reagent)		Iron	10000 mg/L
AR_1248_ICV_00013	12/06/18	06/06/18	Hexane, Lot 186983	100 mL	AR_1248_RESss_00010	25 uL	PCB-1248	250 ng/mL
.AR_1248_RESss_00010	06/06/19	RESTEK, Lot A0124143			(Purchased Reagent)		PCB-1248	1000 ug/mL
AR_1248_L1_00022	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_1248_L7_00017	0.25 mL	PCB-1248 Peak 1	0.025 ug/mL
							PCB-1248 Peak 2	0.025 ug/mL
							PCB-1248 Peak 3	0.025 ug/mL
							PCB-1248 Peak 4	0.025 ug/mL
							PCB-1248 Peak 5	0.025 ug/mL
.AR_1248_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_1248_RES_00012	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
..AR_1248_RES_00012	04/22/19	RESTEK, Lot A0130978			(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L2_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_1248_L7_00017	0.5 mL	PCB-1248 Peak 1	0.05 ug/mL
							PCB-1248 Peak 2	0.05 ug/mL
							PCB-1248 Peak 3	0.05 ug/mL
							PCB-1248 Peak 4	0.05 ug/mL
							PCB-1248 Peak 5	0.05 ug/mL
.AR_1248_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_1248_RES_00012	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
..AR_1248_RES_00012	04/22/19	RESTEK, Lot A0130978			(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L3_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_1248_L7_00017	1 mL	PCB-1248 Peak 1	0.1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1248 Peak 2	0.1 ug/mL
							PCB-1248 Peak 3	0.1 ug/mL
							PCB-1248 Peak 4	0.1 ug/mL
							PCB-1248 Peak 5	0.1 ug/mL
.AR_1248_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_1248_RES_00012	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
..AR_1248_RES_00012	04/22/19		RESTEK, Lot A0130978		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L4_00022	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_1248_L7_00017	2.5 mL	PCB-1248 Peak 1	0.25 ug/mL
							PCB-1248 Peak 2	0.25 ug/mL
							PCB-1248 Peak 3	0.25 ug/mL
							PCB-1248 Peak 4	0.25 ug/mL
							PCB-1248 Peak 5	0.25 ug/mL
.AR_1248_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_1248_RES_00012	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
..AR_1248_RES_00012	04/22/19		RESTEK, Lot A0130978		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L5_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_1248_L7_00017	5 mL	PCB-1248 Peak 1	0.5 ug/mL
							PCB-1248 Peak 2	0.5 ug/mL
							PCB-1248 Peak 3	0.5 ug/mL
							PCB-1248 Peak 4	0.5 ug/mL
							PCB-1248 Peak 5	0.5 ug/mL
.AR_1248_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_1248_RES_00012	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
..AR_1248_RES_00012	04/22/19		RESTEK, Lot A0130978		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L6_00019	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_1248_L7_00017	7.5 mL	PCB-1248 Peak 1	0.75 ug/mL
							PCB-1248 Peak 2	0.75 ug/mL
							PCB-1248 Peak 3	0.75 ug/mL
							PCB-1248 Peak 4	0.75 ug/mL
							PCB-1248 Peak 5	0.75 ug/mL
.AR_1248_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_1248_RES_00012	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
..AR_1248_RES_00012	04/22/19		RESTEK, Lot A0130978		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1248_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_1248_RES_00012	100 uL	PCB-1248 Peak 1	1 ug/mL
							PCB-1248 Peak 2	1 ug/mL
							PCB-1248 Peak 3	1 ug/mL
							PCB-1248 Peak 4	1 ug/mL
							PCB-1248 Peak 5	1 ug/mL
.AR_1248_RES_00012	04/22/19		RESTEK, Lot A0130978		(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR_1660_ICV_00013	12/06/18	06/06/18	Hexane, Lot 186983	100 mL	AR_1660_RESss_00010	25 uL	PCB-1016	250 ng/mL
							PCB-1260	250 ng/mL
					AR_SURR_RES_00090	6.25 uL	DCB Decachlorobiphenyl	12.5 ng/mL
							Tetrachloro-m-xylene	12.5 ng/mL
.AR_1660_RESss_00010	06/06/19		RESTEK, Lot A0114674		(Purchased Reagent)		PCB-1016	1000 ug/mL
							PCB-1260	1000 ug/mL
.AR_SURR_RES_00090	06/06/19		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
AR_1660_L1_00031	04/22/19	10/22/18	hexane, Lot Hexane_Cycl_00052	10 mL	AR_1660_L7_00026	0.25 mL	PCB-1016 Peak 1	0.025 ug/mL
							PCB-1016 Peak 2	0.025 ug/mL
							PCB-1016 Peak 3	0.025 ug/mL
							PCB-1016 Peak 4	0.025 ug/mL
							PCB-1016 Peak 5	0.025 ug/mL
							PCB-1260 Peak 1	0.025 ug/mL
							PCB-1260 Peak 2	0.025 ug/mL
							PCB-1260 Peak 3	0.025 ug/mL
							PCB-1260 Peak 4	0.025 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1260 Peak 5	0.025 ug/mL
							DCB Decachlorobiphenyl	0.00125 ug/mL
							Tetrachloro-m-xylene	0.00125 ug/mL
.AR_1660_L7_00026	04/22/19	10/22/18	Hexane, Lot Hexane_cycl_00052	100 mL	AR_1660_RES_00001	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
							PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00094	25 uL	DCB Decachlorobiphenyl	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
..AR_1660_RES_00001	04/22/19		RESTEK, Lot A0134815		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00094	04/22/19		RESTEK, Lot A0136320		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
AR_1660_L2_00030	04/22/19	10/22/18	hexane, Lot Hexane_Cycl_00052	10 mL	AR_1660_L7_00026	0.5 mL	PCB-1016 Peak 1	0.05 ug/mL
							PCB-1016 Peak 2	0.05 ug/mL
							PCB-1016 Peak 3	0.05 ug/mL
							PCB-1016 Peak 4	0.05 ug/mL
							PCB-1016 Peak 5	0.05 ug/mL
							PCB-1260 Peak 1	0.05 ug/mL
							PCB-1260 Peak 2	0.05 ug/mL
							PCB-1260 Peak 3	0.05 ug/mL
							PCB-1260 Peak 4	0.05 ug/mL
							PCB-1260 Peak 5	0.05 ug/mL
							DCB Decachlorobiphenyl	0.0025 ug/mL
							Tetrachloro-m-xylene	0.0025 ug/mL
.AR_1660_L7_00026	04/22/19	10/22/18	Hexane, Lot Hexane_cycl_00052	100 mL	AR_1660_RES_00001	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
							PCB-1260 Peak 1	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00094	25 uL	DCB Decachlorobiphenyl	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
..AR_1660_RES_00001	04/22/19		RESTEK, Lot A0134815		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00094	04/22/19		RESTEK, Lot A0136320		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
AR_1660_L3_00031	04/22/19	10/22/18	hexane, Lot Hexane_Cycl_00052	10 mL	AR_1660_L7_00026	1 mL	PCB-1016 Peak 1	0.1 ug/mL
							PCB-1016 Peak 2	0.1 ug/mL
							PCB-1016 Peak 3	0.1 ug/mL
							PCB-1016 Peak 4	0.1 ug/mL
							PCB-1016 Peak 5	0.1 ug/mL
							PCB-1260 Peak 1	0.1 ug/mL
							PCB-1260 Peak 2	0.1 ug/mL
							PCB-1260 Peak 3	0.1 ug/mL
							PCB-1260 Peak 4	0.1 ug/mL
							PCB-1260 Peak 5	0.1 ug/mL
							DCB Decachlorobiphenyl	0.005 ug/mL
							Tetrachloro-m-xylene	0.005 ug/mL
.AR_1660_L7_00026	04/22/19	10/22/18	Hexane, Lot Hexane_cycl_00052	100 mL	AR_1660_RES_00001	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
							PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00094	25 uL	DCB Decachlorobiphenyl	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
..AR_1660_RES_00001	04/22/19		RESTEK, Lot A0134815		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00094	04/22/19		RESTEK, Lot A0136320		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
AR_1660_L4_00068	04/22/19	10/22/18	hexane, Lot Hexane_Cycl_00052	10 mL	AR_1660_L7_00026	2.5 mL	PCB-1016 Peak 1	0.25 ug/mL
							PCB-1016 Peak 2	0.25 ug/mL
							PCB-1016 Peak 3	0.25 ug/mL
							PCB-1016 Peak 4	0.25 ug/mL
							PCB-1016 Peak 5	0.25 ug/mL
							PCB-1260 Peak 1	0.25 ug/mL
							PCB-1260 Peak 2	0.25 ug/mL
							PCB-1260 Peak 3	0.25 ug/mL
							PCB-1260 Peak 4	0.25 ug/mL
							PCB-1260 Peak 5	0.25 ug/mL
							DCB Decachlorobiphenyl	0.0125 ug/mL
							Tetrachloro-m-xylene	0.0125 ug/mL
.AR_1660_L7_00026	04/22/19	10/22/18	Hexane, Lot Hexane_cycl_00052	100 mL	AR_1660_RES_00001	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
							PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00094	25 uL	DCB Decachlorobiphenyl	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
..AR_1660_RES_00001	04/22/19		RESTEK, Lot A0134815		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00094	04/22/19		RESTEK, Lot A0136320		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
AR_1660_L5_00066	04/22/19	10/22/18	hexane, Lot Hexane_Cycl_00052	25 mL	AR_1660_L7_00026	12.5 mL	PCB-1016 Peak 1	0.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1016 Peak 2	0.5 ug/mL
							PCB-1016 Peak 3	0.5 ug/mL
							PCB-1016 Peak 4	0.5 ug/mL
							PCB-1016 Peak 5	0.5 ug/mL
							PCB-1260 Peak 1	0.5 ug/mL
							PCB-1260 Peak 2	0.5 ug/mL
							PCB-1260 Peak 3	0.5 ug/mL
							PCB-1260 Peak 4	0.5 ug/mL
							PCB-1260 Peak 5	0.5 ug/mL
							DCB Decachlorobiphenyl	0.025 ug/mL
							Tetrachloro-m-xylene	0.025 ug/mL
.AR_1660_L7_00026	04/22/19	10/22/18	Hexane, Lot Hexane_cycl_00052	100 mL	AR_1660_RES_00001	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
							PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00094	25 uL	DCB Decachlorobiphenyl	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
..AR_1660_RES_00001	04/22/19		RESTEK, Lot A0134815		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00094	04/22/19		RESTEK, Lot A0136320		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
AR_1660_L5_00066	04/22/19	10/22/18	hexane, Lot Hexane_Cycl_00052	25 mL	AR_1660_L7_00026	12.5 mL	PCB-1016	0.5 ug/mL
							PCB-1260	0.5 ug/mL
.AR_1660_L7_00026	04/22/19	10/22/18	Hexane, Lot Hexane_cycl_00052	100 mL	AR_1660_RES_00001	100 uL	PCB-1016	1 ug/mL
							PCB-1260	1 ug/mL
..AR_1660_RES_00001	04/22/19		RESTEK, Lot A0134815		(Purchased Reagent)		PCB-1016	1000 ug/mL
							PCB-1260	1000 ug/mL
AR_1660_L6_00033	04/22/19	10/22/18	hexane, Lot Hexane_Cycl_00052	10 mL	AR_1660_L7_00026	7.5 mL	PCB-1016 Peak 1	0.75 ug/mL
							PCB-1016 Peak 2	0.75 ug/mL
							PCB-1016 Peak 3	0.75 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1016 Peak 4	0.75 ug/mL
							PCB-1016 Peak 5	0.75 ug/mL
							PCB-1260 Peak 1	0.75 ug/mL
							PCB-1260 Peak 2	0.75 ug/mL
							PCB-1260 Peak 3	0.75 ug/mL
							PCB-1260 Peak 4	0.75 ug/mL
							PCB-1260 Peak 5	0.75 ug/mL
							DCB Decachlorobiphenyl	0.0375 ug/mL
							Tetrachloro-m-xylene	0.0375 ug/mL
.AR_1660_L7_00026	04/22/19	10/22/18	Hexane, Lot Hexane_cycl_00052	100 mL	AR_1660_RES_00001	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
							PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00094	25 uL	DCB Decachlorobiphenyl	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
..AR_1660_RES_00001	04/22/19		RESTEK, Lot A0134815		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..AR_SURR_RES_00094	04/22/19		RESTEK, Lot A0136320		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
AR_1660_L7_00026	04/22/19	10/22/18	Hexane, Lot Hexane_cycl_00052	100 mL	AR_1660_RES_00001	100 uL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
							PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
					AR_SURR_RES_00094	25 uL	DCB Decachlorobiphenyl	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
.AR_1660_RES_00001	04/22/19		RESTEK, Lot A0134815		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
.AR_SURR_RES_00094	04/22/19		RESTEK, Lot A0136320		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
AR_2154_ICV_00013	12/06/18	06/06/18	Hexane, Lot 186983	100 mL	AR_1221_RESss_00010	25 uL	PCB-1221	250 ng/mL
					AR_1254_RESss_00010	25 uL	PCB-1254	250 ng/mL
.AR_1221_RESss_00010	06/06/19		RESTEK, Lot A0117382		(Purchased Reagent)		PCB-1221	1000 ug/mL
.AR_1254_RESss_00010	06/06/19		RESTEK, Lot A0105373		(Purchased Reagent)		PCB-1254	1000 ug/mL
AR_2154_L1_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_2154_L7_00020	0.25 mL	PCB-1221 Peak 1	0.025 ug/mL
							PCB-1221 Peak 2	0.025 ug/mL
							PCB-1221 Peak 3	0.025 ug/mL
							PCB-1254 Peak 1	0.025 ug/mL
							PCB-1254 Peak 2	0.025 ug/mL
							PCB-1254 Peak 3	0.025 ug/mL
							PCB-1254 Peak 4	0.025 ug/mL
							PCB-1254 Peak 5	0.025 ug/mL
.AR_2154_L7_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_2154_RES_00001	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
							PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
..AR_2154_RES_00001	04/22/19		RESTEK, Lot A0131802		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
							PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L2_00022	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_2154_L7_00020	0.5 mL	PCB-1221 Peak 1	0.05 ug/mL
							PCB-1221 Peak 2	0.05 ug/mL
							PCB-1221 Peak 3	0.05 ug/mL
							PCB-1254 Peak 1	0.05 ug/mL
							PCB-1254 Peak 2	0.05 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1254 Peak 3	0.05 ug/mL
							PCB-1254 Peak 4	0.05 ug/mL
							PCB-1254 Peak 5	0.05 ug/mL
.AR_2154_L7_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_2154_RES_00001	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
							PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
..AR_2154_RES_00001	04/22/19		RESTEK, Lot A0131802		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
							PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L3_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_2154_L7_00020	1 mL	PCB-1221 Peak 1	0.1 ug/mL
							PCB-1221 Peak 2	0.1 ug/mL
							PCB-1221 Peak 3	0.1 ug/mL
							PCB-1254 Peak 1	0.1 ug/mL
							PCB-1254 Peak 2	0.1 ug/mL
							PCB-1254 Peak 3	0.1 ug/mL
							PCB-1254 Peak 4	0.1 ug/mL
							PCB-1254 Peak 5	0.1 ug/mL
.AR_2154_L7_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_2154_RES_00001	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
							PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
..AR_2154_RES_00001	04/22/19		RESTEK, Lot A0131802		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
							PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L4_00022	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_2154_L7_00020	2.5 mL	PCB-1221 Peak 1	0.25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1221 Peak 2	0.25 ug/mL
							PCB-1221 Peak 3	0.25 ug/mL
							PCB-1254 Peak 1	0.25 ug/mL
							PCB-1254 Peak 2	0.25 ug/mL
							PCB-1254 Peak 3	0.25 ug/mL
							PCB-1254 Peak 4	0.25 ug/mL
							PCB-1254 Peak 5	0.25 ug/mL
.AR_2154_L7_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_2154_RES_00001	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
							PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
..AR_2154_RES_00001	04/22/19		RESTEK, Lot A0131802		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
							PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L5_00022	04/22/19	10/23/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_2154_L7_00020	5 mL	PCB-1221 Peak 1	0.5 ug/mL
							PCB-1221 Peak 2	0.5 ug/mL
							PCB-1221 Peak 3	0.5 ug/mL
							PCB-1254 Peak 1	0.5 ug/mL
							PCB-1254 Peak 2	0.5 ug/mL
							PCB-1254 Peak 3	0.5 ug/mL
							PCB-1254 Peak 4	0.5 ug/mL
							PCB-1254 Peak 5	0.5 ug/mL
.AR_2154_L7_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_2154_RES_00001	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
							PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
..AR_2154_RES_00001	04/22/19		RESTEK, Lot A0131802		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
							PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L6_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_2154_L7_00020	7.5 mL	PCB-1221 Peak 1	0.75 ug/mL
							PCB-1221 Peak 2	0.75 ug/mL
							PCB-1221 Peak 3	0.75 ug/mL
							PCB-1254 Peak 1	0.75 ug/mL
							PCB-1254 Peak 2	0.75 ug/mL
							PCB-1254 Peak 3	0.75 ug/mL
							PCB-1254 Peak 4	0.75 ug/mL
							PCB-1254 Peak 5	0.75 ug/mL
.AR_2154_L7_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_2154_RES_00001	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
							PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
..AR_2154_RES_00001	04/22/19		RESTEK, Lot A0131802		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
							PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_2154_L7_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_2154_RES_00001	100 uL	PCB-1221 Peak 1	1 ug/mL
							PCB-1221 Peak 2	1 ug/mL
							PCB-1221 Peak 3	1 ug/mL
							PCB-1254 Peak 1	1 ug/mL
							PCB-1254 Peak 2	1 ug/mL
							PCB-1254 Peak 3	1 ug/mL
							PCB-1254 Peak 4	1 ug/mL
							PCB-1254 Peak 5	1 ug/mL
.AR_2154_RES_00001	04/22/19		RESTEK, Lot A0131802		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
							PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
AR_3262_ICV_00013	12/06/18	06/06/18	Hexane, Lot 186983	100 mL	AR_1232_RESss_00010	25 uL	PCB-1232	250 ng/mL
.AR_1232_RESss_00010	06/06/19		RESTEK, Lot A095877		(Purchased Reagent)		PCB-1232	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
AR_3262_L1_00022	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_3262_L7_00017	0.25 mL	PCB-1232 Peak 1	0.025 ug/mL
							PCB-1232 Peak 2	0.025 ug/mL
							PCB-1232 Peak 3	0.025 ug/mL
							PCB-1232 Peak 4	0.025 ug/mL
							PCB-1232 Peak 5	0.025 ug/mL
							PCB-1262 Peak 1	0.025 ug/mL
							PCB-1262 Peak 2	0.025 ug/mL
							PCB-1262 Peak 3	0.025 ug/mL
							PCB-1262 Peak 4	0.025 ug/mL
							PCB-1262 Peak 5	0.025 ug/mL
.AR_3262_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_3262_RES_00001	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
							PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_3262_RES_00001	04/22/19		RESTEK, Lot A0132023		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_3262_L2_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_3262_L7_00017	0.5 mL	PCB-1232 Peak 1	0.05 ug/mL
							PCB-1232 Peak 2	0.05 ug/mL
							PCB-1232 Peak 3	0.05 ug/mL
							PCB-1232 Peak 4	0.05 ug/mL
							PCB-1232 Peak 5	0.05 ug/mL
							PCB-1262 Peak 1	0.05 ug/mL
							PCB-1262 Peak 2	0.05 ug/mL
							PCB-1262 Peak 3	0.05 ug/mL
							PCB-1262 Peak 4	0.05 ug/mL
							PCB-1262 Peak 5	0.05 ug/mL
.AR_3262_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_3262_RES_00001	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1232 Peak 5	1 ug/mL
							PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_3262_RES_00001	04/22/19		RESTEK, Lot A0132023		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_3262_L3_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_3262_L7_00017	1 mL	PCB-1232 Peak 1	0.1 ug/mL
							PCB-1232 Peak 2	0.1 ug/mL
							PCB-1232 Peak 3	0.1 ug/mL
							PCB-1232 Peak 4	0.1 ug/mL
							PCB-1232 Peak 5	0.1 ug/mL
							PCB-1262 Peak 1	0.1 ug/mL
							PCB-1262 Peak 2	0.1 ug/mL
							PCB-1262 Peak 3	0.1 ug/mL
							PCB-1262 Peak 4	0.1 ug/mL
							PCB-1262 Peak 5	0.1 ug/mL
.AR_3262_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_3262_RES_00001	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
							PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_3262_RES_00001	04/22/19		RESTEK, Lot A0132023		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
AR_3262_L4_00022	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_3262_L7_00017	2.5 mL	PCB-1232 Peak 1	0.25 ug/mL
							PCB-1232 Peak 2	0.25 ug/mL
							PCB-1232 Peak 3	0.25 ug/mL
							PCB-1232 Peak 4	0.25 ug/mL
							PCB-1232 Peak 5	0.25 ug/mL
							PCB-1262 Peak 1	0.25 ug/mL
							PCB-1262 Peak 2	0.25 ug/mL
							PCB-1262 Peak 3	0.25 ug/mL
							PCB-1262 Peak 4	0.25 ug/mL
							PCB-1262 Peak 5	0.25 ug/mL
.AR_3262_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_3262_RES_00001	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
							PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_3262_RES_00001	04/22/19	RESTEK, Lot A0132023			(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_3262_L5_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_3262_L7_00017	5 mL	PCB-1232 Peak 1	0.5 ug/mL
							PCB-1232 Peak 2	0.5 ug/mL
							PCB-1232 Peak 3	0.5 ug/mL
							PCB-1232 Peak 4	0.5 ug/mL
							PCB-1232 Peak 5	0.5 ug/mL
							PCB-1262 Peak 1	0.5 ug/mL
							PCB-1262 Peak 2	0.5 ug/mL
							PCB-1262 Peak 3	0.5 ug/mL
							PCB-1262 Peak 4	0.5 ug/mL
							PCB-1262 Peak 5	0.5 ug/mL
.AR_3262_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_3262_RES_00001	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1232 Peak 5	1 ug/mL
							PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_3262_RES_00001	04/22/19		RESTEK, Lot A0132023		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_3262_L6_00019	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_3262_L7_00017	7.5 mL	PCB-1232 Peak 1	0.75 ug/mL
							PCB-1232 Peak 2	0.75 ug/mL
							PCB-1232 Peak 3	0.75 ug/mL
							PCB-1232 Peak 4	0.75 ug/mL
							PCB-1232 Peak 5	0.75 ug/mL
							PCB-1262 Peak 1	0.75 ug/mL
							PCB-1262 Peak 2	0.75 ug/mL
							PCB-1262 Peak 3	0.75 ug/mL
							PCB-1262 Peak 4	0.75 ug/mL
							PCB-1262 Peak 5	0.75 ug/mL
.AR_3262_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_3262_RES_00001	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
							PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
..AR_3262_RES_00001	04/22/19		RESTEK, Lot A0132023		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
AR_3262_L7_00017	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_3262_RES_00001	100 uL	PCB-1232 Peak 1	1 ug/mL
							PCB-1232 Peak 2	1 ug/mL
							PCB-1232 Peak 3	1 ug/mL
							PCB-1232 Peak 4	1 ug/mL
							PCB-1232 Peak 5	1 ug/mL
							PCB-1262 Peak 1	1 ug/mL
							PCB-1262 Peak 2	1 ug/mL
							PCB-1262 Peak 3	1 ug/mL
							PCB-1262 Peak 4	1 ug/mL
							PCB-1262 Peak 5	1 ug/mL
.AR_3262_RES_00001	04/22/19		RESTEK, Lot A0132023		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
AR_4268_ICV_00013	12/06/18	06/06/18	Hexane, Lot 186983	100 mL	AR_1242_RESss_00010	25 uL	PCB-1242	250 ng/mL
.AR_1242_RESss_00010	06/06/19		RESTEK, Lot A0105175		(Purchased Reagent)		PCB-1242	1000 ug/mL
AR_4268_L1_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_4268_L7_00016	0.25 mL	PCB-1242 Peak 1	0.025 ug/mL
							PCB-1242 Peak 2	0.025 ug/mL
							PCB-1242 Peak 3	0.025 ug/mL
							PCB-1242 Peak 4	0.025 ug/mL
							PCB-1242 Peak 5	0.025 ug/mL
							PCB-1268 Peak 1	0.025 ug/mL
							PCB-1268 Peak 2	0.025 ug/mL
							PCB-1268 Peak 3	0.025 ug/mL
							PCB-1268 Peak 4	0.025 ug/mL
							PCB-1268 Peak 5	0.025 ug/mL
.AR_4268_L7_00016	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_4268_RES_00001	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
							PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
..AR_4268_RES_00001	04/22/19		RESTEK, Lot A0133093		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L2_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_4268_L7_00016	0.5 mL	PCB-1242 Peak 1	0.05 ug/mL
							PCB-1242 Peak 2	0.05 ug/mL
							PCB-1242 Peak 3	0.05 ug/mL
							PCB-1242 Peak 4	0.05 ug/mL
							PCB-1242 Peak 5	0.05 ug/mL
							PCB-1268 Peak 1	0.05 ug/mL
							PCB-1268 Peak 2	0.05 ug/mL
							PCB-1268 Peak 3	0.05 ug/mL
							PCB-1268 Peak 4	0.05 ug/mL
							PCB-1268 Peak 5	0.05 ug/mL
.AR_4268_L7_00016	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_4268_RES_00001	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
							PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
..AR_4268_RES_00001	04/22/19		RESTEK, Lot A0133093		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L3_00020	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_4268_L7_00016	1 mL	PCB-1242 Peak 1	0.1 ug/mL
							PCB-1242 Peak 2	0.1 ug/mL
							PCB-1242 Peak 3	0.1 ug/mL
							PCB-1242 Peak 4	0.1 ug/mL
							PCB-1242 Peak 5	0.1 ug/mL
							PCB-1268 Peak 1	0.1 ug/mL
							PCB-1268 Peak 2	0.1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1268 Peak 3	0.1 ug/mL
							PCB-1268 Peak 4	0.1 ug/mL
							PCB-1268 Peak 5	0.1 ug/mL
.AR_4268_L7_00016	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_4268_RES_00001	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
							PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
..AR_4268_RES_00001	04/22/19		RESTEK, Lot A0133093		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L4_00023	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_4268_L7_00016	2.5 mL	PCB-1242 Peak 1	0.25 ug/mL
							PCB-1242 Peak 2	0.25 ug/mL
							PCB-1242 Peak 3	0.25 ug/mL
							PCB-1242 Peak 4	0.25 ug/mL
							PCB-1242 Peak 5	0.25 ug/mL
							PCB-1268 Peak 1	0.25 ug/mL
							PCB-1268 Peak 2	0.25 ug/mL
							PCB-1268 Peak 3	0.25 ug/mL
							PCB-1268 Peak 4	0.25 ug/mL
							PCB-1268 Peak 5	0.25 ug/mL
.AR_4268_L7_00016	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_4268_RES_00001	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
							PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
..AR_4268_RES_00001	04/22/19		RESTEK, Lot A0133093		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L5_00021	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_4268_L7_00016	5 mL	PCB-1242 Peak 1	0.5 ug/mL
							PCB-1242 Peak 2	0.5 ug/mL
							PCB-1242 Peak 3	0.5 ug/mL
							PCB-1242 Peak 4	0.5 ug/mL
							PCB-1242 Peak 5	0.5 ug/mL
							PCB-1268 Peak 1	0.5 ug/mL
							PCB-1268 Peak 2	0.5 ug/mL
							PCB-1268 Peak 3	0.5 ug/mL
							PCB-1268 Peak 4	0.5 ug/mL
							PCB-1268 Peak 5	0.5 ug/mL
.AR_4268_L7_00016	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_4268_RES_00001	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
							PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
..AR_4268_RES_00001	04/22/19		RESTEK, Lot A0133093		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L6_00018	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	10 mL	AR_4268_L7_00016	7.5 mL	PCB-1242 Peak 1	0.75 ug/mL
							PCB-1242 Peak 2	0.75 ug/mL
							PCB-1242 Peak 3	0.75 ug/mL
							PCB-1242 Peak 4	0.75 ug/mL
							PCB-1242 Peak 5	0.75 ug/mL
							PCB-1268 Peak 1	0.75 ug/mL
							PCB-1268 Peak 2	0.75 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1268 Peak 3	0.75 ug/mL
							PCB-1268 Peak 4	0.75 ug/mL
							PCB-1268 Peak 5	0.75 ug/mL
.AR_4268_L7_00016	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_4268_RES_00001	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
							PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
..AR_4268_RES_00001	04/22/19	RESTEK, Lot A0133093			(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
AR_4268_L7_00016	04/22/19	10/22/18	Hexane, Lot Hexane_Cycl_00052	100 mL	AR_4268_RES_00001	100 uL	PCB-1242 Peak 1	1 ug/mL
							PCB-1242 Peak 2	1 ug/mL
							PCB-1242 Peak 3	1 ug/mL
							PCB-1242 Peak 4	1 ug/mL
							PCB-1242 Peak 5	1 ug/mL
							PCB-1268 Peak 1	1 ug/mL
							PCB-1268 Peak 2	1 ug/mL
							PCB-1268 Peak 3	1 ug/mL
							PCB-1268 Peak 4	1 ug/mL
							PCB-1268 Peak 5	1 ug/mL
.AR_4268_RES_00001	04/22/19	RESTEK, Lot A0133093			(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
							PCB-1268 Peak 5	1000 ug/mL
BNB IS_00012	01/26/19	07/26/18	Hexane, Lot 190112	100 mL	BNB 10000ppb_00008	10 mL	1-Bromo-2-nitrobenzene	1000 ng/mL
.BNB 10000ppb_00008	01/26/19	07/26/18	Hexane, Lot 190112	100 mL	BNB stock_00015	1 mL	1-Bromo-2-nitrobenzene	10000 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..BNB stock_00015	07/26/19	Restek, Lot A0127264			(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
CN 10ppm_00319	11/05/18	10/29/18	2% NaOH, Lot 1% NaOH_00322	100 mg/L	CN CAL Std_00062	1 mL	Cyanide, Amenable	10 mg/L
							Cyanide, Free	10 mg/L
							Cyanide, Non-amenable	10 mg/L
							Cyanide, Total	10 mg/L
							Cyanide, Weak Acid Dissociable	10 mg/L
.CN CAL Std_00062	11/30/18	Ricca, Lot 1805F17			(Purchased Reagent)		Cyanide, Amenable	1000 mg/L
							Cyanide, Free	1000 mg/L
							Cyanide, Non-amenable	1000 mg/L
							Cyanide, Total	1000 mg/L
							Cyanide, Weak Acid Dissociable	1000 mg/L
CN CAL 1 ppm_01451	11/06/18	11/05/18	1% NaOH, Lot N/A	100 mL	CN 10ppm_00320	10 mL	Cyanide, Total	1 mg/L
.CN 10ppm_00320	11/12/18	11/05/18	2% NaOH, Lot 1% NaOH_00322	100 mg/L	CN CAL Std_00062	1 mL	Cyanide, Total	10 mg/L
..CN CAL Std_00062	11/30/18	Ricca, Lot 1805F17			(Purchased Reagent)		Cyanide, Total	1000 mg/L
CN ICV Daily_01218	11/06/18	11/05/18	1% HNO3, Lot N/A	100 mL	CN ICV Int_00510	1 mL	Cyanide, Total	0.1 mg/L
.CN ICV Int_00510	11/12/18	11/05/18	1% NaOH, Lot 1% NaOH_00322	100 mL	CN ICV Std_00052	1 mL	Cyanide, Total	10 mg/L
..CN ICV Std_00052	11/30/18	SPEX, Lot 13-66YPX			(Purchased Reagent)		Cyanide, Total	1000 mg/L
CN ICV Int_00509	11/05/18	10/29/18	1% NaOH, Lot 1% NaOH_00322	100 mL	CN ICV Std_00051	1 mL	Cyanide, Amenable	10 mg/L
							Cyanide, Free	10 mg/L
							Cyanide, Non-amenable	0 mg/L
							Cyanide, Total	10 mg/L
							Cyanide, Weak Acid Dissociable	10 mg/L
.CN ICV Std_00051	10/31/18	SPEX, Lot 13-66YPX			(Purchased Reagent)		Cyanide, Amenable	1000 mg/L
							Cyanide, Free	1000 mg/L
							Cyanide, Non-amenable	0 mg/L
							Cyanide, Total	1000 mg/L
							Cyanide, Weak Acid Dissociable	1000 mg/L
Hg Biwk ICV_00260	11/12/18	10/29/18	1% HNO3, Lot K23022	100 mL	Hg ICV Stock_00010	0.4 mL	Mercury	0.4 mg/L
.Hg ICV Stock_00010	03/05/19	Inorganic Ventures, Lot H2-HG02113R			(Purchased Reagent)		Mercury	100 mg/L
Hg Daily Spk_02282	11/04/18	11/03/18	1% HNO3, Lot K23022	100 mL	Hg Mnth Spike_00133	1 mL	Mercury	0.1 mg/L
.Hg Mnth Spike_00133	11/10/18	10/10/18	1% HNO3, Lot K23022	100 mL	Hg Ultra Prim_00012	1 mL	Mercury	10 mg/L
..Hg Ultra Prim_00012	03/09/19	Ultra Scientific, Lot T00602			(Purchased Reagent)		Mercury	1000 mg/L
ICP CCV_00349	05/04/19	10/25/18	5%/5% HCL/HNO3, Lot SEE LOGBOOK	500 mL	ICP ICAL1A_00811	250 mL	Aluminum	0.5 mg/L
							Calcium	5 mg/L
							Iron	2.5 mg/L
							Magnesium	20 mg/L
							Phosphorus	1 mg/L
							Potassium	50 mg/L
							Sodium	5 mg/L
.ICP ICAL1A_00811	05/04/19	10/25/18	5%/5% HCL/HNO3, Lot SEE LOGBOOK	1000 mL	Icp cal std 3_00018	10 mL	Aluminum	1 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Calcium	10 mg/L
							Iron	5 mg/L
							Magnesium	40 mg/L
							Phosphorus	2 mg/L
							Potassium	100 mg/L
							Sodium	10 mg/L
..Icp cal std 3_00018	08/23/19	Inorganic Ventures, Lot M2-MEB663620			(Purchased Reagent)		Aluminum	100 mg/L
							Calcium	1000 mg/L
							Iron	500 mg/L
							Magnesium	4000 mg/L
							Phosphorus	200 mg/L
							Potassium	10000 mg/L
							Sodium	1000 mg/L
ICP CCVH_00612	12/11/18	10/22/18	5%/5% HCL/HNO3, Lot SEE LOGBOOK	500 mL	ICP ICAL2A_00511	250 mL	Aluminum	50 mg/L
							Iron	50 mg/L
							Sodium	250 mg/L
.ICP ICAL2A_00511	12/11/18	10/22/18	5%HCl/5% HNO3, Lot see reagent log	1000 mL	10000 Al_00018	10 mL	Aluminum	100 mg/L
					10000 Fe_00021	10 mL	Iron	100 mg/L
					10000 Na_00067	50 mL	Sodium	500 mg/L
..10000 Al_00018	06/26/19	Inorganic Ventures, Lot K2-AL			(Purchased Reagent)		Aluminum	10000 mg/L
..10000 Fe_00021	08/08/19	Inorganic Ventures, Lot M2-FE659835			(Purchased Reagent)		Iron	10000 mg/L
..10000 Na_00067	09/05/19	Inorganic Ventures, Lot N2-NA668816			(Purchased Reagent)		Sodium	10000 mg/L
ICP ICSA_00173	12/14/18	10/19/18	5%/5% HCL/HNO3, Lot SEE LOGBOOK	500 mL	Icp stk ICSA_00024	50 mL	Aluminum	500 mg/L
							Calcium	500 mg/L
							Iron	200 mg/L
							Magnesium	500 mg/L
.Icp stk ICSA_00024	07/30/19	Inorganic Ventures, Lot K2-MEB643109			(Purchased Reagent)		Aluminum	5000 mg/L
							Calcium	5000 mg/L
							Iron	2000 mg/L
							Magnesium	5000 mg/L
ICP ICSAB_00193	12/01/18	10/22/18	5%/5% HCL/HNO3, Lot SEE LOGBOOK	250 mL	10000 Si_00015	0.25 mL	Si	10 mg/L
					ANALYTES B_00014	2.5 mL	Barium	0.5 mg/L
							Beryllium	0.5 mg/L
							Cadmium	1 mg/L
							Chromium	0.5 mg/L
							Cobalt	0.5 mg/L
							Copper	0.5 mg/L
							Lead	1 mg/L
							Manganese	0.5 mg/L
							Nickel	1 mg/L
							Silver	1 mg/L
							Vanadium	0.5 mg/L
							Zinc	1 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					ICP ISAB 1B_00011	2.5 mL	Thallium	10 mg/L
					ICP ISAB STD1_00010	2.5 mL	Antimony	1 mg/L
							Arsenic	2 mg/L
							B	2 mg/L
							Li	1 mg/L
							Mo	1 mg/L
							Phosphorus	2 mg/L
							Potassium	50 mg/L
							Selenium	5 mg/L
							Sodium	50 mg/L
							Sr	1 mg/L
					ICP ISAB STD2_00013	2.5 mL	Sn	10 mg/L
							Ti	1 mg/L
					Icp stk ICSA_00024	25 mL	Aluminum	500 mg/L
							Calcium	500 mg/L
							Iron	200 mg/L
							Magnesium	500 mg/L
.10000 Si_00015	09/24/19	Inorganic ventures, Lot M2-SI657321			(Purchased Reagent)		Si	10000 mg/L
.ANALYTES B_00014	04/01/19	SPEX, Lot 5-177MKBY			(Purchased Reagent)		Barium	50 mg/L
							Beryllium	50 mg/L
							Cadmium	100 mg/L
							Chromium	50 mg/L
							Cobalt	50 mg/L
							Copper	50 mg/L
							Lead	100 mg/L
							Manganese	50 mg/L
							Nickel	100 mg/L
							Silver	100 mg/L
							Vanadium	50 mg/L
							Zinc	100 mg/L
.ICP ISAB 1B_00011	12/01/18	High Purity, Lot 1734922			(Purchased Reagent)		Thallium	1000 mg/L
.ICP ISAB STD1_00010	12/01/18	High Purity, Lot 1734921			(Purchased Reagent)		Antimony	100 mg/L
							Arsenic	200 mg/L
							B	200 mg/L
							Li	100 mg/L
							Mo	100 mg/L
							Phosphorus	200 mg/L
							Potassium	5000 mg/L
							Selenium	500 mg/L
							Sodium	5000 mg/L
							Sr	100 mg/L
.ICP ISAB STD2_00013	01/03/19	High Purity, Lot 1721944			(Purchased Reagent)		Sn	1000 mg/L
							Ti	100 mg/L
.Icp stk ICSA_00024	07/30/19	Inorganic Ventures, Lot K2-MEB643109			(Purchased Reagent)		Aluminum	5000 mg/L
							Calcium	5000 mg/L
							Iron	2000 mg/L
							Magnesium	5000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
ICP ICV_00671	04/30/19	10/29/18	5%HNO3/5% HCl, Lot SEE LOGBOOK	100 mL	Icp ICVL A_00014	1 mL	Aluminum	0.25 ppm
							Calcium	2 ppm
							Iron	0.25 ppm
							Magnesium	10 ppm
							Potassium	20 ppm
							Sodium	2 ppm
					Icp ICVL B_00016	1 mL	Phosphorus	2 ppm
.Icp ICVL A_00014	04/30/19		High Purity, Lot 1810602		(Purchased Reagent)		Aluminum	25 mg/L
							Calcium	200 mg/L
							Iron	25 mg/L
							Magnesium	1000 mg/L
							Potassium	2000 mg/L
							Sodium	200 mg/L
.Icp ICVL B_00016	04/30/19		HIGH PURITY, Lot 1810603		(Purchased Reagent)		Phosphorus	200 mg/L
ICP ICVH_00784	04/30/19	10/29/18	5%HNO3/5% HCl, Lot SEE LOGBOOK	100 mL	Icp ICVH_00746	1 mL	Aluminum	40 mg/L
							Iron	80 mg/L
							Sodium	40 mg/L
.Icp ICVH_00746	09/30/19		High Purity, Lot 1824227		(Purchased Reagent)		Aluminum	4000 mg/L
							Iron	8000 mg/L
							Sodium	4000 mg/L
ICP LLCCV_02387	10/30/18	10/29/18	5%HNO3/5% HCl, Lot SEE LOGBOOK	100 mL	ICP LLCCV-2a_00008	1 mL	Phosphorus	3000 ppb
					ICP LLCCV-4_00008	1 mL	Aluminum	100 ppb
							Calcium	200 ppb
							Iron	100 ppb
							Magnesium	200 ppb
							Potassium	3000 ppb
							Sodium	1000 ppb
.ICP LLCCV-2a_00008	10/08/19		Inorganic Ventures, Lot M2-MEB654597		(Purchased Reagent)		Phosphorus	300 mg/L
.ICP LLCCV-4_00008	09/26/19		Inorganic Ventures, Lot M2-MEb670719		(Purchased Reagent)		Aluminum	10 mg/L
							Calcium	20 mg/L
							Iron	10 mg/L
							Magnesium	20 mg/L
							Potassium	300 mg/L
							Sodium	100 mg/L
ICP PDS 1_00026	08/20/19		Inorganic Ventures, Lot M2-MEB659764		(Purchased Reagent)		Aluminum	100 mg/L
							Calcium	2000 mg/L
							Iron	100 mg/L
							Magnesium	2000 mg/L
							Phosphorus	200 mg/L
							Potassium	2000 mg/L
							Sodium	2000 mg/L
ICP SPK 2B_00080	08/16/19		Inorganic Ventures, Lot N2-MEB665203		(Purchased Reagent)		Antimony	50 mg/L
							B	100 mg/L
							Mo	100 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Si	1000 mg/L
							SiO2	2140 mg/L
							Sn	200 mg/L
							Sulfur	200 mg/L
							Ti	100 mg/L
							Zr	50 mg/L
ICP SPK 3A_00154	10/18/19	Inorganic Ventures, Lot N2-MEB672708			(Purchased Reagent)		Aluminum	200 mg/L
							Arsenic	100 mg/L
							Barium	200 mg/L
							Beryllium	5 mg/L
							Bi	200 mg/L
							Cadmium	10 mg/L
							Calcium	5000 mg/L
							Chromium	20 mg/L
							Cobalt	50 mg/L
							Copper	25 mg/L
							Iron	100 mg/L
							Lead	50 mg/L
							Li	100 mg/L
							Magnesium	5000 mg/L
							Manganese	50 mg/L
							Nickel	50 mg/L
							Phosphorus	1000 mg/L
							Potassium	5000 mg/L
							Selenium	200 mg/L
							Silver	5 mg/L
							Sodium	5000 mg/L
							Sr	100 mg/L
							Th	100 mg/L
							Thallium	200 mg/L
							U	200 mg/L
							Vanadium	50 mg/L
							Zinc	50 mg/L
ms 77 RL_01790	11/03/18	11/02/18	2%HNO3/0.5% HCl, Lot 200458/198300	50 mL	ms 77 cal std_01898	0.5 mL	Arsenic	1 ppb
							Barium	1 ppb
							Beryllium	1 ppb
							Cadmium	1 ppb
							Chromium	1 ppb
							Cobalt	1 ppb
							Copper	1 ppb
							Lead	1 ppb
							Manganese	1 ppb
							Nickel	1 ppb
							Selenium	1 ppb
							Silver	1 ppb
							Thallium	1 ppb

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Zinc	1 ppb
							Antimony	1 ppb
.ms 77 cal std_01898	11/03/18	11/02/18	2%HNO3/0.5% HCl, Lot 200458/198300	100 mL	MS CALSTD-1_00125	0.5 mL	Arsenic	0.1 mg/L
							Barium	0.1 mg/L
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.1 mg/L
							Cobalt	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Nickel	0.1 mg/L
							Selenium	0.1 mg/L
							Silver	0.1 mg/L
							Thallium	0.1 mg/L
							Zinc	0.1 mg/L
					MS CALSTD-2_00094	0.5 mL	Antimony	0.1 mg/L
..MS CALSTD-1_00125	04/10/19	Inorganic Ventures, Lot m2-meb660182			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Silver	20 mg/L
							Thallium	20 mg/L
							Zinc	20 mg/L
..MS CALSTD-2_00094	08/06/19	Inorganic Ventures, Lot m2-meb664004			(Purchased Reagent)		Antimony	20 mg/L
ms 77 alt RL_01066	11/03/18	11/02/18	2%HNO3/0.5% HCl, Lot 200458/198300	50 mL	1 ppm V_00017	0.25 mL	Vanadium	5 ppb
.1 ppm V_00017	04/11/19	10/12/18	2%HNO3/0.5% HCl, Lot 185595/187518	50 mL	1000 V_00015	0.05 mL	Vanadium	1 mg/L
..1000 V_00015	08/31/19	Inorganoc Ventures, Lot K2-V651103			(Purchased Reagent)		Vanadium	1000 mg/L
ms 77 cal std_01898	11/03/18	11/02/18	2%HNO3/0.5% HCl, Lot 200458/198300	100 mL	MS CALSTD-1_00125	0.5 mL	Arsenic	0.1 mg/L
							Barium	0.1 mg/L
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.1 mg/L
							Cobalt	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nickel	0.1 mg/L
							Selenium	0.1 mg/L
							Silver	0.1 mg/L
							Thallium	0.1 mg/L
							Vanadium	0.1 mg/L
							Zinc	0.1 mg/L
					MS CALSTD-2_00094	0.5 mL	Antimony	0.1 mg/L
.MS CALSTD-1_00125	04/10/19	Inorganic Ventures, Lot m2-meb660182			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Silver	20 mg/L
							Thallium	20 mg/L
							Vanadium	20 mg/L
							Zinc	20 mg/L
.MS CALSTD-2_00094	08/06/19	Inorganic Ventures, Lot m2-meb664004			(Purchased Reagent)		Antimony	20 mg/L
ms 77 ccv_01905	11/03/18	11/02/18	2%HNO3/0.5% HCl, Lot 200458/198300	100 mL	ms 77 cal std_01898	50 mL	Arsenic	0.05 mg/L
							Barium	0.05 mg/L
							Beryllium	0.05 mg/L
							Cadmium	0.05 mg/L
							Chromium	0.05 mg/L
							Cobalt	0.05 mg/L
							Copper	0.05 mg/L
							Lead	0.05 mg/L
							Manganese	0.05 mg/L
							Nickel	0.05 mg/L
							Selenium	0.05 mg/L
							Silver	0.05 mg/L
							Thallium	0.05 mg/L
							Vanadium	0.05 mg/L
							Zinc	0.05 mg/L
							Antimony	0.05 mg/L
.ms 77 cal std_01898	11/03/18	11/02/18	2%HNO3/0.5% HCl, Lot 200458/198300	100 mL	MS CALSTD-1_00125	0.5 mL	Arsenic	0.1 mg/L
							Barium	0.1 mg/L
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.1 mg/L
							Cobalt	0.1 mg/L
							Copper	0.1 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Nickel	0.1 mg/L
							Selenium	0.1 mg/L
							Silver	0.1 mg/L
							Thallium	0.1 mg/L
							Vanadium	0.1 mg/L
							Zinc	0.1 mg/L
					MS CALSTD-2_00094	0.5 mL	Antimony	0.1 mg/L
..MS CALSTD-1_00125	04/10/19	Inorganic Ventures, Lot m2-meb660182			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Silver	20 mg/L
							Thallium	20 mg/L
							Vanadium	20 mg/L
							Zinc	20 mg/L
..MS CALSTD-2_00094	08/06/19	Inorganic Ventures, Lot m2-meb664004			(Purchased Reagent)		Antimony	20 mg/L
ms 77 icsa_00385	11/08/18	11/01/18	2%HNO3/0.5% HCl, Lot 200458/198300	50 mL	MS ICSA STOCK_00030	5 mL	Mo	2 mg/L
.MS ICSA STOCK_00030	05/08/19	Inorganic Ventures, Lot m2-meb662772			(Purchased Reagent)		Mo	20 mg/L
ms 77 icsab_00384	11/08/18	11/01/18	5%HNO3/5% HCl, Lot 200458/198300	100 mL	MS CALSTD-1_00125	0.5 mL	Arsenic	0.1 mg/L
							Barium	0.1 mg/L
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.1 mg/L
							Cobalt	0.1 mg/L
							Copper	0.1 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Nickel	0.1 mg/L
							Selenium	0.1 mg/L
							Silver	0.1 mg/L
							Thallium	0.1 mg/L
							Vanadium	0.1 mg/L
							Zinc	0.1 mg/L
					MS CALSTD-2_00094	0.5 mL	Antimony	0.1 mg/L
							Mo	2.1 mg/L
					MS ICSA STOCK_00030	10 mL	Mo	2.1 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS CALSTD-1_00125	04/10/19	Inorganic Ventures, Lot m2-meb660182			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Silver	20 mg/L
							Thallium	20 mg/L
							Vanadium	20 mg/L
							Zinc	20 mg/L
.MS CALSTD-2_00094	08/06/19	Inorganic Ventures, Lot m2-meb664004			(Purchased Reagent)		Antimony	20 mg/L
							Mo	20 mg/L
.MS ICSA STOCK_00030	05/08/19	Inorganic Ventures, Lot m2-meb662772			(Purchased Reagent)		Mo	20 mg/L
MS 77 ICV_01902	11/03/18	11/02/18	2%HNO3/0.5% HCl, Lot 200458/198300	50 mL	MS ICV StockA_00008	0.1 mL	Arsenic	40 ug/L
							Barium	40 ug/L
							Beryllium	40 ug/L
							Cadmium	40 ug/L
							Chromium	40 ug/L
							Cobalt	40 ug/L
							Copper	40 ug/L
							Lead	40 ug/L
							Manganese	40 ug/L
							Nickel	40 ug/L
							Selenium	40 ug/L
							Thallium	40 ug/L
							Vanadium	40 ug/L
							Zinc	40 ug/L
					MS ICV StockB_00008	0.1 mL	Antimony	40 ug/L
							Silver	40 ug/L
.MS ICV StockA_00008	11/30/18	HIGH PURITY, Lot 1731407			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Thallium	20 mg/L
							Vanadium	20 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Zinc	20 mg/L
.MS ICV StockB_00008	11/30/18	HIGH PURITY, Lot 1731408			(Purchased Reagent)		Antimony	20 mg/L
							Silver	20 mg/L
MS 77 LLCCV_01708	11/03/18	11/02/18	2%HNO3/0.5% HCl, Lot 200458/198300	100 mL	MS LLCCV 2A_00006	1 mL	Antimony	0.002 mg/L
					MS LLCCV1_00020	1 mL	Arsenic	0.005 mg/L
							Barium	0.001 mg/L
							Beryllium	0.001 mg/L
							Cadmium	0.001 mg/L
							Chromium	0.002 mg/L
							Cobalt	0.001 mg/L
							Copper	0.002 mg/L
							Lead	0.001 mg/L
							Manganese	0.001 mg/L
							Nickel	0.002 mg/L
							Selenium	0.005 mg/L
							Silver	0.005 mg/L
							Thallium	0.001 mg/L
							Vanadium	0.005 mg/L
							Zinc	0.01 mg/L
.MS LLCCV 2A_00006	08/03/19	Inorganic Ventures, Lot m2-meb664006			(Purchased Reagent)		Antimony	0.2 mg/L
.MS LLCCV1_00020	08/03/19	Inorganic Ventures, Lot m2-meb664005			(Purchased Reagent)		Arsenic	0.5 mg/L
							Barium	0.1 mg/L
							Beryllium	0.1 mg/L
							Cadmium	0.1 mg/L
							Chromium	0.2 mg/L
							Cobalt	0.1 mg/L
							Copper	0.2 mg/L
							Lead	0.1 mg/L
							Manganese	0.1 mg/L
							Nickel	0.2 mg/L
							Selenium	0.5 mg/L
							Silver	0.5 mg/L
							Thallium	0.1 mg/L
							Vanadium	0.5 mg/L
							Zinc	1 mg/L
MS CALSTD-1_00129	07/14/19	Inorganic Ventures, Lot M2-MEB660182			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Silver	20 mg/L
							Th	20 mg/L
							Thallium	20 mg/L
							U	20 mg/L
							Vanadium	20 mg/L
							Zinc	20 mg/L
MS PDS IV_00008	04/13/19	Inorganic Ventures, Lot m2-meb659495			(Purchased Reagent)		Arsenic	20 mg/L
							Barium	20 mg/L
							Beryllium	20 mg/L
							Cadmium	20 mg/L
							Chromium	20 mg/L
							Cobalt	20 mg/L
							Copper	20 mg/L
							Lead	20 mg/L
							Manganese	20 mg/L
							Nickel	20 mg/L
							Selenium	20 mg/L
							Silver	5 mg/L
							Thallium	20 mg/L
							Vanadium	20 mg/L
							Zinc	20 mg/L
MS PDS 2A_00005	06/25/19	Inorganic Ventures, Lot n2-meb667103			(Purchased Reagent)		Antimony	20 mg/L
MS spike 2_00072	03/13/19	09/13/18	1% HNO3, Lot 192582	250 mL	1000 B_00017	5 mL	B	20 mg/L
					1000 Li_00037	10 mL	Li	40 mg/L
					1000 Mo_00013	5 mL	Mo	20 mg/L
					1000 Sb_00018	5 mL	Antimony	20 mg/L
					1000 Sn_00015	5 mL	Sn	20 mg/L
					1000 Sr_00011	5 mL	Sr	20 mg/L
					1000 W IV_00014	5 mL	W	20 mg/L
					1000 Zr_00017	5 mL	Zr	20 mg/L
					10000 Al_00018	5 mL	Aluminum	200 mg/L
					10000 Fe_00021	5 mL	Iron	200 mg/L
.1000 B_00017	07/25/19	Inorganic Ventures, Lot M2-B663296			(Purchased Reagent)		B	1000 mg/L
.1000 Li_00037	09/12/19	Inorganic Ventures, Lot N2-L1665824			(Purchased Reagent)		Li	1000 mg/L
.1000 Mo_00013	08/31/19	Inorganic Ventures, Lot M2-MO657085			(Purchased Reagent)		Mo	1000 mg/L
.1000 Sb_00018	05/04/19	Inorganic Ventures, Lot M2-SB661224			(Purchased Reagent)		Antimony	1000 mg/L
.1000 Sn_00015	08/24/19	Inorganic Ventures, Lot M2-SN659324			(Purchased Reagent)		Sn	1000 mg/L
.1000 Sr_00011	08/24/19	Inorganic Ventures, Lot M2-SR658331			(Purchased Reagent)		Sr	1000 mg/L
.1000 W IV_00014	07/06/19	Inorganic Ventures, Lot n2-w664865			(Purchased Reagent)		W	1000 mg/L
.1000 Zr_00017	03/13/19	Inorganic Ventures, Lot M2-ZR655896			(Purchased Reagent)		Zr	1000 mg/L
.10000 Al_00018	06/26/19	Inorganic Ventures, Lot K2-AL			(Purchased Reagent)		Aluminum	10000 mg/L
.10000 Fe_00021	08/08/19	Inorganic Ventures, Lot M2-FE659835			(Purchased Reagent)		Iron	10000 mg/L
MS-AFCACCV080_00074	11/30/18	06/23/18	Methylene Chloride, Lot 187286	0.5 mL	MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-BZHDA-CCV_00049	11/30/18	06/07/18	Methylene Chloride, Lot 187286	0.5 mL	MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-DFTPP_00047							Aramite, Total	
							Diallate	
							Isosafrole	
							Methyl Phenols,Total	
							Phthalic acid	
							Tentatively Identified Compound	
							Total Cresols	
							TPAH	
					MS-47548-U_00015	1 mL	4,4'-DDD	0.05 ug/mL
							4,4'-DDE	0.05 ug/mL
							4,4'-DDT	50 ug/mL
							Benzidine_T	50 ug/mL
							DFTPP	50 ug/mL
							Pentachlorophenol_T	50 ug/mL
.MS-47548-U_00015	03/31/19		Supelco, Lot XA19099V		(Purchased Reagent)		4,4'-DDD	1 ug/mL
							4,4'-DDE	1 ug/mL
							4,4'-DDT	1000 ug/mL
							Benzidine_T	1000 ug/mL
							DFTPP	1000 ug/mL
							Pentachlorophenol_T	1000 ug/mL
MS-FAMSSV_100_00020	04/04/19	10/23/18	Methylene Chloride, Lot 203837	0.5 mL	MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA004_00039	01/30/19	10/23/18	Methylene Chloride, Lot 203837	0.5 mL	MS-HSLA_STK_00048	10 uL	2,4,6-Tribromophenol (Surr)	4 ug/mL
							2-Fluorobiphenyl	4 ug/mL
							2-Fluorophenol (Surr)	4 ug/mL
							Nitrobenzene-d5	4 ug/mL
							Phenol-d5 (Surr)	4 ug/mL
							Terphenyl-d14	4 ug/mL
							Famphur	4 ug/mL
							Alachlor	4 ug/mL
							3,3'-Dichlorobenzidine	4 ug/mL
							Benzoic acid	8 ug/mL
							Atrazine	4 ug/mL
							Caprolactam	4 ug/mL
							1,1'-Biphenyl	4 ug/mL
							1,2,4,5-Tetrachlorobenzene	4 ug/mL
							1,2,4-Trichlorobenzene	4 ug/mL
							1,2-Dichlorobenzene	4 ug/mL
							1,2-Diphenylhydrazine	4.0439 ug/mL
							1,3-Dichlorobenzene	4 ug/mL
							1,3-Dinitrobenzene	4 ug/mL
							1,4-Dichlorobenzene	4 ug/mL
							1,4-Dioxane	4 ug/mL
							1-Methylnaphthalene	4 ug/mL
							2,2'-oxybis[1-chloropropane]	4 ug/mL
							2,3,4,6-Tetrachlorophenol	4 ug/mL
							2,4,5-Trichlorophenol	4 ug/mL
							2,4,6-Trichlorophenol	4 ug/mL
							2,4-Dichlorophenol	4 ug/mL
							2,4-Dimethylphenol	4 ug/mL
							2,4-Dinitrophenol	8 ug/mL
							2,4-Dinitrotoluene	4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,6-Dichlorophenol	4 ug/mL
							2,6-Dinitrotoluene	4 ug/mL
							2-Chloronaphthalene	4 ug/mL
							2-Chlorophenol	4 ug/mL
							2-Methylnaphthalene	4 ug/mL
							2-Methylphenol	4 ug/mL
							2-Nitroaniline	4 ug/mL
							2-Nitrophenol	4 ug/mL
							3 & 4 Methylphenol	4 ug/mL
							3-Nitroaniline	4 ug/mL
							4,6-Dinitro-2-methylphenol	8 ug/mL
							4-Bromophenyl phenyl ether	4 ug/mL
							4-Chloro-3-methylphenol	4 ug/mL
							4-Chloroaniline	4 ug/mL
							4-Chlorophenyl phenyl ether	4 ug/mL
							4-Nitroaniline	4 ug/mL
							4-Nitrophenol	8 ug/mL
							Acenaphthene	4 ug/mL
							Acenaphthylene	4 ug/mL
							Acetophenone	4 ug/mL
							Aniline	4 ug/mL
							Anthracene	4 ug/mL
							Azobenzene	4 ug/mL
							Benzo[a]anthracene	4 ug/mL
							Benzo[a]pyrene	4 ug/mL
							Benzo[b]fluoranthene	4 ug/mL
							Benzo[g,h,i]perylene	4 ug/mL
							Benzo[k]fluoranthene	4 ug/mL
							Benzyl alcohol	4 ug/mL
							Bis(2-chloroethoxy)methane	4 ug/mL
							Bis(2-chloroethyl)ether	4 ug/mL
							Bis(2-ethylhexyl) phthalate	4 ug/mL
							Butyl benzyl phthalate	4 ug/mL
							Carbazole	4 ug/mL
							Chrysene	4 ug/mL
							Di-n-butyl phthalate	4 ug/mL
							Di-n-octyl phthalate	4 ug/mL
							Dibenz(a,h)anthracene	4 ug/mL
							Dibenzofuran	4 ug/mL
							Diethyl phthalate	4 ug/mL
							Dimethyl phthalate	4 ug/mL
							Diphenylamine	3.4 ug/mL
							Fluoranthene	4 ug/mL
							Fluorene	4 ug/mL
							Hexachlorobenzene	4 ug/mL
							Hexachlorobutadiene	4 ug/mL
							Hexachlorocyclopentadiene	4 ug/mL
							Hexachloroethane	4 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Indeno[1,2,3-cd]pyrene	4 ug/mL
							Isophorone	4 ug/mL
							N-Nitrosodi-n-propylamine	4 ug/mL
							N-Nitrosodimethylamine	4 ug/mL
							N-Nitrosodiphenylamine	4 ug/mL
							Naphthalene	4 ug/mL
							Nitrobenzene	4 ug/mL
							Pentachlorophenol	8 ug/mL
							Phenanthrene	4 ug/mL
							Phenol	4 ug/mL
							Pyrene	4 ug/mL
							Pyridine	8 ug/mL
					MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00048	01/30/19	10/01/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
					MS-568023_00043	1 mL	Famphur	200 ug/mL
					MS-568033_00026	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00008	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00079	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00006	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00002	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-568023_00043	06/30/20		Restek, Lot A0139090		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00026	06/30/19		Restek, Lot A0133057		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00008	10/31/19		Restek, Lot A0137351		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00079	03/31/19		Restek, Lot A0130477		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00006	10/31/19		Restek, Lot A0137125		(Purchased Reagent)		Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA010_00039	01/30/19	10/23/18	Methylene Chloride, Lot 203837	0.5 mL	MS-HSLA_STK_00048	25 uL	2,4,6-Tribromophenol (Surr)	10 ug/mL
							2-Fluorobiphenyl	10 ug/mL
							2-Fluorophenol (Surr)	10 ug/mL
							Nitrobenzene-d5	10 ug/mL
							Phenol-d5 (Surr)	10 ug/mL
							Terphenyl-d14	10 ug/mL
							Famphur	10 ug/mL
							Alachlor	10 ug/mL
							3,3'-Dichlorobenzidine	10 ug/mL
							Benzoic acid	20 ug/mL
							Atrazine	10 ug/mL
							Caprolactam	10 ug/mL
							1,1'-Biphenyl	10 ug/mL
							1,2,4,5-Tetrachlorobenzene	10 ug/mL
							1,2,4-Trichlorobenzene	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dichlorobenzene	10 ug/mL
							1,2-Diphenylhydrazine	10.1097 ug/mL
							1,3-Dichlorobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							1,4-Dichlorobenzene	10 ug/mL
							1,4-Dioxane	10 ug/mL
							1-Methylnaphthalene	10 ug/mL
							2,2'-oxybis[1-chloropropane]	10 ug/mL
							2,3,4,6-Tetrachlorophenol	10 ug/mL
							2,4,5-Trichlorophenol	10 ug/mL
							2,4,6-Trichlorophenol	10 ug/mL
							2,4-Dichlorophenol	10 ug/mL
							2,4-Dimethylphenol	10 ug/mL
							2,4-Dinitrophenol	20 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							2,6-Dichlorophenol	10 ug/mL
							2,6-Dinitrotoluene	10 ug/mL
							2-Chloronaphthalene	10 ug/mL
							2-Chlorophenol	10 ug/mL
							2-Methylnaphthalene	10 ug/mL
							2-Methylphenol	10 ug/mL
							2-Nitroaniline	10 ug/mL
							2-Nitrophenol	10 ug/mL
							3 & 4 Methylphenol	10 ug/mL
							3-Nitroaniline	10 ug/mL
							4,6-Dinitro-2-methylphenol	20 ug/mL
							4-Bromophenyl phenyl ether	10 ug/mL
							4-Chloro-3-methylphenol	10 ug/mL
							4-Chloroaniline	10 ug/mL
							4-Chlorophenyl phenyl ether	10 ug/mL
							4-Nitroaniline	10 ug/mL
							4-Nitrophenol	20 ug/mL
							Acenaphthene	10 ug/mL
							Acenaphthylene	10 ug/mL
							Acetophenone	10 ug/mL
							Aniline	10 ug/mL
							Anthracene	10 ug/mL
							Azobenzene	10 ug/mL
							Benzo[a]anthracene	10 ug/mL
							Benzo[a]pyrene	10 ug/mL
							Benzo[b]fluoranthene	10 ug/mL
							Benzo[g,h,i]perylene	10 ug/mL
							Benzo[k]fluoranthene	10 ug/mL
							Benzyl alcohol	10 ug/mL
							Bis(2-chloroethoxy)methane	10 ug/mL
							Bis(2-chloroethyl)ether	10 ug/mL
							Bis(2-ethylhexyl) phthalate	10 ug/mL
							Butyl benzyl phthalate	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Carbazole	10 ug/mL
							Chrysene	10 ug/mL
							Di-n-butyl phthalate	10 ug/mL
							Di-n-octyl phthalate	10 ug/mL
							Dibenz(a,h)anthracene	10 ug/mL
							Dibenzofuran	10 ug/mL
							Diethyl phthalate	10 ug/mL
							Dimethyl phthalate	10 ug/mL
							Diphenylamine	8.5 ug/mL
							Fluoranthene	10 ug/mL
							Fluorene	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Hexachlorobutadiene	10 ug/mL
							Hexachlorocyclopentadiene	10 ug/mL
							Hexachloroethane	10 ug/mL
							Indeno[1,2,3-cd]pyrene	10 ug/mL
							Isophorone	10 ug/mL
							N-Nitrosodi-n-propylamine	10 ug/mL
							N-Nitrosodimethylamine	10 ug/mL
							N-Nitrosodiphenylamine	10 ug/mL
							Naphthalene	10 ug/mL
							Nitrobenzene	10 ug/mL
							Pentachlorophenol	20 ug/mL
							Phenanthrene	10 ug/mL
							Phenol	10 ug/mL
							Pyrene	10 ug/mL
							Pyridine	20 ug/mL
					MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00048	01/30/19	10/01/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
					MS-568023_00043	1 mL	Famphur	200 ug/mL
					MS-568033_00026	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00008	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00079	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00006	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00002	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-568023_00043	06/30/20		Restek, Lot A0139090		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00026	06/30/19		Restek, Lot A0133057		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00008	10/31/19		Restek, Lot A0137351		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00079	03/31/19		Restek, Lot A0130477		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00006	10/31/19		Restek, Lot A0137125		(Purchased Reagent)		Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20	Restek, Lot A0112833			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22	Restek, Lot A0129635			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MS-HSLA020_00039	01/30/19	10/23/18	Methylene Chloride, Lot 203837	0.5 mL	MS-HSLA_STK_00048	50 uL	2,4,6-Tribromophenol (Surr)	20 ug/mL
							2-Fluorobiphenyl	20 ug/mL
							2-Fluorophenol (Surr)	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Phenol-d5 (Surr)	20 ug/mL
							Terphenyl-d14	20 ug/mL
							Famphur	20 ug/mL
							Alachlor	20 ug/mL
							3,3'-Dichlorobenzidine	20 ug/mL
							Benzoic acid	40 ug/mL
							Atrazine	20 ug/mL
							Caprolactam	20 ug/mL
							1,1'-Biphenyl	20 ug/mL
							1,2,4,5-Tetrachlorobenzene	20 ug/mL
							1,2,4-Trichlorobenzene	20 ug/mL
							1,2-Dichlorobenzene	20 ug/mL
							1,2-Diphenylhydrazine	20.2195 ug/mL
							1,3-Dichlorobenzene	20 ug/mL
							1,3-Dinitrobenzene	20 ug/mL
							1,4-Dichlorobenzene	20 ug/mL
							1,4-Dioxane	20 ug/mL
							1-Methylnaphthalene	20 ug/mL
							2,2'-oxybis[1-chloropropane]	20 ug/mL
							2,3,4,6-Tetrachlorophenol	20 ug/mL
							2,4,5-Trichlorophenol	20 ug/mL
							2,4,6-Trichlorophenol	20 ug/mL
							2,4-Dichlorophenol	20 ug/mL
							2,4-Dimethylphenol	20 ug/mL
							2,4-Dinitrophenol	40 ug/mL
							2,4-Dinitrotoluene	20 ug/mL
							2,6-Dichlorophenol	20 ug/mL
							2,6-Dinitrotoluene	20 ug/mL
							2-Chloronaphthalene	20 ug/mL
							2-Chlorophenol	20 ug/mL
							2-Methylnaphthalene	20 ug/mL
							2-Methylphenol	20 ug/mL
							2-Nitroaniline	20 ug/mL
							2-Nitrophenol	20 ug/mL
							3 & 4 Methylphenol	20 ug/mL
							3-Nitroaniline	20 ug/mL
							4,6-Dinitro-2-methylphenol	40 ug/mL
							4-Bromophenyl phenyl ether	20 ug/mL
							4-Chloro-3-methylphenol	20 ug/mL
							4-Chloroaniline	20 ug/mL
							4-Chlorophenyl phenyl ether	20 ug/mL
							4-Nitroaniline	20 ug/mL
							4-Nitrophenol	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Acetophenone	20 ug/mL
							Aniline	20 ug/mL
							Anthracene	20 ug/mL
							Azobenzene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Benzyl alcohol	20 ug/mL
							Bis(2-chloroethoxy)methane	20 ug/mL
							Bis(2-chloroethyl)ether	20 ug/mL
							Bis(2-ethylhexyl) phthalate	20 ug/mL
							Butyl benzyl phthalate	20 ug/mL
							Carbazole	20 ug/mL
							Chrysene	20 ug/mL
							Di-n-butyl phthalate	20 ug/mL
							Di-n-octyl phthalate	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Dibenzofuran	20 ug/mL
							Diethyl phthalate	20 ug/mL
							Dimethyl phthalate	20 ug/mL
							Diphenylamine	17 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Hexachlorobenzene	20 ug/mL
							Hexachlorobutadiene	20 ug/mL
							Hexachlorocyclopentadiene	20 ug/mL
							Hexachloroethane	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Isophorone	20 ug/mL
							N-Nitrosodi-n-propylamine	20 ug/mL
							N-Nitrosodimethylamine	20 ug/mL
							N-Nitrosodiphenylamine	20 ug/mL
							Naphthalene	20 ug/mL
							Nitrobenzene	20 ug/mL
							Pentachlorophenol	40 ug/mL
							Phenanthrene	20 ug/mL
							Phenol	20 ug/mL
							Pyrene	20 ug/mL
							Pyridine	40 ug/mL
					MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00048	01/30/19	10/01/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
					MS-568023_00043	1 mL	Famphur	200 ug/mL
					MS-568033_00026	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00008	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00079	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00006	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00002	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-568023_00043	06/30/20		Restek, Lot A0139090		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00026	06/30/19		Restek, Lot A0133057		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00008	10/31/19		Restek, Lot A0137351		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00079	03/31/19		Restek, Lot A0130477		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00006	10/31/19		Restek, Lot A0137125		(Purchased Reagent)		Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA050_00040	01/30/19	10/23/18	Methylene Chloride, Lot 203837	0.5 mL	MS-HSLA_STK_00048	125 uL	2,4,6-Tribromophenol (Surr)	50 ug/mL
							2-Fluorobiphenyl	50 ug/mL
							2-Fluorophenol (Surr)	50 ug/mL
							Nitrobenzene-d5	50 ug/mL
							Phenol-d5 (Surr)	50 ug/mL
							Terphenyl-d14	50 ug/mL
							Famphur	50 ug/mL
							Alachlor	50 ug/mL
							3,3'-Dichlorobenzidine	50 ug/mL
							Benzoic acid	100 ug/mL
							Atrazine	50 ug/mL
							Caprolactam	50 ug/mL
							1,1'-Biphenyl	50 ug/mL
							1,2,4,5-Tetrachlorobenzene	50 ug/mL
							1,2,4-Trichlorobenzene	50 ug/mL
							1,2-Dichlorobenzene	50 ug/mL
							1,2-Diphenylhydrazine	50.5487 ug/mL
							1,3-Dichlorobenzene	50 ug/mL
							1,3-Dinitrobenzene	50 ug/mL
							1,4-Dichlorobenzene	50 ug/mL
							1,4-Dioxane	50 ug/mL
							1-Methylnaphthalene	50 ug/mL
							2,2'-oxybis[1-chloropropane]	50 ug/mL
							2,3,4,6-Tetrachlorophenol	50 ug/mL
							2,4,5-Trichlorophenol	50 ug/mL
							2,4,6-Trichlorophenol	50 ug/mL
							2,4-Dichlorophenol	50 ug/mL
							2,4-Dimethylphenol	50 ug/mL
							2,4-Dinitrophenol	100 ug/mL
							2,4-Dinitrotoluene	50 ug/mL
							2,6-Dichlorophenol	50 ug/mL
							2,6-Dinitrotoluene	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Chloronaphthalene	50 ug/mL
							2-Chlorophenol	50 ug/mL
							2-Methylnaphthalene	50 ug/mL
							2-Methylphenol	50 ug/mL
							2-Nitroaniline	50 ug/mL
							2-Nitrophenol	50 ug/mL
							3 & 4 Methylphenol	50 ug/mL
							3-Nitroaniline	50 ug/mL
							4,6-Dinitro-2-methylphenol	100 ug/mL
							4-Bromophenyl phenyl ether	50 ug/mL
							4-Chloro-3-methylphenol	50 ug/mL
							4-Chloroaniline	50 ug/mL
							4-Chlorophenyl phenyl ether	50 ug/mL
							4-Nitroaniline	50 ug/mL
							4-Nitrophenol	100 ug/mL
							Acenaphthene	50 ug/mL
							Acenaphthylene	50 ug/mL
							Acetophenone	50 ug/mL
							Aniline	50 ug/mL
							Anthracene	50 ug/mL
							Azobenzene	50 ug/mL
							Benzo[a]anthracene	50 ug/mL
							Benzo[a]pyrene	50 ug/mL
							Benzo[b]fluoranthene	50 ug/mL
							Benzo[g,h,i]perylene	50 ug/mL
							Benzo[k]fluoranthene	50 ug/mL
							Benzyl alcohol	50 ug/mL
							Bis(2-chloroethoxy)methane	50 ug/mL
							Bis(2-chloroethyl)ether	50 ug/mL
							Bis(2-ethylhexyl) phthalate	50 ug/mL
							Butyl benzyl phthalate	50 ug/mL
							Carbazole	50 ug/mL
							Chrysene	50 ug/mL
							Di-n-butyl phthalate	50 ug/mL
							Di-n-octyl phthalate	50 ug/mL
							Dibenz(a,h)anthracene	50 ug/mL
							Dibenzofuran	50 ug/mL
							Diethyl phthalate	50 ug/mL
							Dimethyl phthalate	50 ug/mL
							Diphenylamine	42.5 ug/mL
							Fluoranthene	50 ug/mL
							Fluorene	50 ug/mL
							Hexachlorobenzene	50 ug/mL
							Hexachlorobutadiene	50 ug/mL
							Hexachlorocyclopentadiene	50 ug/mL
							Hexachloroethane	50 ug/mL
							Indeno[1,2,3-cd]pyrene	50 ug/mL
							Isophorone	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosodi-n-propylamine	50 ug/mL
							N-Nitrosodimethylamine	50 ug/mL
							N-Nitrosodiphenylamine	50 ug/mL
							Naphthalene	50 ug/mL
							Nitrobenzene	50 ug/mL
							Pentachlorophenol	100 ug/mL
							Phenanthrene	50 ug/mL
							Phenol	50 ug/mL
							Pyrene	50 ug/mL
							Pyridine	100 ug/mL
					MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00048	01/30/19	10/01/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
					MS-568023_00043	1 mL	Famphur	200 ug/mL
					MS-568033_00026	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00008	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00079	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00006	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00002	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-568023_00043	06/30/20		Restek, Lot A0139090		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00026	06/30/19		Restek, Lot A0133057		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00008	10/31/19		Restek, Lot A0137351		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00079	03/31/19		Restek, Lot A0130477		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00006	10/31/19		Restek, Lot A0137125		(Purchased Reagent)		Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA080_00039	01/30/19	10/23/18	Methylene Chloride, Lot 203837	0.5 mL	MS-HSLA_STK_00048	200 uL	2,4,6-Tribromophenol (Surr)	80 ug/mL
							2-Fluorobiphenyl	80 ug/mL
							2-Fluorophenol (Surr)	80 ug/mL
							Nitrobenzene-d5	80 ug/mL
							Phenol-d5 (Surr)	80 ug/mL
							Terphenyl-d14	80 ug/mL
							Famphur	80 ug/mL
							Alachlor	80 ug/mL
							3,3'-Dichlorobenzidine	80 ug/mL
							Benzoic acid	160 ug/mL
							Atrazine	80 ug/mL
							Caprolactam	80 ug/mL
							1,1'-Biphenyl	80 ug/mL
							1,2,4,5-Tetrachlorobenzene	80 ug/mL
							1,2,4-Trichlorobenzene	80 ug/mL
							1,2-Dichlorobenzene	80 ug/mL
							1,2-Diphenylhydrazine	80.878 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Di-n-butyl phthalate	80 ug/mL
							Di-n-octyl phthalate	80 ug/mL
							Dibenz(a,h)anthracene	80 ug/mL
							Dibenzofuran	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Diphenylamine	68 ug/mL
							Fluoranthene	80 ug/mL
							Fluorene	80 ug/mL
							Hexachlorobenzene	80 ug/mL
							Hexachlorobutadiene	80 ug/mL
							Hexachlorocyclopentadiene	80 ug/mL
							Hexachloroethane	80 ug/mL
							Indeno[1,2,3-cd]pyrene	80 ug/mL
							Isophorone	80 ug/mL
							N-Nitrosodi-n-propylamine	80 ug/mL
							N-Nitrosodimethylamine	80 ug/mL
							N-Nitrosodiphenylamine	80 ug/mL
							Naphthalene	80 ug/mL
							Nitrobenzene	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenanthrene	80 ug/mL
							Phenol	80 ug/mL
							Pyrene	80 ug/mL
							Pyridine	160 ug/mL
					MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00048	01/30/19	10/01/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
					MS-568023_00043	1 mL	Famphur	200 ug/mL
					MS-568033_00026	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00008	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00079	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00006	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00002	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-568023_00043	06/30/20		Restek, Lot A0139090		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00026	06/30/19		Restek, Lot A0133057		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00008	10/31/19		Restek, Lot A0137351		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00079	03/31/19		Restek, Lot A0130477		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00006	10/31/19		Restek, Lot A0137125		(Purchased Reagent)		Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA120_00039	01/30/19	10/23/18	Methylene Chloride, Lot 203837	0.5 mL	MS-HSLA_STK_00048	300 uL	2,4,6-Tribromophenol (Surr)	120 ug/mL
							2-Fluorobiphenyl	120 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Fluorophenol (Surr)	120 ug/mL
							Nitrobenzene-d5	120 ug/mL
							Phenol-d5 (Surr)	120 ug/mL
							Terphenyl-d14	120 ug/mL
							Famphur	120 ug/mL
							Alachlor	120 ug/mL
							3,3'-Dichlorobenzidine	120 ug/mL
							Benzoic acid	240 ug/mL
							Atrazine	120 ug/mL
							Caprolactam	120 ug/mL
							1,1'-Biphenyl	120 ug/mL
							1,2,4,5-Tetrachlorobenzene	120 ug/mL
							1,2,4-Trichlorobenzene	120 ug/mL
							1,2-Dichlorobenzene	120 ug/mL
							1,2-Diphenylhydrazine	121.317 ug/mL
							1,3-Dichlorobenzene	120 ug/mL
							1,3-Dinitrobenzene	120 ug/mL
							1,4-Dichlorobenzene	120 ug/mL
							1,4-Dioxane	120 ug/mL
							1-Methylnaphthalene	120 ug/mL
							2,2'-oxybis[1-chloropropane]	120 ug/mL
							2,3,4,6-Tetrachlorophenol	120 ug/mL
							2,4,5-Trichlorophenol	120 ug/mL
							2,4,6-Trichlorophenol	120 ug/mL
							2,4-Dichlorophenol	120 ug/mL
							2,4-Dimethylphenol	120 ug/mL
							2,4-Dinitrophenol	240 ug/mL
							2,4-Dinitrotoluene	120 ug/mL
							2,6-Dichlorophenol	120 ug/mL
							2,6-Dinitrotoluene	120 ug/mL
							2-Chloronaphthalene	120 ug/mL
							2-Chlorophenol	120 ug/mL
							2-Methylnaphthalene	120 ug/mL
							2-Methylphenol	120 ug/mL
							2-Nitroaniline	120 ug/mL
							2-Nitrophenol	120 ug/mL
							3 & 4 Methylphenol	120 ug/mL
							3-Nitroaniline	120 ug/mL
							4,6-Dinitro-2-methylphenol	240 ug/mL
							4-Bromophenyl phenyl ether	120 ug/mL
							4-Chloro-3-methylphenol	120 ug/mL
							4-Chloroaniline	120 ug/mL
							4-Chlorophenyl phenyl ether	120 ug/mL
							4-Nitroaniline	120 ug/mL
							4-Nitrophenol	240 ug/mL
							Acenaphthene	120 ug/mL
							Acenaphthylene	120 ug/mL
							Acetophenone	120 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Aniline	120 ug/mL
							Anthracene	120 ug/mL
							Azobenzene	120 ug/mL
							Benzo[a]anthracene	120 ug/mL
							Benzo[a]pyrene	120 ug/mL
							Benzo[b]fluoranthene	120 ug/mL
							Benzo[g,h,i]perylene	120 ug/mL
							Benzo[k]fluoranthene	120 ug/mL
							Benzyl alcohol	120 ug/mL
							Bis(2-chloroethoxy)methane	120 ug/mL
							Bis(2-chloroethyl)ether	120 ug/mL
							Bis(2-ethylhexyl) phthalate	120 ug/mL
							Butyl benzyl phthalate	120 ug/mL
							Carbazole	120 ug/mL
							Chrysene	120 ug/mL
							Di-n-butyl phthalate	120 ug/mL
							Di-n-octyl phthalate	120 ug/mL
							Dibenz(a,h)anthracene	120 ug/mL
							Dibenzofuran	120 ug/mL
							Diethyl phthalate	120 ug/mL
							Dimethyl phthalate	120 ug/mL
							Diphenylamine	102 ug/mL
							Fluoranthene	120 ug/mL
							Fluorene	120 ug/mL
							Hexachlorobenzene	120 ug/mL
							Hexachlorobutadiene	120 ug/mL
							Hexachlorocyclopentadiene	120 ug/mL
							Hexachloroethane	120 ug/mL
							Indeno[1,2,3-cd]pyrene	120 ug/mL
							Isophorone	120 ug/mL
							N-Nitrosodi-n-propylamine	120 ug/mL
							N-Nitrosodimethylamine	120 ug/mL
							N-Nitrosodiphenylamine	120 ug/mL
							Naphthalene	120 ug/mL
							Nitrobenzene	120 ug/mL
							Pentachlorophenol	240 ug/mL
							Phenanthrene	120 ug/mL
							Phenol	120 ug/mL
							Pyrene	120 ug/mL
							Pyridine	240 ug/mL
					MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00048	01/30/19	10/01/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
					MS-568023_00043	1 mL	Famphur	200 ug/mL
					MS-568033_00026	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00008	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00079	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00006	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00002	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-568023_00043	06/30/20		Restek, Lot A0139090		(Purchased Reagent)		Famphur	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MS-568033_00026	06/30/19		Restek, Lot A0133057		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00008	10/31/19		Restek, Lot A0137351		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00079	03/31/19		Restek, Lot A0130477		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00006	10/31/19		Restek, Lot A0137125		(Purchased Reagent)		Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA160_00039	01/30/19	10/23/18	Methylene Chloride, Lot 203837	0.5 mL	MS-HSLA_STK_00048	400 uL	2,4,6-Tribromophenol (Surr)	160 ug/mL
							2-Fluorobiphenyl	160 ug/mL
							2-Fluorophenol (Surr)	160 ug/mL
							Nitrobenzene-d5	160 ug/mL
							Phenol-d5 (Surr)	160 ug/mL
							Terphenyl-d14	160 ug/mL
							Famphur	160 ug/mL
							Alachlor	160 ug/mL
							3,3'-Dichlorobenzidine	160 ug/mL
							Benzoic acid	320 ug/mL
							Atrazine	160 ug/mL
							Caprolactam	160 ug/mL
							1,1'-Biphenyl	160 ug/mL
							1,2,4,5-Tetrachlorobenzene	160 ug/mL
							1,2,4-Trichlorobenzene	160 ug/mL
							1,2-Dichlorobenzene	160 ug/mL
							1,2-Diphenylhydrazine	161.756 ug/mL
							1,3-Dichlorobenzene	160 ug/mL
							1,3-Dinitrobenzene	160 ug/mL
							1,4-Dichlorobenzene	160 ug/mL
							1,4-Dioxane	160 ug/mL
							1-Methylnaphthalene	160 ug/mL
							2,2'-oxybis[1-chloropropane]	160 ug/mL
							2,3,4,6-Tetrachlorophenol	160 ug/mL
							2,4,5-Trichlorophenol	160 ug/mL
							2,4,6-Trichlorophenol	160 ug/mL
							2,4-Dichlorophenol	160 ug/mL
							2,4-Dimethylphenol	160 ug/mL
							2,4-Dinitrophenol	320 ug/mL
							2,4-Dinitrotoluene	160 ug/mL
							2,6-Dichlorophenol	160 ug/mL
							2,6-Dinitrotoluene	160 ug/mL
							2-Chloronaphthalene	160 ug/mL
							2-Chlorophenol	160 ug/mL
							2-Methylnaphthalene	160 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Methylphenol	160 ug/mL
							2-Nitroaniline	160 ug/mL
							2-Nitrophenol	160 ug/mL
							3 & 4 Methylphenol	160 ug/mL
							3-Nitroaniline	160 ug/mL
							4,6-Dinitro-2-methylphenol	320 ug/mL
							4-Bromophenyl phenyl ether	160 ug/mL
							4-Chloro-3-methylphenol	160 ug/mL
							4-Chloroaniline	160 ug/mL
							4-Chlorophenyl phenyl ether	160 ug/mL
							4-Nitroaniline	160 ug/mL
							4-Nitrophenol	320 ug/mL
							Acenaphthene	160 ug/mL
							Acenaphthylene	160 ug/mL
							Acetophenone	160 ug/mL
							Aniline	160 ug/mL
							Anthracene	160 ug/mL
							Azobenzene	160 ug/mL
							Benzo[a]anthracene	160 ug/mL
							Benzo[a]pyrene	160 ug/mL
							Benzo[b]fluoranthene	160 ug/mL
							Benzo[g,h,i]perylene	160 ug/mL
							Benzo[k]fluoranthene	160 ug/mL
							Benzyl alcohol	160 ug/mL
							Bis(2-chloroethoxy)methane	160 ug/mL
							Bis(2-chloroethyl)ether	160 ug/mL
							Bis(2-ethylhexyl) phthalate	160 ug/mL
							Butyl benzyl phthalate	160 ug/mL
							Carbazole	160 ug/mL
							Chrysene	160 ug/mL
							Di-n-butyl phthalate	160 ug/mL
							Di-n-octyl phthalate	160 ug/mL
							Dibenz(a,h)anthracene	160 ug/mL
							Dibenzofuran	160 ug/mL
							Diethyl phthalate	160 ug/mL
							Dimethyl phthalate	160 ug/mL
							Diphenylamine	136 ug/mL
							Fluoranthene	160 ug/mL
							Fluorene	160 ug/mL
							Hexachlorobenzene	160 ug/mL
							Hexachlorobutadiene	160 ug/mL
							Hexachlorocyclopentadiene	160 ug/mL
							Hexachloroethane	160 ug/mL
							Indeno[1,2,3-cd]pyrene	160 ug/mL
							Isophorone	160 ug/mL
							N-Nitrosodi-n-propylamine	160 ug/mL
							N-Nitrosodimethylamine	160 ug/mL
							N-Nitrosodiphenylamine	160 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Naphthalene	160 ug/mL
							Nitrobenzene	160 ug/mL
							Pentachlorophenol	320 ug/mL
							Phenanthrene	160 ug/mL
							Phenol	160 ug/mL
							Pyrene	160 ug/mL
							Pyridine	320 ug/mL
					MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00048	01/30/19	10/01/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
					MS-568023_00043	1 mL	Famphur	200 ug/mL
					MS-568033_00026	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00008	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00079	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00006	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00002	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-568023_00043	06/30/20		Restek, Lot A0139090		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00026	06/30/19		Restek, Lot A0133057		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00008	10/31/19		Restek, Lot A0137351		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00079	03/31/19		Restek, Lot A0130477		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00006	10/31/19		Restek, Lot A0137125		(Purchased Reagent)		Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLA200_00039	01/30/19	10/23/18	Methylene Chloride, Lot 203837	0.5 mL	MS-HSLA_STK_00048	500 uL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
							Famphur	200 ug/mL
							Alachlor	200 ug/mL
							3,3'-Dichlorobenzidine	200 ug/mL
							Benzoic acid	400 ug/mL
							Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
							1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
					MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-HSLA_STK_00048	01/30/19	10/01/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
					MS-568023_00043	1 mL	Famphur	200 ug/mL
					MS-568033_00026	0.5 mL	Alachlor	200 ug/mL
					MS-569730_HSL_00008	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
					MS-569731_00079	2 mL	Benzoic acid	400 ug/mL
					MS-569732_HSL_00006	1 mL	Atrazine	200 ug/mL
							Caprolactam	200 ug/mL
					MS-571995_00002	2 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	202.195 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-568023_00043	06/30/20		Restek, Lot A0139090		(Purchased Reagent)		Famphur	2000 ug/mL
..MS-568033_00026	06/30/19		Restek, Lot A0133057		(Purchased Reagent)		Alachlor	4000 ug/mL
..MS-569730_HSL_00008	10/31/19		Restek, Lot A0137351		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..MS-569731_00079	03/31/19		Restek, Lot A0130477		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MS-569732_HSL_00006	10/31/19		Restek, Lot A0137125		(Purchased Reagent)		Atrazine	2000 ug/mL
							Caprolactam	2000 ug/mL
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1010.97 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

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

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLACCV080_00173	11/30/18	10/01/18	Methylene Chloride, Lot 187286	0.5 mL	MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	40 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLACCV080_00173	11/30/18	10/01/18	Methylene Chloride, Lot 187286	0.5 mL	MS-HSLA_STK_00047	200 uL	2,4,6-Tribromophenol (Surr)	80 ug/mL
							2-Fluorobiphenyl	80 ug/mL
							2-Fluorophenol (Surr)	80 ug/mL
							Nitrobenzene-d5	80 ug/mL
							Phenol-d5 (Surr)	80 ug/mL
							Terphenyl-d14	80 ug/mL
							2,4,5-Trichlorophenol	80 ug/mL
							2,4,6-Trichlorophenol	80 ug/mL
							2,4-Dichlorophenol	80 ug/mL
							2,4-Dimethylphenol	80 ug/mL
							2,4-Dinitrophenol	160 ug/mL
							2-Chlorophenol	80 ug/mL
							2-Methylphenol	80 ug/mL
							2-Nitrophenol	80 ug/mL
							3 & 4 Methylphenol	80 ug/mL
							4,6-Dinitro-2-methylphenol	160 ug/mL
							4-Chloro-3-methylphenol	80 ug/mL
							4-Nitrophenol	160 ug/mL
							Bis(2-ethylhexyl) phthalate	80 ug/mL
							Butyl benzyl phthalate	80 ug/mL
							Di-n-butyl phthalate	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Di-n-octyl phthalate	80 ug/mL
							Diethyl phthalate	80 ug/mL
							Dimethyl phthalate	80 ug/mL
							Pentachlorophenol	160 ug/mL
							Phenol	80 ug/mL
.MS-HSLA_STK_00047	11/30/18	06/21/18	Methylene Chloride, Lot 187286	10 mL	MS-567685_00004	0.4 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14	200 ug/mL
					MS-571995_00002	2 mL	2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenol	200 ug/mL
..MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
..MS-571995_00002	09/30/19		Restek, Lot A0136052		(Purchased Reagent)		2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenol	1000 ug/mL
MS-HSLB1B3SSV_00052	03/06/19	10/23/18	Methylene Chloride, Lot 203837	0.5 mL	MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-HSLB1B3SSV_00052	03/06/19	10/23/18	Methylene Chloride, Lot 203837	0.5 mL	MS-HSLB1_STK_00012	250 uL	2,4,5-Trichlorophenol	100 ug/mL
							2,4,6-Trichlorophenol	100 ug/mL
							2,4-Dichlorophenol	100 ug/mL
							2,4-Dimethylphenol	100 ug/mL
							2,4-Dinitrophenol	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Chlorophenol	100 ug/mL
							2-Methylphenol	100 ug/mL
							2-Nitrophenol	100 ug/mL
							3 & 4 Methylphenol	100 ug/mL
							4,6-Dinitro-2-methylphenol	200 ug/mL
							4-Chloro-3-methylphenol	100 ug/mL
							4-Nitrophenol	200 ug/mL
							Bis(2-ethylhexyl) phthalate	100 ug/mL
							Butyl benzyl phthalate	100 ug/mL
							Di-n-butyl phthalate	100 ug/mL
							Di-n-octyl phthalate	100 ug/mL
							Diethyl phthalate	100 ug/mL
							Dimethyl phthalate	100 ug/mL
							Pentachlorophenol	200 ug/mL
							Phenol	100 ug/mL
.MS-HSLB1_STK_00012	03/31/19	06/18/18	Methylene Chloride, Lot 187286	5 mL	MS-571995.SEC_00002	1 mL	2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenol	200 ug/mL
..MS-571995.SEC_00002	03/31/19		Restek, Lot A0131190		(Purchased Reagent)		2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Nitrophenol	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenol	1000 ug/mL
MS-HSLB2SSV_00047	02/28/19	10/23/18	Methylene Chloride, Lot 203837	0.5 mL	MS-IS_00014	50 uL	1,4-Dichlorobenzene-d4	40 ug/mL
							Acenaphthene-d10	40 ug/mL
							Chrysene-d12	40 ug/mL
							Naphthalene-d8	40 ug/mL
							Perylene-d12	40 ug/mL
							Phenanthrene-d10	40 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	1,4-Dichlorobenzene-d4	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
.MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-SIM CCV_00080	01/30/19	10/30/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-SIM CCV_00080	01/30/19	10/30/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIMSL_00027	30 uL	2-methylnaphthalene-d10	0.6 ug/mL
							Fluoranthene-d10	0.6 ug/mL
							2-Methylnaphthalene	1.2 ug/mL
							1-Methylnaphthalene	0.6 ug/mL
							Acenaphthene	0.6 ug/mL
							Acenaphthylene	0.6 ug/mL
							Anthracene	0.6 ug/mL
							Benzo[a]anthracene	0.6 ug/mL
							Benzo[a]pyrene	0.6 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[b]fluoranthene	0.6 ug/mL
							Benzo[g,h,i]perylene	0.6 ug/mL
							Benzo[k]fluoranthene	0.6 ug/mL
							Chrysene	0.6 ug/mL
							Dibenz(a,h)anthracene	0.6 ug/mL
							Fluoranthene	0.6 ug/mL
							Fluorene	0.6 ug/mL
							Indeno[1,2,3-cd]pyrene	0.6 ug/mL
							Naphthalene	0.6 ug/mL
							Phenanthrene	0.6 ug/mL
							Pyrene	0.6 ug/mL
							2-Fluorobiphenyl	0.6 ug/mL
							Nitrobenzene-d5	0.6 ug/mL
							Terphenyl-d14	0.6 ug/mL
.MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL
..DOD_ADD_SURR_00002	05/22/19	O2SI, Lot 334026			(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
..MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
...MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
...MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
..MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
...MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
.MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	400 ug/mL
..MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
..MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-SIM SSV2_00004	03/31/19	07/02/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
MS-SIM SSV2_00004	03/31/19	07/02/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM SSV_00130	30 uL	1-Methylnaphthalene	0.6 ug/mL
							2-Methylnaphthalene	0.6 ug/mL
							Acenaphthene	0.6 ug/mL
							Acenaphthylene	0.6 ug/mL
							Anthracene	0.6 ug/mL
							Benzo[a]anthracene	0.6 ug/mL
							Benzo[a]pyrene	0.6 ug/mL
							Benzo[b]fluoranthene	0.6 ug/mL
							Benzo[g,h,i]perylene	0.6 ug/mL
							Benzo[k]fluoranthene	0.6 ug/mL
							Chrysene	0.6 ug/mL
							Dibenz(a,h)anthracene	0.6 ug/mL
							Fluoranthene	0.6 ug/mL
							Fluorene	0.6 ug/mL
							Indeno[1,2,3-cd]pyrene	0.6 ug/mL
							Naphthalene	0.6 ug/mL
							Phenanthrene	0.6 ug/mL
							Pyrene	0.6 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-SIM SSV_00130	03/31/19	07/02/18	Methylene Chloride, Lot 187286	10 mL	MS-HSLB1_STK_00012	1 mL	1-Methylnaphthalene	20 ug/mL
							2-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
..MS-HSLB1_STK_00012	03/31/19	06/18/18	Methylene Chloride, Lot 187286	5 mL	MS-571995.SEC_00002	1 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
...MS-571995.SEC_00002	03/31/19		Restek, Lot A0131190		(Purchased Reagent)		1-Methylnaphthalene	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Anthracene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chrysene	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Naphthalene	1000 ug/mL
							Phenanthrene	1000 ug/mL
							Pyrene	1000 ug/mL
MS-SIMSL 0.01_00005	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
					MS-SIMSL Int._00026	5 uL	2-methylnaphthalene-d10	0.01 ug/mL
							Fluoranthene-d10	0.01 ug/mL
							2-Methylnaphthalene	0.02 ug/mL
							1-Methylnaphthalene	0.01 ug/mL
							Acenaphthene	0.01 ug/mL
							Acenaphthylene	0.01 ug/mL
							Anthracene	0.01 ug/mL
							Benzo[a]anthracene	0.01 ug/mL
							Benzo[a]pyrene	0.01 ug/mL
							Benzo[b]fluoranthene	0.01 ug/mL
							Benzo[g,h,i]perylene	0.01 ug/mL
							Benzo[k]fluoranthene	0.01 ug/mL
							Chrysene	0.01 ug/mL
							Dibenz(a,h)anthracene	0.01 ug/mL
							Fluoranthene	0.01 ug/mL
							Fluorene	0.01 ug/mL
							Indeno[1,2,3-cd]pyrene	0.01 ug/mL
							Naphthalene	0.01 ug/mL
							Phenanthrene	0.01 ug/mL
							Pyrene	0.01 ug/mL
							2-Fluorobiphenyl	0.01 ug/mL
							Nitrobenzene-d5	0.01 ug/mL
							Terphenyl-d14	0.01 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22	Restek, Lot A0129635			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-SIMSL Int._00026	01/30/19	08/01/18	Methylene Chloride, Lot 187286	10 mL	MS-SIMSL_00027	1 mL	2-methylnaphthalene-d10	2 ug/mL
							Fluoranthene-d10	2 ug/mL
							2-Methylnaphthalene	4 ug/mL
							1-Methylnaphthalene	2 ug/mL
							Acenaphthene	2 ug/mL
							Acenaphthylene	2 ug/mL
							Anthracene	2 ug/mL
							Benzo[a]anthracene	2 ug/mL
							Benzo[a]pyrene	2 ug/mL
							Benzo[b]fluoranthene	2 ug/mL
							Benzo[g,h,i]perylene	2 ug/mL
							Benzo[k]fluoranthene	2 ug/mL
							Chrysene	2 ug/mL
							Dibenz(a,h)anthracene	2 ug/mL
							Fluoranthene	2 ug/mL
							Fluorene	2 ug/mL
							Indeno[1,2,3-cd]pyrene	2 ug/mL
							Naphthalene	2 ug/mL
							Phenanthrene	2 ug/mL
							Pyrene	2 ug/mL
							2-Fluorobiphenyl	2 ug/mL
							Nitrobenzene-d5	2 ug/mL
							Terphenyl-d14	2 ug/mL
..MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL
...DOD_ADD_SURR_00002	05/22/19		O2SI, Lot 334026		(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
...MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
....MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
....MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
...MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Terphenyl-d14	1000 ug/mL
....MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
MS-SIMSL 0.02_00079	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
					MS-SIMSL Int._00026	10 uL	2-methylnaphthalene-d10	0.02 ug/mL
							Fluoranthene-d10	0.02 ug/mL
							2-Methylnaphthalene	0.04 ug/mL
							1-Methylnaphthalene	0.02 ug/mL
							Acenaphthene	0.02 ug/mL
							Acenaphthylene	0.02 ug/mL
							Anthracene	0.02 ug/mL
							Benzo[a]anthracene	0.02 ug/mL
							Benzo[a]pyrene	0.02 ug/mL
							Benzo[b]fluoranthene	0.02 ug/mL
							Benzo[g,h,i]perylene	0.02 ug/mL
							Benzo[k]fluoranthene	0.02 ug/mL
							Chrysene	0.02 ug/mL
							Dibenz(a,h)anthracene	0.02 ug/mL
							Fluoranthene	0.02 ug/mL
							Fluorene	0.02 ug/mL
							Indeno[1,2,3-cd]pyrene	0.02 ug/mL
							Naphthalene	0.02 ug/mL
							Phenanthrene	0.02 ug/mL
							Pyrene	0.02 ug/mL
							2-Fluorobiphenyl	0.02 ug/mL
							Nitrobenzene-d5	0.02 ug/mL
							Terphenyl-d14	0.02 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MS-SIMSL Int._00026	01/30/19	08/01/18	Methylene Chloride, Lot 187286	10 mL	MS-SIMSL_00027	1 mL	2-methylnaphthalene-d10	2 ug/mL
							Fluoranthene-d10	2 ug/mL
							2-Methylnaphthalene	4 ug/mL
							1-Methylnaphthalene	2 ug/mL
							Acenaphthene	2 ug/mL
							Acenaphthylene	2 ug/mL
							Anthracene	2 ug/mL
							Benzo[a]anthracene	2 ug/mL
							Benzo[a]pyrene	2 ug/mL
							Benzo[b]fluoranthene	2 ug/mL
							Benzo[g,h,i]perylene	2 ug/mL
							Benzo[k]fluoranthene	2 ug/mL
							Chrysene	2 ug/mL
							Dibenz(a,h)anthracene	2 ug/mL
							Fluoranthene	2 ug/mL
							Fluorene	2 ug/mL
							Indeno[1,2,3-cd]pyrene	2 ug/mL
							Naphthalene	2 ug/mL
							Phenanthrene	2 ug/mL
							Pyrene	2 ug/mL
							2-Fluorobiphenyl	2 ug/mL
							Nitrobenzene-d5	2 ug/mL
							Terphenyl-d14	2 ug/mL
..MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
...DOD_ADD_SURR_00002	05/22/19		O2SI, Lot 334026		(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
...MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
....MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
....MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
...MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
....MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MS-SIMSL 0.05_00007	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
					MS-SIMSL Int._00026	25 uL	2-methylnaphthalene-d10	0.05 ug/mL
							Fluoranthene-d10	0.05 ug/mL
							2-Methylnaphthalene	0.1 ug/mL
							1-Methylnaphthalene	0.05 ug/mL
							Acenaphthene	0.05 ug/mL
							Acenaphthylene	0.05 ug/mL
							Anthracene	0.05 ug/mL
							Benzo[a]anthracene	0.05 ug/mL
							Benzo[a]pyrene	0.05 ug/mL
							Benzo[b]fluoranthene	0.05 ug/mL
							Benzo[g,h,i]perylene	0.05 ug/mL
							Benzo[k]fluoranthene	0.05 ug/mL
							Chrysene	0.05 ug/mL
							Dibenz(a,h)anthracene	0.05 ug/mL
							Fluoranthene	0.05 ug/mL
							Fluorene	0.05 ug/mL
							Indeno[1,2,3-cd]pyrene	0.05 ug/mL
							Naphthalene	0.05 ug/mL
							Phenanthrene	0.05 ug/mL
							Pyrene	0.05 ug/mL
							2-Fluorobiphenyl	0.05 ug/mL
							Nitrobenzene-d5	0.05 ug/mL
							Terphenyl-d14	0.05 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-SIMSL Int._00026	01/30/19	08/01/18	Methylene Chloride, Lot 187286	10 mL	MS-SIMSL_00027	1 mL	2-methylnaphthalene-d10	2 ug/mL
							Fluoranthene-d10	2 ug/mL
							2-Methylnaphthalene	4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1-Methylnaphthalene	2 ug/mL
							Acenaphthene	2 ug/mL
							Acenaphthylene	2 ug/mL
							Anthracene	2 ug/mL
							Benzo[a]anthracene	2 ug/mL
							Benzo[a]pyrene	2 ug/mL
							Benzo[b]fluoranthene	2 ug/mL
							Benzo[g,h,i]perylene	2 ug/mL
							Benzo[k]fluoranthene	2 ug/mL
							Chrysene	2 ug/mL
							Dibenz(a,h)anthracene	2 ug/mL
							Fluoranthene	2 ug/mL
							Fluorene	2 ug/mL
							Indeno[1,2,3-cd]pyrene	2 ug/mL
							Naphthalene	2 ug/mL
							Phenanthrene	2 ug/mL
							Pyrene	2 ug/mL
							2-Fluorobiphenyl	2 ug/mL
							Nitrobenzene-d5	2 ug/mL
							Terphenyl-d14	2 ug/mL
..MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL
...DOD_ADD_SURR_00002	05/22/19		O2SI, Lot 334026		(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
...MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
....MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
....MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
...MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
....MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
MS-SIMSL 0.1_00075	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MS-SIMSL Int._00026	50 uL	2-methylnaphthalene-d10	0.1 ug/mL
							Fluoranthene-d10	0.1 ug/mL
							2-Methylnaphthalene	0.2 ug/mL
							1-Methylnaphthalene	0.1 ug/mL
							Acenaphthene	0.1 ug/mL
							Acenaphthylene	0.1 ug/mL
							Anthracene	0.1 ug/mL
							Benzo[a]anthracene	0.1 ug/mL
							Benzo[a]pyrene	0.1 ug/mL
							Benzo[b]fluoranthene	0.1 ug/mL
							Benzo[g,h,i]perylene	0.1 ug/mL
							Benzo[k]fluoranthene	0.1 ug/mL
							Chrysene	0.1 ug/mL
							Dibenz(a,h)anthracene	0.1 ug/mL
							Fluoranthene	0.1 ug/mL
							Fluorene	0.1 ug/mL
							Indeno[1,2,3-cd]pyrene	0.1 ug/mL
							Naphthalene	0.1 ug/mL
							Phenanthrene	0.1 ug/mL
							Pyrene	0.1 ug/mL
							2-Fluorobiphenyl	0.1 ug/mL
							Nitrobenzene-d5	0.1 ug/mL
							Terphenyl-d14	0.1 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20	Restek, Lot A0112833			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22	Restek, Lot A0129635			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-SIMSL Int._00026	01/30/19	08/01/18	Methylene Chloride, Lot 187286	10 mL	MS-SIMSL_00027	1 mL	2-methylnaphthalene-d10	2 ug/mL
							Fluoranthene-d10	2 ug/mL
							2-Methylnaphthalene	4 ug/mL
							1-Methylnaphthalene	2 ug/mL
							Acenaphthene	2 ug/mL
							Acenaphthylene	2 ug/mL
							Anthracene	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]anthracene	2 ug/mL
							Benzo[a]pyrene	2 ug/mL
							Benzo[b]fluoranthene	2 ug/mL
							Benzo[g,h,i]perylene	2 ug/mL
							Benzo[k]fluoranthene	2 ug/mL
							Chrysene	2 ug/mL
							Dibenz(a,h)anthracene	2 ug/mL
							Fluoranthene	2 ug/mL
							Fluorene	2 ug/mL
							Indeno[1,2,3-cd]pyrene	2 ug/mL
							Naphthalene	2 ug/mL
							Phenanthrene	2 ug/mL
							Pyrene	2 ug/mL
							2-Fluorobiphenyl	2 ug/mL
							Nitrobenzene-d5	2 ug/mL
							Terphenyl-d14	2 ug/mL
..MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL
...DOD_ADD_SURR_00002	05/22/19		O2SI, Lot 334026		(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
...MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
....MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
....MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
...MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
....MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
MS-SIMSL 0.3_00074	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
					MS-SIMSL Int._00026	150 uL	2-methylnaphthalene-d10	0.3 ug/mL
							Fluoranthene-d10	0.3 ug/mL
							2-Methylnaphthalene	0.6 ug/mL
							1-Methylnaphthalene	0.3 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthene	0.3 ug/mL
							Acenaphthylene	0.3 ug/mL
							Anthracene	0.3 ug/mL
							Benzo[a]anthracene	0.3 ug/mL
							Benzo[a]pyrene	0.3 ug/mL
							Benzo[b]fluoranthene	0.3 ug/mL
							Benzo[g,h,i]perylene	0.3 ug/mL
							Benzo[k]fluoranthene	0.3 ug/mL
							Chrysene	0.3 ug/mL
							Dibenz(a,h)anthracene	0.3 ug/mL
							Fluoranthene	0.3 ug/mL
							Fluorene	0.3 ug/mL
							Indeno[1,2,3-cd]pyrene	0.3 ug/mL
							Naphthalene	0.3 ug/mL
							Phenanthrene	0.3 ug/mL
							Pyrene	0.3 ug/mL
							2-Fluorobiphenyl	0.3 ug/mL
							Nitrobenzene-d5	0.3 ug/mL
							Terphenyl-d14	0.3 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20	Restek, Lot A0112833			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22	Restek, Lot A0129635			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-SIMSL Int._00026	01/30/19	08/01/18	Methylene Chloride, Lot 187286	10 mL	MS-SIMSL_00027	1 mL	2-methylnaphthalene-d10	2 ug/mL
							Fluoranthene-d10	2 ug/mL
							2-Methylnaphthalene	4 ug/mL
							1-Methylnaphthalene	2 ug/mL
							Acenaphthene	2 ug/mL
							Acenaphthylene	2 ug/mL
							Anthracene	2 ug/mL
							Benzo[a]anthracene	2 ug/mL
							Benzo[a]pyrene	2 ug/mL
							Benzo[b]fluoranthene	2 ug/mL
							Benzo[g,h,i]perylene	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[k]fluoranthene	2 ug/mL
							Chrysene	2 ug/mL
							Dibenz(a,h)anthracene	2 ug/mL
							Fluoranthene	2 ug/mL
							Fluorene	2 ug/mL
							Indeno[1,2,3-cd]pyrene	2 ug/mL
							Naphthalene	2 ug/mL
							Phenanthrene	2 ug/mL
							Pyrene	2 ug/mL
							2-Fluorobiphenyl	2 ug/mL
							Nitrobenzene-d5	2 ug/mL
							Terphenyl-d14	2 ug/mL
..MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL
...DOD_ADD_SURR_00002	05/22/19		O2SI, Lot 334026		(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
...MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
....MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
....MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
...MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
....MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
MS-SIMSL 0.6_00144	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
					MS-SIMSL_00027	30 uL	2-methylnaphthalene-d10	0.6 ug/mL
							Fluoranthene-d10	0.6 ug/mL
							2-Methylnaphthalene	1.2 ug/mL
							1-Methylnaphthalene	0.6 ug/mL
							Acenaphthene	0.6 ug/mL
							Acenaphthylene	0.6 ug/mL
							Anthracene	0.6 ug/mL
							Benzo[a]anthracene	0.6 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]pyrene	0.6 ug/mL
							Benzo[b]fluoranthene	0.6 ug/mL
							Benzo[g,h,i]perylene	0.6 ug/mL
							Benzo[k]fluoranthene	0.6 ug/mL
							Chrysene	0.6 ug/mL
							Dibenz(a,h)anthracene	0.6 ug/mL
							Fluoranthene	0.6 ug/mL
							Fluorene	0.6 ug/mL
							Indeno[1,2,3-cd]pyrene	0.6 ug/mL
							Naphthalene	0.6 ug/mL
							Phenanthrene	0.6 ug/mL
							Pyrene	0.6 ug/mL
							2-Fluorobiphenyl	0.6 ug/mL
							Nitrobenzene-d5	0.6 ug/mL
							Terphenyl-d14	0.6 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20	Restek, Lot A0112833			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22	Restek, Lot A0129635			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL
..DOD_ADD_SURR_00002	05/22/19		O2SI, Lot 334026		(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
..MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
...MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
...MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyrene	2000 ug/mL
..MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
...MS-567685_00004	01/30/19	Restek, Lot A0130500			(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
MS-SIMSL 1.2_00075	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
					MS-SIMSL_00027	60 uL	2-methylnaphthalene-d10	1.2 ug/mL
							Fluoranthene-d10	1.2 ug/mL
							2-Methylnaphthalene	2.4 ug/mL
							1-Methylnaphthalene	1.2 ug/mL
							Acenaphthene	1.2 ug/mL
							Acenaphthylene	1.2 ug/mL
							Anthracene	1.2 ug/mL
							Benzo[a]anthracene	1.2 ug/mL
							Benzo[a]pyrene	1.2 ug/mL
							Benzo[b]fluoranthene	1.2 ug/mL
							Benzo[g,h,i]perylene	1.2 ug/mL
							Benzo[k]fluoranthene	1.2 ug/mL
							Chrysene	1.2 ug/mL
							Dibenz(a,h)anthracene	1.2 ug/mL
							Fluoranthene	1.2 ug/mL
							Fluorene	1.2 ug/mL
							Indeno[1,2,3-cd]pyrene	1.2 ug/mL
							Naphthalene	1.2 ug/mL
							Phenanthrene	1.2 ug/mL
							Pyrene	1.2 ug/mL
							2-Fluorobiphenyl	1.2 ug/mL
							Nitrobenzene-d5	1.2 ug/mL
							Terphenyl-d14	1.2 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20	Restek, Lot A0112833			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22	Restek, Lot A0129635			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL
..DOD_ADD_SURR_00002	05/22/19	O2SI, Lot 334026			(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
..MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
...MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
...MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
..MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
...MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
MS-SIMSL 2.5_00074	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
					MS-SIMSL_00027	125 uL	2-methylnaphthalene-d10	2.5 ug/mL
							Fluoranthene-d10	2.5 ug/mL
							2-Methylnaphthalene	5 ug/mL
							1-Methylnaphthalene	2.5 ug/mL
							Acenaphthene	2.5 ug/mL
							Acenaphthylene	2.5 ug/mL
							Anthracene	2.5 ug/mL
							Benzo[a]anthracene	2.5 ug/mL
							Benzo[a]pyrene	2.5 ug/mL
							Benzo[b]fluoranthene	2.5 ug/mL
							Benzo[g,h,i]perylene	2.5 ug/mL
							Benzo[k]fluoranthene	2.5 ug/mL
							Chrysene	2.5 ug/mL
							Dibenz(a,h)anthracene	2.5 ug/mL
							Fluoranthene	2.5 ug/mL
							Fluorene	2.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Indeno[1,2,3-cd]pyrene	2.5 ug/mL
							Naphthalene	2.5 ug/mL
							Phenanthrene	2.5 ug/mL
							Pyrene	2.5 ug/mL
							2-Fluorobiphenyl	2.5 ug/mL
							Nitrobenzene-d5	2.5 ug/mL
							Terphenyl-d14	2.5 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20	Restek, Lot A0112833			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22	Restek, Lot A0129635			(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..DOD_ADD_SURR_00002	05/22/19		O2SI, Lot 334026		(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
..MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
...MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
...MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
..MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
...MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MS-SIMSL 5_00076	01/30/19	08/06/18	Methylene Chloride, Lot 187286	1000 uL	MS-SIM IS_00033	100 uL	Acenaphthene-d10	0.6 ug/mL
							Chrysene-d12	0.6 ug/mL
							Phenanthrene-d10	0.6 ug/mL
					MS-SIMSL_00027	250 uL	2-methylnaphthalene-d10	5 ug/mL
							Fluoranthene-d10	5 ug/mL
							2-Methylnaphthalene	10 ug/mL
							1-Methylnaphthalene	5 ug/mL
							Acenaphthene	5 ug/mL
							Acenaphthylene	5 ug/mL
							Anthracene	5 ug/mL
							Benzo[a]anthracene	5 ug/mL
							Benzo[a]pyrene	5 ug/mL
							Benzo[b]fluoranthene	5 ug/mL
							Benzo[g,h,i]perylene	5 ug/mL
							Benzo[k]fluoranthene	5 ug/mL
							Chrysene	5 ug/mL
							Dibenz(a,h)anthracene	5 ug/mL
							Fluoranthene	5 ug/mL
							Fluorene	5 ug/mL
							Indeno[1,2,3-cd]pyrene	5 ug/mL
							Naphthalene	5 ug/mL
							Phenanthrene	5 ug/mL
							Pyrene	5 ug/mL
							2-Fluorobiphenyl	5 ug/mL
							Nitrobenzene-d5	5 ug/mL
							Terphenyl-d14	5 ug/mL
.MS-SIM IS_00033	04/04/19	05/02/18	Methylene Chloride, Lot 181545	100 mL	MS-IS_00014	1500 uL	Acenaphthene-d10	6 ug/mL
							Chrysene-d12	6 ug/mL
							Phenanthrene-d10	6 ug/mL
..MS-IS_00014	04/04/19	04/04/18	Methylene Chloride, Lot 181545	250 mL	MS-567684_00019	5 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
					MS-567684_00020	45 mL	Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
...MS-567684_00019	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
...MS-567684_00020	08/31/22		Restek, Lot A0129635		(Purchased Reagent)		Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.MS-SIMSL_00027	01/30/19	08/01/18	Methylene Chloride, Lot 181545	10 mL	DOD_ADD_SURR_00002	200 uL	2-methylnaphthalene-d10	20 ug/mL
							Fluoranthene-d10	20 ug/mL
					MS-SIM SL_Stk_00020	1 mL	2-Methylnaphthalene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1-Methylnaphthalene	20 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Anthracene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Chrysene	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Naphthalene	20 ug/mL
							Phenanthrene	20 ug/mL
							Pyrene	20 ug/mL
					MS-SIMSurrInt_00008	0.2 mL	2-Fluorobiphenyl	20 ug/mL
							Nitrobenzene-d5	20 ug/mL
							Terphenyl-d14	20 ug/mL
..DOD_ADD_SURR_00002	05/22/19		O2SI, Lot 334026		(Purchased Reagent)		2-methylnaphthalene-d10	1000 mg/L
							Fluoranthene-d10	1000 mg/L
..MS-SIM SL_Stk_00020	03/31/19	08/01/18	Methylene Chloride, Lot 187286	5 mL	MS-31010_00011	0.5 mL	2-Methylnaphthalene	400 ug/mL
					MS-31995_00005	0.5 mL	1-Methylnaphthalene	200 ug/mL
							2-Methylnaphthalene	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Anthracene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Chrysene	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Naphthalene	200 ug/mL
							Phenanthrene	200 ug/mL
							Pyrene	200 ug/mL
...MS-31010_00011	03/31/19		Restek, Lot A0116027		(Purchased Reagent)		2-Methylnaphthalene	2000 ug/mL
...MS-31995_00005	01/31/21		Restek, Lot A0108907		(Purchased Reagent)		1-Methylnaphthalene	2000 ug/mL
							2-Methylnaphthalene	2000 ug/mL
							Acenaphthene	2000 ug/mL
							Acenaphthylene	2000 ug/mL
							Anthracene	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]anthracene	2000 ug/mL
							Benzo[a]pyrene	2000 ug/mL
							Benzo[b]fluoranthene	2000 ug/mL
							Benzo[g,h,i]perylene	2000 ug/mL
							Benzo[k]fluoranthene	2000 ug/mL
							Chrysene	2000 ug/mL
							Dibenz(a,h)anthracene	2000 ug/mL
							Fluoranthene	2000 ug/mL
							Fluorene	2000 ug/mL
							Indeno[1,2,3-cd]pyrene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Phenanthrene	2000 ug/mL
							Pyrene	2000 ug/mL
..MS-SIMSurrInt_00008	01/30/19	08/01/18	Methylene Chloride, Lot 187286	1 mL	MS-567685_00004	200 uL	2-Fluorobiphenyl	1000 ug/mL
							Nitrobenzene-d5	1000 ug/mL
							Terphenyl-d14	1000 ug/mL
...MS-567685_00004	01/30/19		Restek, Lot A0130500		(Purchased Reagent)		2-Fluorobiphenyl	5000 ug/mL
							Nitrobenzene-d5	5000 ug/mL
							Terphenyl-d14	5000 ug/mL
MV-568718-D_00014	05/31/22		RESTEK, Lot A0127975		(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
MV-ARCH SS A_00107	04/18/19	10/18/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
MV-BFB_00026							1,2-Dichloroethene, Total	
							1,2-Dichloroethene, Total (URS)	
							1,3-Dichloropropene, Total	
							TAH	
							Tentatively Identified Compound	
							Total BTEX	
							Trihalomethanes, Total	
							Xylenes, Total	
							Xylenes, Total (URS)	
					MV-STS110N1_00066	1.25 mL	BFB	50 ug/mL
.MV-STS110N1_00066	10/31/19		Ultra Scientific, Lot CH-3248Z		(Purchased Reagent)		BFB	2000 ug/mL
MV-BFB_00027							1,2-Dichloroethene, Total	

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dichloroethene, Total (URS)	
							1,3-Dichloropropene, Total	
							TAH	
							Tentatively Identified Compound	
							Total BTEX	
							Trihalomethanes, Total	
							Xylenes, Total	
							Xylenes, Total (URS)	
					MV-STS110N1_00066	1.25 mL	BFB	50 ug/mL
.MV-STS110N1_00066	10/31/19	Ultra Scientific, Lot CH-3248Z			(Purchased Reagent)		BFB	2000 ug/mL
MV-MegaMain B_00002	10/31/18	09/29/18	P&T Methanol, Lot 181124	50 mL	MV-569721.sec_00005	800 uL	2-Butanone (MEK)	200 ug/mL
							2-Hexanone	200 ug/mL
							4-Methyl-2-pentanone (MIBK)	200 ug/mL
							Acetone	200 ug/mL
					MV-569722.sec_00005	1000 uL	Bromomethane	50 ug/mL
							Chloroethane	50 ug/mL
							Chloromethane	50 ug/mL
							Vinyl chloride	50 ug/mL
					MV-571992.sec_00001	1000 uL	1,1,1-Trichloroethane	50 ug/mL
							1,1,2,2-Tetrachloroethane	50 ug/mL
							1,1,2-Trichloroethane	50 ug/mL
							1,1-Dichloroethane	50 ug/mL
							1,1-Dichloroethene	50 ug/mL
							1,2-Dibromoethane	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							1,2-Dichloroethene, Total	100 ug/mL
							1,2-Dichloropropane	50 ug/mL
							Benzene	50 ug/mL
							Bromobenzene	50 ug/mL
							Bromochloromethane	50 ug/mL
							Bromodichloromethane	50 ug/mL
							Bromoform	50 ug/mL
							Carbon disulfide	50 ug/mL
							Carbon tetrachloride	50 ug/mL
							Chlorobenzene	50 ug/mL
							Chloroform	50 ug/mL
							cis-1,3-Dichloropropene	50 ug/mL
							Dibromochloromethane	50 ug/mL
							Ethylbenzene	50 ug/mL
							Methylene Chloride	50 ug/mL
							Styrene	50 ug/mL
							Tetrachloroethene	50 ug/mL
							Toluene	50 ug/mL
							trans-1,3-Dichloropropene	50 ug/mL
							Trichloroethene	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Xylenes, Total	100 ug/mL
.MV-569721.sec_00005	01/31/20		RESTEK, Lot A0113880		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
.MV-569722.sec_00005	06/30/20		RESTEK, Lot A0128832		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-571992.sec_00001	12/31/18		RESTEK, Lot A0123775		(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloroethene, Total	5000 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
MV-MegaMain B_00003	11/30/18	11/01/18	P&T Methanol, Lot 181124	50 mL	MV-569721.sec_00005	800 uL	2-Butanone (MEK)	200 ug/mL
							2-Hexanone	200 ug/mL
							4-Methyl-2-pentanone (MIBK)	200 ug/mL
							Acetone	200 ug/mL
					MV-569722.sec_00005	1000 uL	Bromomethane	50 ug/mL
							Chloroethane	50 ug/mL
							Chloromethane	50 ug/mL
							Vinyl chloride	50 ug/mL
					MV-571992.sec_00001	1000 uL	1,1,1-Trichloroethane	50 ug/mL
							1,1,2,2-Tetrachloroethane	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,1,2-Trichloroethane	50 ug/mL
							1,1-Dichloroethane	50 ug/mL
							1,1-Dichloroethene	50 ug/mL
							1,2-Dibromoethane	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							1,2-Dichloroethene, Total	100 ug/mL
							1,2-Dichloropropane	50 ug/mL
							Benzene	50 ug/mL
							Bromobenzene	50 ug/mL
							Bromochloromethane	50 ug/mL
							Bromodichloromethane	50 ug/mL
							Bromoform	50 ug/mL
							Carbon disulfide	50 ug/mL
							Carbon tetrachloride	50 ug/mL
							Chlorobenzene	50 ug/mL
							Chloroform	50 ug/mL
							cis-1,3-Dichloropropene	50 ug/mL
							Dibromochloromethane	50 ug/mL
							Ethylbenzene	50 ug/mL
							Methylene Chloride	50 ug/mL
							Styrene	50 ug/mL
							Tetrachloroethene	50 ug/mL
							Toluene	50 ug/mL
							trans-1,3-Dichloropropene	50 ug/mL
							Trichloroethene	50 ug/mL
							Xylenes, Total	100 ug/mL
.MV-569721.sec_00005	01/31/20		RESTEK, Lot A0113880		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
.MV-569722.sec_00005	06/30/20		RESTEK, Lot A0128832		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-571992.sec_00001	12/31/18		RESTEK, Lot A0123775		(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloroethene, Total	5000 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
MV-MegaMainA_00002	10/31/18	10/04/18	P&T Methanol, Lot 181124	50 mL	MV-568720_00022	1266 uL	Acrolein	500.07 ug/mL
					MV-569721_00006	800 uL	2-Butanone (MEK)	200 ug/mL
							2-Hexanone	200 ug/mL
							4-Methyl-2-pentanone (MIBK)	200 ug/mL
							Acetone	200 ug/mL
					MV-569722_00008	1000 uL	Bromomethane	50 ug/mL
							Chloroethane	50 ug/mL
							Chloromethane	50 ug/mL
							Dichlorodifluoromethane	50 ug/mL
							Dichlorofluoromethane	50 ug/mL
							Trichlorofluoromethane	50 ug/mL
							Vinyl chloride	50 ug/mL
					MV-569723_00004	1000 uL	2-Chloroethyl vinyl ether	50 ug/mL
					MV-569724_00016	1000 uL	Vinyl acetate	100 ug/mL
					MV-569727_00007	4000 uL	Cyclohexanone	2000 ug/mL
					MV-571992_00001	1000 uL	1,1,1,2-Tetrachloroethane	50 ug/mL
							1,1,1-Trichloroethane	50 ug/mL
							1,1,2,2-Tetrachloroethane	50 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	50 ug/mL
							1,1,2-Trichloroethane	50 ug/mL
							1,1-Dichloroethane	50 ug/mL
							1,1-Dichloroethene	50 ug/mL
							1,1-Dichloropropene	50 ug/mL
							1,2,3-Trichlorobenzene	50 ug/mL
							1,2,3-Trichloropropane	50 ug/mL
							1,2,4-Trichlorobenzene	50 ug/mL
							1,2,4-Trimethylbenzene	50 ug/mL
							1,2-Dibromo-3-Chloropropane	50 ug/mL
							1,2-Dibromoethane	50 ug/mL
							1,2-Dichlorobenzene	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							1,2-Dichloropropane	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3,5-Trimethylbenzene	50 ug/mL
							1,3-Dichlorobenzene	50 ug/mL
							1,3-Dichloropropane	50 ug/mL
							1,4-Dichlorobenzene	50 ug/mL
							1,4-Dioxane	1000 ug/mL
							2,2-Dichloropropane	50 ug/mL
							2-Chlorotoluene	50 ug/mL
							2-Methyl-2-propanol	500 ug/mL
							3-Chloro-1-propene	50 ug/mL
							4-Chlorotoluene	50 ug/mL
							4-Isopropyltoluene	50 ug/mL
							Acrylonitrile	500 ug/mL
							Benzene	50 ug/mL
							Bromobenzene	50 ug/mL
							Bromochloromethane	50 ug/mL
							Bromodichloromethane	50 ug/mL
							Bromoform	50 ug/mL
							Carbon disulfide	50 ug/mL
							Carbon tetrachloride	50 ug/mL
							Chlorobenzene	50 ug/mL
							Chloroform	50 ug/mL
							cis-1,2-Dichloroethene	50 ug/mL
							cis-1,3-Dichloropropene	50 ug/mL
							Cyclohexane	50 ug/mL
							Dibromochloromethane	50 ug/mL
							Dibromomethane	50 ug/mL
							Ethyl ether	50 ug/mL
							Ethyl methacrylate	50 ug/mL
							Ethylbenzene	50 ug/mL
							Hexachlorobutadiene	50 ug/mL
							Hexane	50 ug/mL
							Iodomethane	50 ug/mL
							Isobutyl alcohol	1250 ug/mL
							Isopropylbenzene	50 ug/mL
							m-Xylene & p-Xylene	50 ug/mL
							Methyl acetate	100 ug/mL
							Methyl tert-butyl ether	50 ug/mL
							Methylcyclohexane	50 ug/mL
							Methylene Chloride	50 ug/mL
							n-Butylbenzene	50 ug/mL
							N-Propylbenzene	50 ug/mL
							Naphthalene	50 ug/mL
							o-Xylene	50 ug/mL
							sec-Butylbenzene	50 ug/mL
							Styrene	50 ug/mL
							tert-Butylbenzene	50 ug/mL
							Tetrachloroethene	50 ug/mL
							Tetrahydrofuran	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Toluene	50 ug/mL
							trans-1,2-Dichloroethene	50 ug/mL
							trans-1,3-Dichloropropene	50 ug/mL
							trans-1,4-Dichloro-2-butene	50 ug/mL
							Trichloroethene	50 ug/mL
					MV-CUS17739_00004	2500 uL	1-Chlorohexane	50 ug/mL
							2-Pentanone	200 ug/mL
							sec-Butyl Alcohol	1500 ug/mL
.MV-568720_00022	10/31/18		RESTEK, Lot A0137497		(Purchased Reagent)		Acrolein	19750 ug/mL
.MV-569721_00006	10/31/20		RESTEK, Lot A0131486		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
.MV-569722_00008	10/31/20		RESTEK, Lot A0131502		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-569723_00004	12/31/20		RESTEK, Lot A0133302		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
.MV-569724_00016	10/31/18		RESTEK, Lot A0137562		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
.MV-569727_00007	02/29/20		RESTEK, Lot A0124672		(Purchased Reagent)		Cyclohexanone	25000 ug/mL
.MV-571992_00001	12/31/18		RESTEK, Lot A0123711		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
.MV-CUS17739_00004	10/31/20		Ultra, Lot CS-4707		(Purchased Reagent)		1-Chlorohexane	1000 ug/mL
							2-Pentanone	4000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							sec-Butyl Alcohol	30000 ug/mL
MV-MegaMainA_00002	10/31/18	10/04/18	P&T Methanol, Lot 181124	50 mL	MV-571992_00001	1000 uL	1,2-Dichloroethene, Total	100 ug/mL
							Xylenes, Total	100 ug/mL
.MV-571992_00001	12/31/18		RESTEK, Lot A0123711		(Purchased Reagent)		1,2-Dichloroethene, Total	5000 ug/mL
							Xylenes, Total	5000 ug/mL
MV-MegaMainA_00005	11/30/18	11/01/18	P&T Methanol, Lot 181124	50 mL	MV-569721_00006	800 uL	2-Butanone (MEK)	200 ug/mL
							2-Hexanone	200 ug/mL
							4-Methyl-2-pentanone (MIBK)	200 ug/mL
							Acetone	200 ug/mL
					MV-569722_00008	1000 uL	Bromomethane	50 ug/mL
							Chloroethane	50 ug/mL
							Chloromethane	50 ug/mL
							Vinyl chloride	50 ug/mL
					MV-571992_00001	1000 uL	1,1,1-Trichloroethane	50 ug/mL
							1,1,2,2-Tetrachloroethane	50 ug/mL
							1,1,2-Trichloroethane	50 ug/mL
							1,1-Dichloroethane	50 ug/mL
							1,1-Dichloroethene	50 ug/mL
							1,2-Dibromoethane	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							1,2-Dichloroethene, Total	100 ug/mL
							1,2-Dichloropropane	50 ug/mL
							Benzene	50 ug/mL
							Bromobenzene	50 ug/mL
							Bromochloromethane	50 ug/mL
							Bromodichloromethane	50 ug/mL
							Bromoform	50 ug/mL
							Carbon disulfide	50 ug/mL
							Carbon tetrachloride	50 ug/mL
							Chlorobenzene	50 ug/mL
							Chloroform	50 ug/mL
							cis-1,3-Dichloropropene	50 ug/mL
							Dibromochloromethane	50 ug/mL
							Ethylbenzene	50 ug/mL
							Methylene Chloride	50 ug/mL
							Styrene	50 ug/mL
							Tetrachloroethene	50 ug/mL
							Toluene	50 ug/mL
							trans-1,3-Dichloropropene	50 ug/mL
							Trichloroethene	50 ug/mL
							Xylenes, Total	100 ug/mL
.MV-569721_00006	10/31/20		RESTEK, Lot A0131486		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
.MV-569722_00008	10/31/20		RESTEK, Lot A0131502		(Purchased Reagent)		Bromomethane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-571992_00001	12/31/18		RESTEK, Lot A0123711		(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloroethene, Total	5000 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromochloromethane	2500 ug/mL
							Bromodichloromethane	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Dibromochloromethane	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
SIM_LVI_SURR_00006	02/11/19	10/01/18	ACETONE, Lot Acetone_00198	500 mL	8270SIMSurStk_00001	1 mL	2,4,6 - Tribromophenol	2 ug/mL
							2,4,6-Tribromophenol (Surr)	2 ug/mL
							2-Fluorobiphenyl	2 ug/mL
							2-Fluorophenol (Surr)	2 ug/mL
							2-methylnaphthalene-d10	2 ug/mL
							Fluoranthene-d10	2 ug/mL
							Fluoranthene-d10 (Surr)	2 ug/mL
							Nitrobenzene-d5	2 ug/mL
							Phenol-d5 (Surr)	2 ug/mL
							Phenol-d6	2 ug/mL
							Terphenyl-d14	2 ug/mL
.8270SIMSurStk_00001	02/11/19		o2si, Lot 334025		(Purchased Reagent)		2,4,6 - Tribromophenol	1000 mg/L
							2,4,6-Tribromophenol (Surr)	1000 mg/L
							2-Fluorobiphenyl	1000 mg/L
							2-Fluorophenol (Surr)	1000 mg/L
							2-methylnaphthalene-d10	1000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluoranthene-d10	1000 mg/L
							Fluoranthene-d10 (Surr)	1000 mg/L
							Nitrobenzene-d5	1000 mg/L
							Phenol-d5 (Surr)	1000 mg/L
							Phenol-d6	1000 mg/L
							Terphenyl-d14	1000 mg/L

Reagent

1000 B_00017

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 18, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- December 18, 2021

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
info@inorganicventures.com

CERTIFICATE OF ANALYSIS

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fax: 540.585.3012
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

A2LA ACCREDITED Testing Laboratory Certificate 883.01 — A2LA ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGB1
Lot Number:	M2-B663296
Matrix:	H2O
Value / Analyte(s):	1 000 µg/mL ea: Boron
Starting Material:	Recrystallized Boric Acid
Starting Material Lot#:	M2-B02142
Starting Material Purity:	100.0000%

4938584
ID: 1000 B_00017
Exp: 12/18/21 Prpd: SJS
1000 B IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 5 µg/mL

Density: 1.001 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **998 ± 4 µg/mL**
ICP Assay NIST SRM 3107 Lot Number: 110830

Assay Method #2 **1004 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000108	M	Eu	<	0.000108	O	Na	<	0.006144	M	Se	<	0.001738	M	Zn	0.000509
O	Al	<	0.030720	M	Fe	<	0.004779	M	Nb	<	0.000108	O	Si		0.001028	M	Zr	< 0.000217
M	As	<	0.000869	M	Ga	<	0.000108	M	Nd	<	0.000108	M	Sm	<	0.000108			
M	Au	<	0.000108	M	Gd	<	0.000108	M	Ni	<	0.001303	M	Sn	<	0.000325			
s	B	<		M	Ge	<	0.000434	M	Os	<	0.003039	M	Sr	<	0.000108			
M	Ba	<	0.000217	M	Hf	<	0.000108	i	P	<	0.000001	M	Ta	<	0.000108			
O	Be	<	0.000409	M	Hg	<	0.000217	M	Pb	<	0.000108	M	Tb	<	0.000108			
M	Bi	<	0.000108	M	Ho	<	0.000108	M	Pd	<	0.000108	M	Te	<	0.000325			
O	Ca		0.000864	M	In	<	0.000108	M	Pr	<	0.000108	M	Th	<	0.000108			
M	Cd	<	0.000108	M	Ir	<	0.000108	M	Pt	<	0.000108	M	Ti	<	0.000651			
M	Ce	<	0.000108	O	K	<	0.010240	M	Rb	<	0.000108	M	Tl	<	0.000108			
M	Co	<	0.000108	M	La	<	0.000108	M	Re	<	0.000108	M	Tm	<	0.000108			
M	Cr	<	0.000434	M	Li	<	0.000108	M	Rh	<	0.000108	M	U	<	0.000108			
M	Cs	<	0.000108	M	Lu	<	0.000108	M	Ru	<	0.000108	M	V	<	0.004128			
M	Cu	<	0.000434	O	Mg		0.000019	i	S	<	0.000001	M	W	<	0.000108			
M	Dy	<	0.000108	M	Mn	<	0.000217	M	Sb	<	0.000434	M	Y	<	0.000108			
M	Er	<	0.000108	M	Mo	<	0.000217	M	Sc	<	0.001955	M	Yb	<	0.000108			

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 10.81 +3 4 B(OH)3 and B(OH)4-1

Chemical Compatibility -Moderately soluble in HCl, HNO3, H2SO4 and HF aqueous matrices and very soluble in NH4OH . Stable with all metals and inorganic anions at low to moderate ppm levels.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-1,000 ppm solutions chemically stable for years in 1% HNO3 / LDPE container. 1000 -10,000 ppm stable for years in dilute NH4OH / LDPE container.

B Containing Samples (Preparation and Solution) -Metal (Crystalline form is scarcely attacked by acids or alkaline solutions; amorphous form is soluble in conc. HNO3 or H2SO4); B(OH)3 (water soluble); Ores(avoid acid digestions and use caustic fusions in PtE); Organic Matrices (dry ash mixed with Na2CO3 in PtE at 450EC then increase heat to 1000EC to fuse; or perform a Na2O2 fusion in a NiE crucible / Parr bomb).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 11 amu	700 ppt	N/A	
ICP-OES 208.959 nm	0.007/0.0005 µg/mL	1	Mo
ICP-OES 249.678 nm	0.004/0.003 µg/mL	1	Os, W, Co, Cr, Hf
ICP-OES 249.773 nm	0.003/0.001 µg/mL	1	W, Ce, Co, Th, Ta, Mn, Mo, Fe

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

Reagent

1000 Li_00037

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 16, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- March 16, 2022

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

5107546
ID: 1000 Li_00037
Exp: 03/16/22 Prpd: SJS
1000 Li

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGLI1
Lot Number:	N2-LI665824
Matrix:	0.1% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Lithium
Starting Material:	Li2CO3
Starting Material Lot#:	1613
Starting Material Purity:	99.9985%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 4 µg/mL

Density: 1.005 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **999 ± 4 µg/mL**
ICP Assay NIST SRM 3129a Lot Number: 100714

Assay Method #2 **1000 ± 1 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM by two independent methods—Characterization of CRM by one method

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.004204	M	Eu	<	0.006306	O	Na		0.016217	M	Se	<	0.016817	O	Zn		0.001621
O	Al		0.000459	O	Fe		0.001081	M	Nb	<	0.001051	O	Si		0.025948	M	Zr	<	0.010511
M	As	<	0.021022	M	Ga	<	0.002102	M	Nd	<	0.004204	M	Sm	<	0.002102				
M	Au	<	0.006306	M	Gd	<	0.002102	O	Ni	<	0.002300	O	Sn	<	0.006000				
O	B		0.000270	M	Ge	<	0.012613	n	Os	<		O	Sr		0.000108				
O	Ba		0.000108	M	Hf	<	0.004204	O	P	<	0.002500	M	Ta	<	0.014715				
O	Be	<	0.000200	O	Hg	<	0.015000	M	Pb	<	0.006306	M	Tb	<	0.000630				
M	Bi	<	0.000840	M	Ho	<	0.001051	M	Pd	<	0.010511	M	Te	<	0.063067				
O	Ca		0.024867	O	In	<	0.004000	M	Pr	<	0.000630	M	Th	<	0.002102				
M	Cd	<	0.006306	M	Ir	<	0.010511	M	Pt	<	0.004204	O	Ti	<	0.000700				
M	Ce	<	0.010511	O	K		0.011082	M	Rb	<	0.002102	M	Tl	<	0.002102				
M	Co	<	0.006306	M	La	<	0.001051	M	Re	<	0.002102	M	Tm	<	0.000840				
M	Cr	<	0.010511	s	Li	<		M	Rh	<	0.002102	M	U	<	0.004204				
M	Cs	<	0.000630	M	Lu	<	0.000840	M	Ru	<	0.004204	O	V	<	0.000900				
O	Cu	<	0.001400	O	Mg		0.007027	O	S		0.009190	O	W	<	0.004000				
M	Dy	<	0.012613	O	Mn		0.000037	M	Sb	<	0.001051	M	Y	<	0.084089				
M	Er	<	0.010511	M	Mo	<	0.004204	M	Sc	<	0.021022	M	Yb	<	0.002102				

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 6.94 +1 (6) Li+(aq) large effective radius due to hydration sphere

Chemical Compatibility -Soluble in HCl, HNO3, H2SO4 and HF aqueous matrices. Stable with all metals and inorganic anions.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.

Li Containing Samples (Preparation and Solution) -Metal (Dissolves very rapidly in water); Ores (Sodium carbonate fusion in Pt0 followed by HCl dissolution-blank levels of Li in sodium carbonate critical); Organic Matrices (Sulfuric / peroxide digestion or nitric / sulfuric / perchloric acid decomposition).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 7 amu	10 ppt	n/a	
ICP-OES 323.261 nm	1.1 / 0.05 micro;g/mL	1	Sb, Th, Ni
ICP-OES 460.286 nm	0.9 / 0.04 µg/mL	1	Zr, Th
ICP-OES 670.784 nm	0.002 / 0.00002 µg/mL	1	2nd order radiation from R.E.s on some optical designs

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

Reagent

1000 Mo_00013

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01

ACCREDITED Reference Material Producer Certificate 863.02

4938580
ID: 1000 As_00020
Exp: 05/24/21 Prpd: SJS
1000 As IV

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAS1
Lot Number:	M2-AS657780
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Arsenic
Starting Material:	As Metal
Starting Material Lot#:	1971 and 1851
Starting Material Purity:	99.9991%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 5 µg/mL

Certified Density: 1.011 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **999 ± 4 µg/mL**
ICP Assay NIST SRM 3103a Lot Number: 100818

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

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

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

O	Ag	<	0.002234	M	Eu	<	0.000466	O	Na		0.000767	M	Se	<	0.002797	O	Zn	0.000370
O	Al		0.001986	O	Fe		0.000079	O	Nb	<	0.005585	O	Si		0.004236	M	Zr	< 0.001865
s	As	<		M	Ga	<	0.000466	M	Nd	<	0.000466	M	Sm	<	0.000466			
M	Au	<	0.002796	M	Gd	<	0.000466	M	Ni		0.000486	M	Sn	<	0.000932			
O	B		0.000556	M	Ge	<	0.000932	M	Os	<	0.000466	M	Sr	<	0.001865			
O	Ba	<	0.000670	M	Hf	<	0.000466	O	P	<	0.027925	M	Ta	<	0.000466			
O	Be	<	0.000111	M	Hg	<	0.009321	M	Pb	<	0.002797	M	Tb	<	0.000466			
M	Bi	<	0.000466	M	Ho	<	0.000466	M	Pd	<	0.000466	M	Te	<	0.004663			
O	Ca		0.000503	M	In	<	0.023315	M	Pr	<	0.000466	M	Th	<	0.000466			
M	Cd	<	0.000466	M	Ir	<	0.000466	M	Pt	<	0.000466	O	Ti		0.000052			
M	Ce	<	0.000466	O	K		0.000185	M	Rb	<	0.001865	M	Tl	<	0.000466			
M	Co	<	0.000466	M	La	<	0.000466	M	Re	<	0.000466	M	Tm	<	0.000466			
O	Cr	<	0.002122	O	Li	<	0.000111	M	Rh	<	0.000466	M	U	<	0.000466			
M	Cs	<	0.000932	M	Lu	<	0.000466	M	Ru	<	0.000466	M	V	<	0.001865			
O	Cu	<	0.002904	O	Mg		0.000034	O	S	<	0.017872	M	W	<	0.004663			
M	Dy	<	0.000466	O	Mn		0.000018	M	Sb	<	0.000466	O	Y	<	0.000558			
M	Er	<	0.000466	M	Mo	<	0.000466	O	Sc	<	0.001005	M	Yb	<	0.000466			

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

May 24, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- May 24, 2021

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Brenda Francis
Product Documentation Technician

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 74.92 ; mix of +3 and +5 ; 6 ; H_3AsO_4 and $HAsO_2$

Chemical Compatibility - Arsenic has no cationic chemistry. It is soluble in HCl, HNO_3,H_3PO_4, H_2SO_4 and HF aqueous matrices water and NH_4OH . It is stable with most inorganic anions (forms arsenate when boiled with chromate) but many cationic metals form the insoluble arsenates under pH neutral conditions. When fluorinated and / or under acidic conditions arsenate formation is typically not a problem at moderate to low concentrations.

Stability - 2-100 ppb levels stable for months alone or mixed with other elements at equivalent levels in 1% HNO_3 / LDPE container.

As Containing Samples (Preparation and Solution) - Metal (soluble in 1:1 H_2O / HNO_3); Oxides (the oxide exists in crystalline and amorphous forms where the amorphic form is more water soluble. The oxides typically dissolve in dilute acidic solutions when boiled); Minerals (one gram of powered sample is fused in a Ni crucible with 10 grams of a 1:1 mix of K_2CO_3 and KNO_3 and the melt extracted with hot water); Organic Matrices (0.2 to 0.5 grams of sample are fused with 15 grams of a 1:1 Na_2CO_3 / Na_2O_2 mix in a Ni crucible. The fuseate is extracted with water and acidified with HNO_3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 75 amu	20 ppt	N/A	40Ar35Cl, 59Co16O, 36Ar38Ar1H,8Ar37Cl,Ar39K, 150Nd2+,150Sm2+
ICP-OES 189.042 nm	0.05/0.005 µg/mL	1	Cr
ICP-OES 193.696 nm	0.1/0.01 µg/mL	1	V, Ge
ICP-OES 228.812 nm	0.1/0.01 µg/mL	1	Cd, Pt, Ir, Co

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

O	Ag	<	0.002234	M	Eu	<	0.000466	O	Na		0.000767	M	Se	<	0.002797	O	Zn		0.000370
O	Al		0.001986	O	Fe		0.000079	O	Nb	<	0.005585	O	Si		0.004236	M	Zr	<	0.001865
s	As	<		M	Ga	<	0.000466	M	Nd	<	0.000466	M	Sm	<	0.000466				
M	Au	<	0.002796	M	Gd	<	0.000466	M	Ni		0.000486	M	Sn	<	0.000932				
O	B		0.000556	M	Ge	<	0.000932	M	Os	<	0.000466	M	Sr	<	0.001865				
O	Ba	<	0.000670	M	Hf	<	0.000466	O	P	<	0.027925	M	Ta	<	0.000466				
O	Be	<	0.000111	M	Hg	<	0.009321	M	Pb	<	0.002797	M	Tb	<	0.000466				
M	Bi	<	0.000466	M	Ho	<	0.000466	M	Pd	<	0.000466	M	Te	<	0.004663				
O	Ca		0.000503	M	In	<	0.023315	M	Pr	<	0.000466	M	Th	<	0.000466				
M	Cd	<	0.000466	M	Ir	<	0.000466	M	Pt	<	0.000466	O	Ti		0.000052				
M	Ce	<	0.000466	O	K		0.000185	M	Rb	<	0.001865	M	Tl	<	0.000466				
M	Co	<	0.000466	M	La	<	0.000466	M	Re	<	0.000466	M	Tm	<	0.000466				
O	Cr	<	0.002122	O	Li	<	0.000111	M	Rh	<	0.000466	M	U	<	0.000466				
M	Cs	<	0.000932	M	Lu	<	0.000466	M	Ru	<	0.000466	M	V	<	0.001865				
O	Cu	<	0.002904	O	Mg		0.000034	O	S	<	0.017872	M	W	<	0.004663				
M	Dy	<	0.000466	O	Mn		0.000018	M	Sb	<	0.000466	O	Y	<	0.000558				
M	Er	<	0.000466	M	Mo	<	0.000466	O	Sc	<	0.001005	M	Yb	<	0.000466				

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

4938580
ID: 1000 As_00020
Exp: 05/24/21 Prpd: SJS
1000 As IV

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAS1
Lot Number:	M2-AS657780
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Arsenic
Starting Material:	As Metal
Starting Material Lot#:	1971 and 1851
Starting Material Purity:	99.9991%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 5 µg/mL

Certified Density: 1.011 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **999 ± 4 µg/mL**
ICP Assay NIST SRM 3103a Lot Number: 100818

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

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

Reagent

1000 Sb_00018

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 22, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- September 22, 2021

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
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toll: 800.669.6799 - 540.585.3030
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CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

4799296
ID: 1000 Sb_00018
Exp: 09/22/21 Prpd: SJS
1000 Sb IV

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSB1
Lot Number:	M2-SB661224
Matrix:	1% (v/v) HNO3 3% (v/v) Tartaric Acid
Value / Analyte(s):	1 000 µg/mL ea: Antimony
Starting Material:	Sb Metal
Starting Material Lot#:	1857
Starting Material Purity:	99.9898%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 8 µg/mL

Density: 1.021 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1000 ± 4 µg/mL**
ICP Assay NIST SRM 3102a Lot Number: 140911

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

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	< 0.000100	M	Eu	< 0.000100	O	Na	0.007430	M	Se	< 0.003732	M	Zn	0.000243
O	Al	0.000972	O	Fe	0.002146	O	Nb	< 0.001813	O	Si	0.019119	M	Zr	< 0.001210
M	As	< 0.003228	M	Ga	< 0.000100	M	Nd	< 0.000100	M	Sm	< 0.000100			
M	Au	< 0.001993	M	Gd	< 0.000100	O	Ni	0.000525	M	Sn	< 0.001815			
O	B	0.003132	M	Ge	< 0.000807	M	Os	< 0.000099	O	Sr	< 0.000085			
O	Ba	< 0.001067	M	Hf	< 0.000100	O	P	0.006825	O	Ta	< 0.001013			
O	Be	< 0.000028	M	Hg	< 0.000299	M	Pb	< 0.000605	M	Tb	< 0.000100			
M	Bi	< 0.000100	M	Ho	< 0.000100	M	Pd	< 0.000201	M	Te	< 0.001109			
O	Ca	0.001113	M	In	< 0.000100	M	Pr	< 0.001008	M	Th	< 0.000100			
M	Cd	< 0.000100	M	Ir	< 0.000398	M	Pt	< 0.000100	O	Tl	0.001106			
O	Ce	< 0.007469	O	K	0.052286	M	Rb	< 0.002824	M	Tl	< 0.000100			
M	Co	< 0.000100	O	La	< 0.000759	M	Re	< 0.000100	M	Tm	< 0.000100			
O	Cr	0.010314	O	Li	< 0.000053	M	Rh	< 0.000100	M	U	< 0.000100			
M	Cs	< 0.002017	M	Lu	< 0.000100	M	Ru	< 0.000099	M	V	< 0.000100			
O	Cu	< 0.000597	O	Mg	0.000486	n	S	<	M	W	< 0.001008			
M	Dy	< 0.000403	O	Mn	0.000172	s	Sb	<	M	Y	< 0.000100			
M	Er	< 0.000100	M	Mo	0.000317	O	Sc	< 0.000049	O	Yb	< 0.000064			

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 121.75 +3 6 Sb(O)C4H4O6-1

Chemical Compatibility -Stable in conc. HCl, dilute or conc. HF. Stable in dilute HNO3 as the fluoride or tartrate complex. Avoid basic media. Stable with most metals and inorganic anions in acidic media as the tartrate provided the acidity is not too high or the acid is oxidizing causing loss of the stabilizing tartrate ion. The fluoride complex of antimony is stable in strong acid but you should only mix with other metals that are fluorinated.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-2% HNO3 / LDPE container.

Sb Containing Samples (Preparation and Solution) -Metal and alloys (Soluble in H2O / HF / HNO3 mixture); Oxides (Soluble in HCl and tartaric acid or H2O / HF / HNO3 mixtures); Ores (fusion with Na2CO3 in Pt0 followed by dissolving the fuseate in a H2O / HF / HNO3 mixture); Organic based (sulfuric acid / hydrogen peroxide digestion)

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 121 amu	5 ppt	N/A	105Pd16O, 89Y16O2
ICP-OES 206.833 nm	0.03/0.003 µg/mL	1	Ta, Cr, Ge, Hf
ICP-OES 217.581 nm	0.05/0.005 µg/mL	1	Nb, W, Re, Fe
ICP-OES 231.147 nm	0.06/0.006 µg/mL	1	Ni, Co, Pt

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

Reagent

1000 Sn_00015

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 06, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 06, 2021**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael Z Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

INORGANIC VENTURES
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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

5203484
ID: 1000 Sn_00015
Exp: 07/06/17 Prpd: SJS
1000 Sn IV

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSN1
Lot Number:	M2-SN659324
Matrix:	tr. HNO3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Tin
Starting Material:	Sn shot
Starting Material Lot#:	1789
Starting Material Purity:	99.9976%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 998 ± 6 µg/mL

Density: 1.001 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **998 ± 3 µg/mL**
ICP Assay NIST SRM 3161a Lot Number: 140917

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

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

Characterization of CRM by two independent methods—Characterization of CRM by one method

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000100	M	Eu	<	0.000100	O	Na		0.000683	M	Se	<	0.005701	O	Zn	<	0.000308
O	Al	<	0.004116	O	Fe		0.000989	M	Nb	<	0.000200	O	Si		0.012513	O	Zr	<	0.000514
M	As	<	0.001100	M	Ga	<	0.000100	M	Nd	<	0.000100	M	Sm	<	0.000100				
M	Au	<	0.000199	M	Gd	<	0.000500	O	Ni	<	0.001234	s	Sn	<					
O	B	<	0.001296	M	Ge	<	0.000700	M	Os	<	0.000099	O	Sr	<	0.000025				
O	Ba	<	0.000246	M	Hf	<	0.001600	O	P	<	0.020580	O	Ta	<	0.009261				
O	Be	<	0.000102	M	Hg	<	0.000996	M	Pb		0.003700	M	Tb	<	0.000100				
M	Bi		0.000337	M	Ho	<	0.000100	M	Pd	<	0.000100	M	Te	<	0.001800				
O	Ca		0.000470	O	In		0.005468	M	Pr	<	0.006001	M	Th	<	0.000100				
O	Cd	<	0.000284	M	Ir	<	0.000099	M	Pt	<	0.000200	O	Tl	<	0.000514				
M	Ce	<	0.010001	O	K	<	0.003447	M	Rb	<	0.000500	M	Tl	<	0.000100				
O	Co	<	0.001337	O	La	<	0.001025	M	Re	<	0.000100	M	Tm	<	0.000100				
O	Cr	<	0.001029	O	Li	<	0.000077	M	Rh	<	0.000100	M	U	<	0.000100				
M	Cs	<	0.030005	M	Lu	<	0.000200	M	Ru	<	0.000099	M	V	<	0.000500				
O	Cu	<	0.002058	O	Mg		0.000037	n	S	<		M	W	<	0.000100				
M	Dy	<	0.000100	M	Mn	<	0.000100	O	Sb	<	0.020580	M	Y	<	0.000100				
M	Er	<	0.000100	M	Mo	<	0.000100	O	Sc	<	0.000164	M	Yb	<	0.000100				

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 118.71 +4 4,5, 6,7,8 Sn(OH)xFy2-

Chemical Compatibility -Soluble in HCl and dilute HF / HNO3. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away. (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated.) Stable with most inorganic anions provided it is in the chemical form shown above.

Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the Sn(OH)xFy2- for 1 year in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Sn(OH)xFy2- chemically stable for years in 2-5% HNO3 / trace HF in a LDPE container.

Sn Containing Samples (Preparation and Solution) - Metal (Soluble in HF / HNO3 or HCl); Oxides - SnO (soluble in HCl), SnO2 -very resistant to all acids including HF(Fusion with equal parts of Na2CO3 and S. It is then soluble in water or dilute acids as the thiostannate.); Alloys (Treat first 0.1 g with 10 mL conc. H2SO4 to boiling until the alloy disintegrates and nearly all of the sulfuric acid is expelled. Then add 100 mL O2 free water and 50 mL of conc HCl or transfer to a plastic container and add 1 mL HF in either case warming gently to bring about solution.); Organic Matrices (Volatility and precipitation of the insoluble stannic oxide are problems. Consultation of the literature should be made for individual matrices / Sn compounds.)

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 120 amu	5 ppt	N/A	120Te, 104Ru16O, 104Pd16O
ICP-OES 189.989 nm	0.03 / 0.003 µg/mL	1	
ICP-OES 242.949 nm	0.1 / 0.01 µg/mL	1	W, Mo, Rh ,Ta, Co

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

Reagent

1000 Sr_00011

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 14, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- June 14, 2021

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSR1
Lot Number:	M2-SR658331
Matrix:	0.1% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Strontium
Starting Material:	SrCO3
Starting Material Lot#:	1716 1967 1966
Starting Material Purity:	99.9937%

4938582
ID: 1000 Sr_00011
Exp: 06/14/18 Prpd: SJS
1000 Sr IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value:	1002 ± 5 µg/mL
Density:	1.001 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**1002 ± 3 µg/mL** ICP Assay NIST SRM 3153a Lot Number: 990906
Assay Method #2	**1001 ± 3 µg/mL** EDTA NIST SRM 928 Lot Number: 928

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

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

O	Ag	<	0.003318	M	Eu	<	0.000995	O	Na		0.000474	M	Se	<	0.023047	O	Zn		0.000121
O	Al		0.000486	O	Fe		0.000826	M	Nb	<	0.000497	O	Si		0.001483	M	Zr	<	0.007967
M	As	<	0.001493	M	Ga	<	0.001991	M	Nd	<	0.000497	M	Sm	<	0.000497				
M	Au	<	0.005394	M	Gd	<	0.002987	M	Ni		0.001357	M	Sn		0.000306				
O	B	<	0.005530	M	Ge	<	0.004979	M	Os	<	0.000490	s	Sr	<					
M	Ba		0.104336	M	Hf	<	0.000497	O	P	<	0.033180	M	Ta	<	0.000497				
O	Be	<	0.000132	M	Hg	<	0.000980	M	Pb		0.001160	M	Tb	<	0.000497				
M	Bi		0.000350	M	Ho	<	0.000497	M	Pd	<	0.002451	O	Te	<	0.022120				
O	Ca		0.003185	M	In	<	0.000497	M	Pr	<	0.000995	M	Th	<	0.000497				
M	Cd		0.000153	M	Ir	<	0.000490	M	Pt	<	0.002987	M	Ti		0.000186				
M	Ce		0.001193	O	K		0.001945	M	Rb	<	0.006971	M	Tl	<	0.000497				
M	Co		0.000153	M	La	<	0.003983	M	Re	<	0.000497	M	Tm	<	0.000497				
O	Cr	<	0.005530	O	Li	<	0.004202	O	Rh	<	0.006636	M	U	<	0.000497				
M	Cs	<	0.001991	M	Lu	<	0.000497	M	Ru	<	0.000980	M	V	<	0.001991				
O	Cu	<	0.006636	O	Mg		0.000126	O	S	<	0.055300	M	W	<	0.001493				
M	Dy	<	0.000497	M	Mn		0.000120	M	Sb	<	0.003983	O	Y	<	0.003318				
M	Er	<	0.000497	M	Mo	<	0.006971	O	Sc	<	0.003318	M	Yb		0.000043				

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 87.62 +2 6 Sr(H2O)6+2
Chemical Compatibility - Soluble in HCl, and HNO3. Avoid H2SO4, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate and tungstate in neutral aqueous media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO3 / LDPE container.
Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 88 amu	1200 ppt	N/A	72Ge16O, 176Yb+2, 176Lu+2 , 176Hf+2
ICP-OES 407.771 nm	0.0004 / 0.00006 µg/mL	1	U, Ce
ICP-OES 421.552 nm	0.0008 / 0.00004 µg/mL	1	Rb
ICP-OES 460.733 nm	0.07 / 0.003 µg/mL	1	Ce

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

Reagent

1000 v_00015

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
Inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 - 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGV1
Lot Number:	K2-V651103
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Vanadium
Starting Material:	V2O5
Starting Material Lot#:	1782
Starting Material Purity:	99.9947%

4780772
ID: 1000 V_00015
Exp: 06/22/20 Prpd: SJS
1000 V IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 5 µg/mL

Certified Density: 1.016 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**1001 ± 3 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #2	**999 ± 5 µg/mL** ICP Assay NIST SRM 3165 Lot Number: 992706

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

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

Characterization of CRM by two independent methods | **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000199	M	Eu	<	0.000099	O	Na		0.007915	M	Se	<	0.006683	O	Zn	<	0.006624
M	Al		0.009352	O	Fe		0.033582	M	Nb		0.001127	O	Si		0.002638	M	Zr	<	0.001995
M	As	<	0.001596	M	Ga		0.000433	M	Nd	<	0.000399	M	Sm	<	0.000099				
M	Au	<	0.000300	M	Gd	<	0.000099	M	Ni	<	0.006982	M	Sn	<	0.001396				
M	B	<	0.016458	M	Ge	<	0.000399	M	Os	<	0.000100	O	Sr		0.000143				
M	Ba		0.000184	M	Hf	<	0.000099	O	P	<	0.055200	M	Ta	<	0.000099				
M	Be	<	0.000498	M	Hg	<	0.008001	M	Pb		0.000238	M	Tb	<	0.000099				
M	Bi	<	0.000399	M	Ho	<	0.000099	M	Pd	<	0.000099	M	Te	<	0.001197				
O	Ca		0.011993	M	In	<	0.000099	M	Pr	<	0.000099	M	Th	<	0.000199				
M	Cd	<	0.000099	M	Ir	<	0.000100	M	Pt	<	0.000199	M	Ti		0.001452				
M	Ce	<	0.000399	O	K	<	0.110400	M	Rb	<	0.000598	M	Tl	<	0.001396				
M	Co	<	0.000099	M	La	<	0.000199	M	Re	<	0.000099	M	Tm	<	0.000099				
O	Cr		0.016311	O	Li	<	0.003312	M	Rh	<	0.000399	M	U	<	0.000199				
M	Cs	<	0.000184	M	Lu	<	0.000099	M	Ru	<	0.000100	s	V	<					
M	Cu	<	0.002793	O	Mg	<	0.033120	n	S	<		M	W		0.000368				
M	Dy	<	0.000099	M	Mn		0.000650	M	Sb		0.009363	M	Y	<	0.000099				
M	Er	<	0.000099	M	Mo		0.011021	M	Sc	<	0.000498	M	Yb	<	0.000099				

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

-While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 50.94 +5 6 H2V10O284-
Chemical Compatibility -Soluble in HCl, HNO3, H2SO4, HF, H3PO4 and strong basic media. Stable with most metals and inorganic anions in acidic media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
V Containing Samples (Preparation and Solution) -Metal (Fusion with NaOH or KOH in Ni0 or Na2CO3 / KNO3); Oxides (V2O3 - use HCl, V2O4 - use HCl or HNO3, V2O5 - use concentrated acids); Ores (Na2CO3 / KNO3 in Pt0 caution - nitrates attack Pto followed by water extraction of fuseate); Organic Matrices (Ash at 450 EC followed by dissolving according to V2O5 above) .
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 51 amu	4 ppt	N/A	34S16O1H, 35Cl16O, 38Ar13C, 36Ar15N, 36Ar14N1H, 37Cl14N,36S15N, 33S18O, 34S17O, 102Ru+2,02Pd+2
ICP-OES 290.882 nm	0.008 / 0.0008 µg/mL	1	Hf, Nb
ICP-OES 292.402 nm	0.006 / 0.001 µg/mL	1	Th
ICP-OES 309.311 nm	0.005 / 0.001 µg/mL	1	Mg, U, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 22, 2016

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- August 22, 2020

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

James King Jr
Chemist, Technical Manager

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

1000 W IV_00014

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGW1
Lot Number:	N2-W664865
Matrix:	0.2% (v/v) HNO3 2% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Tungsten
Starting Material:	W Powder
Starting Material Lot#:	1898
Starting Material Purity:	99.9941%

5204592
ID: 1000 W IV_00014
Exp:07/05/19 Prpd:LMT Opn:07/05/18
1000 Tungsten IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 998 ± 6 µg/mL

Density: 1.007 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **999 ± 6 µg/mL**
ICP Assay NIST SRM 3163 Lot Number: 140606

Assay Method #2 **997 ± 7 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.001202	M	Eu	<	0.000200	O	Na		0.001960	M	Se	<	0.004000	M	Zn	0.002074
O	Al	<	0.033570	M	Fe	<	0.079372	M	Nb	<	0.180390	i	Si	<		O	Zr	< 0.005595
M	As	<	0.010422	M	Ga	<	0.000200	M	Nd	<	0.000200	M	Sm	<	0.000200			
M	Au	<	0.030804	M	Gd	<	0.000200	M	Ni	<	0.017638	M	Sn		0.000266			
M	B	<	0.003808	M	Ge	<	0.001403	M	Os	<	0.000200	M	Sr	<	0.000801			
M	Ba	<	0.002004	M	Hf		0.000288	i	P	<		M	Ta		0.011947			
M	Be	<	0.000601	i	Hg	<		M	Pb	<	0.005612	M	Tb	<	0.000200			
M	Bi	<	0.009219	M	Ho	<	0.000200	M	Pd	<	0.001800	M	Te	<	0.001603			
O	Ca		0.004290	M	In	<	0.000200	M	Pr	<	0.000601	M	Th	<	0.012426			
M	Cd	<	0.000200	M	Ir	<	0.000200	M	Pt	<	0.001603	M	Ti		0.004115			
M	Ce	<	0.000200	O	K		0.039229	M	Rb	<	0.001603	M	Tl	<	0.003206			
M	Co	<	0.000200	M	La	<	0.000200	M	Re	<	0.300651	M	Tm	<	0.000200			
O	Cr	<	0.011190	O	Li	<	0.000434	M	Rh	<	0.000200	M	U	<	0.001202			
M	Cs		0.000088	M	Lu	<	0.000200	M	Ru	<	0.000200	M	V	<	0.009219			
M	Cu	<	0.003607	M	Mg		0.000632	i	S	<		s	W	<				
M	Dy	<	0.000200	M	Mn	<	0.005211	M	Sb	<	0.008819	M	Y	<	0.000200			
M	Er	<	0.000200	M	Mo		0.000232	O	Sc	<	0.000543	M	Yb	<	0.000200			

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 183.85 +6 6,7,8,9 WOF5-2(chemical form as received)
Chemical Compatibility -W is very readily hydrolyzed requiring 0.1 to 1% HF solutions for stabile acidic solutions. The [WOF5]-2 is soluble in % levels of HCl and HNO3 provided it is in the [WOF5]-2 form. Stable at ppm levels with some metals provided it is fluorinated. <U>Do not mix with Alkaline or Rare Earths</U>. W is best to be mixed only with other fluorinated metals (Ti, Zr, Hf, Nb, Ta, Mo, Si, Sn, Ge). Look for yellow WO3 precipitate if mixed with other transitions at higher levels indicating instability. The yellow WO3 will form over a period of weeks even in trace HF, therefore, <U>HF levels of W multi-element blends should be ∼ 1%</U>.
Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the [WOF5]-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the [WOF5]-2 chemically stable for years in 1% HF in a LDPE container.
W Containing Samples (Preparation and Solution) -Metal (Soluble in HF / HNO3); Oxide (soluble in HF or NH4OH) ; Organic Matrices (dry ash at 450 0C in Pt0 and dissolve oxide with HF).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 182 amu	5 ppt	N/A	166Er16O
ICP-OES 207.911 nm	0.03/0.001 µg/mL	1	Ru, In
ICP-OES 209.475 nm	0.05/0.008 µg/mL	1	Mo
ICP-OES 224.875 nm	0.05/0.005 µg/mL	1	Co, Rh, Ag

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 19, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 19, 2022

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

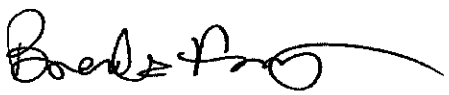
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Brenda Francis
Product Documentation Technician



Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

1000 Zr_00017

INORGANIC VENTURES™
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

4902292
ID: 1000 Zr_00017
Exp: 03/17/17 Prpd: SJS
1000 Zr IV

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGZR1
Lot Number:	M2-ZR655896
Matrix:	tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Zirconium
Starting Material:	ZrO2
Starting Material Lot#:	1842
Starting Material Purity:	99.9913%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value:	998 ± 5 µg/mL
Density:	1.000 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**998 ± 3 µg/mL**
	ICP Assay NIST SRM 3169 Lot Number: 130920

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

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{its} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{its} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

n	Ag	<		M	Eu	<	0.000247	O	Na	<	0.314400	M	Se	<	0.494400	O	Zn		0.000102
O	Al	<	0.073360	O	Fe		0.004477	O	Nb	<	0.104800	O	Si	<	0.104800	s	Zr	<	
M	As	<	0.012360	M	Ga	<	0.001236	M	Nd	<	0.000742	M	Sm	<	0.007416				
M	Au	<	0.012360	M	Gd	<	0.000247	O	Ni	<	0.003144	M	Sn	<	0.024720				
M	B	<	0.009888	M	Ge	<	0.000742	n	Os	<		M	Sr		0.000295				
M	Ba	<	0.007416	O	Hf		0.010745	O	P	<	0.052400	O	Ta	<	0.104800				
M	Be	<	0.000247	O	Hg	<	0.001048	M	Pb		0.000316	M	Tb	<	0.000247				
M	Bi	<	0.017304	M	Ho	<	0.000247	M	Pd	<	0.024720	M	Te	<	0.247200				
O	Ca	<	0.104800	M	In	<	0.002472	M	Pr	<	0.000247	M	Th	<	0.012360				
O	Cd		0.059101	M	Ir	<	0.012360	M	Pt	<	0.024720	M	Ti	<	0.017304				
M	Ce	<	0.002472	O	K	<	0.157200	M	Rb	<	0.002472	M	Tl	<	0.000247				
M	Co	<	0.002472	M	La	<	0.000247	M	Re	<	0.000247	M	Tm	<	0.000247				
O	Cr	<	0.010480	M	Li	<	0.009888	M	Rh	<	0.000247	M	U	<	0.001236				
M	Cs	<	0.012360	M	Lu	<	0.000247	M	Ru	<	0.000247	M	V	<	0.019776				
O	Cu		0.002238	O	Mg		0.000111	O	S		0.044774	M	W	<	0.024720				
M	Dy	<	0.000247	M	Mn	<	0.012360	M	Sb	<	0.002472	M	Y	<	0.000247				
M	Er	<	0.000247	O	Mo		0.001656	O	Sc	<	0.002096	M	Yb	<	0.000247				

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.8799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 17, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- March 17, 2021

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

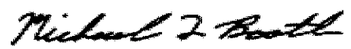
Certificate Prepared By:

James King Jr
Chemist, Technical Manager



Certificate Approved By:

Michael Booth
Supervisor, Quality Control



Certifying Officer:

Paul Gaines
CEO, Senior Technical Director



Revision 1: Added 30 mL Phrases. 092117JB

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 91.22 +4 6,7,8 Zr(F)6-2
Chemical Compatibility -Soluble in concentrated HCl, HF, H2SO4 (very hot) and HNO3. Avoid H3PO4and neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated). Stable with most inorganic anions but precipitation with phosphate, oxalate, and tartrate with a tendency to hydrolyze forming the hydrated oxide in all dilute acids except HF.
Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the Zr(F)6-2 + Zr(OH)4F2-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Zr(F)6-2 chemically stable for years in 2-5% HNO3 / trace HF in a LDPE container.
Zr Containing Samples (Preparation and Solution) -Metal (Soluble in H2O / HF / HNO3); Oxide unlike TiO2 th ZrO2 is best fused in one of the following ways (Na2O2 in Ni0, Na2CO3 in Pt0 or Borax in Pt0); Organic Matrices (dry ash at 450 0C in Pt0 and dissolve by fusing with Na2CO3 and dissolving in HF / HNO3 / H2O).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 90 amu	2 ppt	N/A	74Ge16O, 74Se16O, [180X+2 (where X = Hf, Ta, W)]
ICP-OES 272.261 nm	0.018/0.001 µg/mL	1	Cr, V, Th, W
ICP-OES 339.198 nm	0.008/0.0007 µg/mL	1	Th, Mo
ICP-OES 343.823 nm	0.007/0.0004 µg/mL	1	Hf, Nb

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

Reagent

10000 Al_00018

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 08, 2016

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 08, 2020**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Donna Senn
Product Documentation Technician

Donna Senn

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

300 Technology Drive
Christiansburg, VA 24073 - USA
Inorganic Ventures

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAL10
Lot Number:	K2-AL653003
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Aluminum
Starting Material:	Al Shot
Starting Material Lot#:	1834
Starting Material Purity:	99.9965%

4785865
ID: 10000 Al_00018
Exp: 11/08/20 Prpd: CML
10000 Al IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10030 ± 33 µg/mL

Certified Density: 1.083 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1 **10008 ± 39 µg/mL**
ICP Assay NIST SRM 3101a Lot Number: 140903

Assay Method #2 **10039 ± 26 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

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

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

Characterization of CRM by two independent methods

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2\ (u_{char\ a})^2 + (w_b)^2\ (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM by one method

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000521	M	Eu	<	0.000521	O	Na		0.039566	M	Se	<	0.003648	M	Zn	0.030987
s	Al	<		O	Fe		0.031494	M	Nb	<	0.000521	O	Si		0.185691	O	Zr	0.000399
M	As	<	0.012509	M	Ga		0.002264	M	Nd		0.004290	M	Sm	<	0.002085			
M	Au	<	0.000518	M	Gd	<	0.004170	O	Ni	<	0.012890	M	Sn	<	0.005212			
O	B		0.008253	M	Ge	<	0.002606	M	Os	<	0.000518	O	Sr		0.000202			
O	Ba	<	0.000659	M	Hf	<	0.000521	n	P	<		M	Ta	<	0.000521			
O	Be	<	0.000258	M	Hg	<	0.001555	M	Pb		0.001549	M	Tb	<	0.000521			
M	Bi	<	0.005212	M	Ho	<	0.000521	M	Pd	<	0.000521	M	Te	<	0.014072			
O	Ca		0.013185	M	In	<	0.002085	M	Pr		0.000953	M	Th	<	0.007297			
M	Cd	<	0.004170	M	Ir	<	0.000518	M	Pt	<	0.000521	O	Ti		0.001589			
M	Ce		0.011680	O	K		0.026175	M	Rb	<	0.000521	M	Tl		0.003099			
M	Co	<	0.000521	O	La		0.007115	M	Re	<	0.000521	M	Tm	<	0.000521			
O	Cr		0.001038	O	Li	<	0.000103	M	Rh	<	0.000521	M	U	<	0.005212			
M	Cs	<	0.000521	M	Lu	<	0.000521	M	Ru	<	0.000518	M	V		0.001549			
O	Cu		0.030608	O	Mg		0.016615	i	S	<		M	W	<	0.000521			
M	Dy	<	0.003127	O	Mn		0.000589	M	Sb	<	0.018763	O	Y	<	0.002578			
M	Er		0.000834	M	Mo	<	0.002085	O	Sc		0.000548	M	Yb	<	0.000521			

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 26.98 +3 6 Al(H2O)6+3

Chemical Compatibility -Soluble in HCl, HNO3, HF and H2SO4. Avoid neutral media. Soluble in strongly basic NaOH forming the Al(OH)4(H2O)21- species. Stable with most metals and inorganic anions. The phosphate is insoluble in water and only slightly soluble in acid.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

Al Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO3); a- Al2O3 (Na2CO3 fusion in Pt0);

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 27 amu	30 ppt	N/A	12C15N, 13C14N, 1H12C14N, 11B16O, 54Cr2+, 54Fe2+
ICP-OES 167.078 nm	0.1/0.009 µg/mL	1	Fe
ICP-OES 394.401 nm	0.05/0.006 µg/mL	1	U, Ce
ICP-OES 396.152 nm	0.03/0.006 µg/mL	1	Mo, Zr, Ce

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

Reagent

10000 Fe_00021

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 12, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 12, 2021

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

300 Technology Drive
Christiansburg, VA 24073 - USA
Tel: 800.669.6799 - 540.585.3030
Fax: 540.585.3012
inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGFE10
Lot Number:	M2-FE659835
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Iron
Starting Material:	Iron Metal
Starting Material Lot#:	2031 & 2146
Starting Material Purity:	99.9919%

4954179
ID: 10000 Fe_00021
Exp: 07/12/21 Prpd: SJS
10000 Fe IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value:	9993 ± 25 µg/mL
Density:	1.040 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10014 ± 52 µg/mL** ICP Assay NIST SRM 3126a Lot Number: 140812
Assay Method #2	**9988 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928

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

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000607	M	Eu	<	0.000607	O	Na		0.009866	M	Se	<	0.032805	O	Zn	0.119626
M	Al		0.009492	s	Fe	<		M	Nb	<	0.000607	O	Si		0.035517	M	Zr	< 0.002430
M	As		0.060562	M	Ga	<	0.048601	M	Nd	<	0.000607	M	Sm	<	0.000607			
M	Au	<	0.008508	M	Gd	<	0.000607	O	Ni		0.182522	M	Sn	<	0.012150			
M	B	<	0.015187	M	Ge		0.060202	M	Os	<	0.001215	O	Sr	<	0.000997			
O	Ba	<	0.002494	M	Hf	<	0.000607	i	P	<	0.000001	M	Ta	<	0.000607			
M	Be	<	0.000607	M	Hg	<	0.001215	M	Pb		0.001321	M	Tb	<	0.000607			
M	Bi	<	0.000607	M	Ho	<	0.000607	M	Pd	<	0.000607	M	Te	<	0.001822			
O	Ca		0.022445	M	In	<	0.000607	M	Pr	<	0.000607	M	Th	<	0.001215			
M	Cd	<	0.000607	M	Ir	<	0.006685	M	Pt	<	0.000607	M	Ti	<	0.009720			
M	Ce	<	0.000607	O	K		0.003453	M	Rb	<	0.000607	M	Tl	<	0.000607			
O	Co		0.254052	M	La	<	0.000607	M	Re	<	0.000607	M	Tm	<	0.000607			
O	Cr		0.034284	O	Li	<	0.000124	M	Rh	<	0.000607	M	U	<	0.002430			
M	Cs	<	0.000607	M	Lu	<	0.000607	M	Ru	<	0.000607	M	V	<	0.003645			
O	Cu		0.019732	O	Mg		0.001973	O	S		0.032064	M	W	<	0.003645			
M	Dy	<	0.000607	O	Mn		0.073995	M	Sb		0.043139	M	Y	<	0.000607			
M	Er	<	0.000607	M	Mo		0.012016	M	Sc	<	0.001822	M	Yb	<	0.000607			

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 55.85 +3 6 Fe(H2O)63+
Chemical Compatibility -Stable in HCl, HNO3, H2SO4 ,HF and H3PO4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
Fe Containing Samples (Preparation and Solution) - Metal (Soluble in HCl); Oxides (If the oxide has been at a high temperature then Na2CO3 fusion in Pt0 followed by HCl dissolution otherwise dissolve in dilute HCl); Ores (See Oxides above using only the fusion approach).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 56 amu	970 ppt	N/A	40Ar15N1H, 40Ar16O, 36Ar17O1H , 38Ar18O, 37Cl18O1H, 40Ca16O
ICP-OES 238.204 nm	0.005/0.001 µg/mL	1	Ru, Co
ICP-OES 239.562 nm	0.005/0.001 µg/mL	1	Co, W, Cr
ICP-OES 259.940 nm	0.006/0.001 µg/mL	1	Hf, Nb

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

Reagent

10000 Na_00067

10.3 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 06, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 06, 2022

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

tel: 800.669.6799 - 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGNA10
Lot Number:	N2-NA668816
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Sodium
Starting Material:	Na2CO3
Starting Material Lot#:	1870
Starting Material Purity:	99.9997%

5225623
ID: 10000 Na_00067
Exp: 06/06/22 Prpd: SJS
10000 Na IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9997 ± 18 µg/mL

Density: 1.033 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **10000 ± 18 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

Assay Method #2 **9966 ± 58 µg/mL**
ICP Assay NIST SRM 3152a Lot Number: 120715

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

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

Characterization of CRM by two independent methods—Characterization of CRM by one method

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.002004	M	Eu	<	0.001002	s	Na	<		M	Se	<	0.028065	M	Zn	<	0.001002
O	Al	<	0.007396	M	Fe	<	0.008018	M	Nb	<	0.001002	O	Si	<	0.024654	M	Zr	<	0.001002
M	As	<	0.002004	M	Ga	<	0.001002	M	Nd	<	0.001002	M	Sm	<	0.001002				
M	Au	<	0.001002	M	Gd	<	0.001002	M	Ni	<	0.003007	M	Sn	<	0.003007				
O	B	<	0.024654	M	Ge	<	0.002004	M	Os	<	0.018045	M	Sr		0.001145				
M	Ba		0.000127	M	Hf	<	0.001002	O	P	<	0.043145	M	Ta	<	0.001002				
O	Be	<	0.000739	M	Hg	<	0.003007	M	Pb	<	0.001002	M	Tb	<	0.001002				
M	Bi	<	0.001002	M	Ho	<	0.001002	M	Pd	<	0.001002	M	Te	<	0.006014				
O	Ca		0.059185	M	In	<	0.001002	M	Pr	<	0.001002	M	Th	<	0.001002				
M	Cd	<	0.001002	M	Ir	<	0.001002	M	Pt	<	0.001002	M	Ti	<	0.002004				
M	Ce	<	0.001002	O	K		0.018935	M	Rb	<	0.001002	M	Tl	<	0.001002				
O	Co	<	0.004314	M	La	<	0.001002	M	Re	<	0.001002	M	Tm	<	0.001002				
M	Cr	<	0.004009	O	Li	<	0.000246	M	Rh	<	0.001002	M	U	<	0.001002				
M	Cs	<	0.001002	M	Lu	<	0.001002	M	Ru	<	0.001002	M	V	<	0.008018				
M	Cu	<	0.005011	M	Mg		0.004580	O	S	<	0.036982	M	W	<	0.002004				
M	Dy	<	0.001002	M	Mn	<	0.002004	M	Sb	<	0.001002	M	Y	<	0.001002				
M	Er	<	0.001002	M	Mo	<	0.001002	M	Sc	<	0.001002	M	Yb	<	0.001002				

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 22.99 +1 (6) Na+(aq) largely ionic in nature

Chemical Compatibility -Soluble in HCl, HNO3, H2SO4 and HF aqueous matrices. Stable with all metals and inorganic anions.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.

Na Containing Samples (Preparation and Solution) - Metal (Dissolves very rapidly in water); Ores (Lithium carbonate fusion in graphite crucible followed by HCl dissolution - blank levels of Na in lithium carbonate critical); Organic Matrices (Sulfuric / peroxide digestion or nitric/sulfuric/perchloric acid decomposition).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 23 amu	310 ppt	n/a	46Ti+2 , 46Ca+2
ICP-OES 330.237 nm	2.0 / 0.09 µg/mL	1	Pd, Zn
ICP-OES 588.995 nm	0.03 / 0.006 µg/mL	1	2nd order radiation from R.E.s on some optical designs
ICP-OES 589.595 nm	0.07 / 0.00009 µg/mL	1	2nd order radiation from R.E.s on some optical designs

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

Reagent

10000 Si_00015

INORGANIC VENTURES™
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSI10
Lot Number:	M2-SI657321
Matrix:	1% (v/v) HNO3 1.4% (v/v) HF
Value / Analyte(s):	10 000 µg/mL ea: Silicon
Starting Material:	Fumed Silica
Starting Material Lot#:	1771
Starting Material Purity:	99.9908%

4938600
ID: 10000 Si_00015
Exp: 04/25/21 Prpd: SJS
10000 SI IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10023 ± 48 µg/mL

Density: 1.045 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **10051 ± 52 µg/mL**
ICP Assay NIST SRM 3150 Lot Number: 130912

Assay Method #2 **9989 ± 57 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

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

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.001488	M	Eu	<	0.000248	O	Na		0.016935	M	Se	<	0.002977	O	Zn	<	0.012935
O	Al		0.112342	M	Fe		0.026932	O	Nb	<	0.005610	s	Si	<		O	Zr	<	0.001122
M	As	<	0.003953	M	Ga	<	0.000248	M	Nd	<	0.000248	M	Sm	<	0.000248				
M	Au	<	0.029405	M	Gd	<	0.000248	M	Ni	<	0.003225	M	Sn	<	0.000744				
O	B		0.143798	M	Ge	<	0.001240	M	Os	<	0.000247	O	Sr		0.001081				
O	Ba		0.002655	M	Hf		0.001987	i	P	<	0.000001	M	Ta		0.015006				
O	Be	<	0.000336	M	Hg	<	0.001482	M	Pb	<	0.000744	M	Tb	<	0.000248				
M	Bi		0.007751	M	Ho	<	0.000248	M	Pd	<	0.000248	M	Te	<	0.000744				
O	Ca		0.211203	M	In	<	0.000496	M	Pr	<	0.000248	M	Th	<	0.007940				
M	Cd	<	0.000248	M	Ir	<	0.000247	M	Pt	<	0.000248	O	Ti		0.004305				
M	Ce	<	0.000992	O	K		0.027489	M	Rb	<	0.068983	M	Tl	<	0.007940				
M	Co	<	0.000248	M	La	<	0.000248	M	Re	<	0.000248	M	Tm	<	0.000248				
O	Cr	<	0.004488	O	Li		0.000096	M	Rh	<	0.000248	M	U	<	0.000248				
M	Cs	<	0.006451	M	Lu	<	0.000248	M	Ru	<	0.000247	M	V	<	0.005459				
O	Cu	<	0.001945	O	Mg		0.013364	O	S		1.364159	M	W	<	0.005459				
M	Dy	<	0.000248	M	Mn	<	0.002481	M	Sb	<	0.003970	M	Y	<	0.000248				
M	Er	<	0.000248	M	Mo	<	0.002233	O	Sc	<	0.000235	M	Yb	<	0.000248				

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 25, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 25, 2021**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Brenda Francis
Product Documentation Technician

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Revision1: Added 30mL statements 092217JAK

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 28.09 +4 6 Si(OH)x(F)y2-

Chemical Compatibility -Soluble in HCl, HF, H3PO4 H2SO4 and HNO3 as the Si(OH)x(F)y2-. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths, or high levels of transition elements unless they are fluorinated. Stable with most inorganic anions with a tendency to hydrolyze forming silicic acid (silicic acid is soluble up to ∼100 ppm in water) in all dilute acids except HF.

Stability - 2-100 ppb levels - stability unknown - (alone or mixed with all other metals) as the Si(OH)x(F)y2-. 1-10,000 ppm single element solutions as the Si(OH)x(F)y2- chemically stable for years in 2-5 % HNO3 / trace HF in a LDPE container.

Si Containing Samples (Preparation and Solution) -Metal (Soluble in 1:1:1 H2O / HF / HNO3); Oxide - SiO2, amorphic (dissolve by heating in 1:1:1 H2O / HF / HNO3); Oxide - quartz (fuse in Pt0 with Na2CO3); Geological Samples(fuse in Pt0with Na2CO3 followed by HCl solution of the fuseate); Organic Matrices containing silicates and non volatile silicon compounds (dry ash at 4500C in Pt0 and dissolve by gently warming with 1:1:1 H2O / HF / H2SO4 or fuse / ash with Na2CO3 and dissolve fuseate with HCl / H2O); Silicone Oils - dimethyl silicones depolymerize to form volatile monomer units when heated (Measure directly in alcoholic KOH / xylene mixture where sample is treated first with the KOH at 60-1000C to "unzip" the Si- O-Si polymeric structure or digest with conc. H2SO4 / H2O2 followed by cooling and dissolution of the dehydrated silica with HF.) Note that the direct analysis of silicone oils in an organic solvent will result in false high results due to high vapor pressure of volatile monomer units like hexamethylcyclotrisiloxane. The KOH forms the K2+Si(CH3)2O= salt which is not volatile at room temperature.

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 28 amu	4000 - 8000 ppt	N/A	N2, 12C16O
ICP-OES 212.412 nm	0.02/0.01 µg/mL	1	Hf, Os, Mo, Ta
ICP-OES 251.611 nm	0.012/0.003 µg/mL	1	Ta, U, Zn, Th
ICP-OES 288.158 nm	0.03/0.004 µg/mL	1	Ta, Ce, Cr, Cd, Th

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

Reagent

3,5-DNA Stock_00029

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31661 **Lot No.:** A0129440

Description : 3,5-Dinitroaniline Standard

3, 5-Dinitroaniline Std 1000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

X2

500 & 50/57

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	3,5-Dinitroaniline	1,004.0 µg/mL	+/- 5.9635	µg/mL	Gravimetric
	CAS # 618-87-1 (Lot 10311HS)		+/- 30.3937	µg/mL	Unstressed
	Purity 99%		+/- 30.3937	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

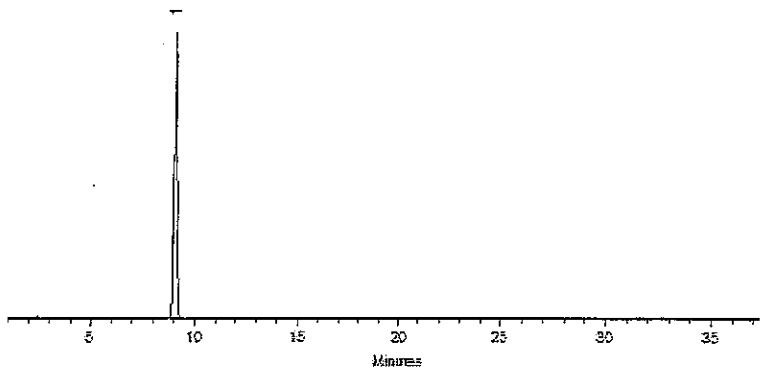
Flow Rate:
1.0 ml/min.

Mobile Phase A:
water:methanol (44:56 V/V)

Mobile Phase B:

Mobile Phase Composition:
100%A

Det. Type:
Wavelength: 210 nm



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis
Cathleen Soltis - Mix Technician

Date Mixed: 26-Jul-2017 **Balance:** B442140311

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 28-Jul-2017

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

571995_00043

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0136052

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : September 30, 2019 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBH5677) **Purity** 99%	1,002.0 µg/mL	+/- 5.8257 µg/mL +/- 11.9780 µg/mL +/- 19.0628 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 161108JLM) **Purity** 99%	1,002.0 µg/mL	+/- 5.8257 µg/mL +/- 11.9780 µg/mL +/- 19.0628 µg/mL	Gravimetric Unstressed Stressed
3	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	2,011.2 µg/mL	+/- 11.6933 µg/mL +/- 24.0420 µg/mL +/- 38.2625 µg/mL	Gravimetric Unstressed Stressed
4	Phenol **CAS #** 108-95-2 (Lot SHBF1351V) **Purity** 99%	1,005.1 µg/mL	+/- 5.8439 µg/mL +/- 12.0154 µg/mL +/- 19.1224 µg/mL	Gravimetric Unstressed Stressed
5	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,002.6 µg/mL	+/- 5.8292 µg/mL +/- 11.9851 µg/mL +/- 19.0742 µg/mL	Gravimetric Unstressed Stressed
6	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot SHBD4430V) **Purity** 99%	1,001.4 µg/mL	+/- 5.8222 µg/mL +/- 11.9708 µg/mL +/- 19.0513 µg/mL	Gravimetric Unstressed Stressed
7	n-Decane (C10) **CAS #** 124-18-5 (Lot SHBH3926V) **Purity** 99%	1,000.7 µg/mL	+/- 5.8180 µg/mL +/- 11.9620 µg/mL +/- 19.0374 µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol		1,007.1	µg/mL	+/-	5.8552	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0385	µg/mL	Unstressed
	Purity 99%				+/-	19.1592	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,001.0	µg/mL	+/-	5.8199	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBM5751V)			+/-	11.9660	µg/mL	Unstressed
	Purity 99%				+/-	19.0437	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,004.4	µg/mL	+/-	5.8397	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0067	µg/mL	Unstressed
	Purity 99%				+/-	19.1084	µg/mL	Stressed
11	Benzyl alcohol		1,005.2	µg/mL	+/-	5.8443	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBC1850V)			+/-	12.0162	µg/mL	Unstressed
	Purity 99%				+/-	19.1236	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot 68996CMV)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,006.7	µg/mL	+/-	5.8528	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 5510800)			+/-	12.0336	µg/mL	Unstressed
	Purity 98%				+/-	19.1513	µg/mL	Stressed
15	Acetophenone		1,005.5	µg/mL	+/-	5.8459	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG7113)			+/-	12.0194	µg/mL	Unstressed
	Purity 99%				+/-	19.1287	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		501.0	µg/mL	+/-	2.9196	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	5.9923	µg/mL	Unstressed
	Purity 99%				+/-	9.5334	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.7	µg/mL	+/-	2.9235	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0002	µg/mL	Unstressed
	Purity 99%				+/-	9.5461	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,003.1	µg/mL	+/-	5.8323	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot NOPCF)			+/-	11.9915	µg/mL	Unstressed
	Purity 99%				+/-	19.0843	µg/mL	Stressed
19	Hexachloroethane		1,003.4	µg/mL	+/-	5.8339	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9947	µg/mL	Unstressed
	Purity 99%				+/-	19.0894	µg/mL	Stressed
20	Nitrobenzene		1,002.3	µg/mL	+/-	5.8273	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	11.9812	µg/mL	Unstressed
	Purity 99%				+/-	19.0678	µg/mL	Stressed
21	Isophorone		1,003.3	µg/mL	+/-	5.8334	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	11.9938	µg/mL	Unstressed
	Purity 98%				+/-	19.0879	µg/mL	Stressed
22	2-Nitrophenol		1,007.7	µg/mL	+/-	5.8587	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0457	µg/mL	Unstressed
	Purity 99%				+/-	19.1706	µg/mL	Stressed
23	2,4-Dimethylphenol		1,000.9	µg/mL	+/-	5.8191	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	11.9644	µg/mL	Unstressed
	Purity 99%				+/-	19.0412	µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 4621000)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
25	2,4-Dichlorophenol		1,003.1	µg/mL	+/-	5.8323	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.9915	µg/mL	Unstressed
	Purity 99%				+/-	19.0843	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,005.0	µg/mL	+/-	5.8432	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0138	µg/mL	Unstressed
	Purity 99%				+/-	19.1198	µg/mL	Stressed
27	Naphthalene		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
28	2,6-Dichlorophenol		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
29	4-Chloroaniline		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
30	Hexachlorobutadiene		1,002.5	µg/mL	+/-	5.8284	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	11.9835	µg/mL	Unstressed
	Purity 99%				+/-	19.0716	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,007.7	µg/mL	+/-	5.8587	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBG8884)			+/-	12.0459	µg/mL	Unstressed
	Purity 96%				+/-	19.1708	µg/mL	Stressed
33	1-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-9)			+/-	12.0202	µg/mL	Unstressed
	Purity 99%				+/-	19.1300	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,004.3	µg/mL	+/-	5.8389	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0051	µg/mL	Unstressed
	Purity 99%				+/-	19.1059	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,007.1	µg/mL	+/-	5.8552	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012017H)			+/-	12.0385	µg/mL	Unstressed
	Purity 99%				+/-	19.1592	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,003.5	µg/mL	+/-	5.8342	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	11.9955	µg/mL	Unstressed
	Purity 99%				+/-	19.0907	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,006.4	µg/mL	+/-	5.8513	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0306	µg/mL	Unstressed
	Purity 99%				+/-	19.1465	µg/mL	Stressed
38	2-Chloronaphthalene		1,002.9	µg/mL	+/-	5.8308	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	11.9883	µg/mL	Unstressed
	Purity 99%				+/-	19.0792	µg/mL	Stressed
39	Biphenyl		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed

40	2-Nitroaniline		1,004.5	µg/mL	+/-	5.8401	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)			+/-	12.0075	µg/mL	Unstressed
	Purity 99%				+/-	19.1097	µg/mL	Stressed
41	Acenaphthylene		1,006.0	µg/mL	+/-	5.8491	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot O03R)			+/-	12.0260	µg/mL	Unstressed
	Purity 97%				+/-	19.1392	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,001.8	µg/mL	+/-	5.8246	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBN4329V)			+/-	11.9756	µg/mL	Unstressed
	Purity 99%				+/-	19.0590	µg/mL	Stressed
43	Dimethylphthalate		1,003.7	µg/mL	+/-	5.8358	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)			+/-	11.9987	µg/mL	Unstressed
	Purity 99%				+/-	19.0957	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,000.7	µg/mL	+/-	5.8183	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot BCBB8606V)			+/-	11.9628	µg/mL	Unstressed
	Purity 99%				+/-	19.0387	µg/mL	Stressed
45	3-Nitroaniline		1,005.2	µg/mL	+/-	5.8443	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBX1283V)			+/-	12.0162	µg/mL	Unstressed
	Purity 99%				+/-	19.1236	µg/mL	Stressed
46	Acenaphthene		1,005.9	µg/mL	+/-	5.8482	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKCC8329)			+/-	12.0242	µg/mL	Unstressed
	Purity 99%				+/-	19.1363	µg/mL	Stressed
47	2,4-Dinitrophenol		2,008.3	µg/mL	+/-	11.6766	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBF9439V)			+/-	24.0077	µg/mL	Unstressed
	Purity 99%				+/-	38.2080	µg/mL	Stressed
48	Dibenzofuran		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBW2691V)			+/-	12.0202	µg/mL	Unstressed
	Purity 99%				+/-	19.1300	µg/mL	Stressed
49	4-Nitrophenol		2,009.3	µg/mL	+/-	11.6824	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBV0501V)			+/-	24.0197	µg/mL	Unstressed
	Purity 99%				+/-	38.2270	µg/mL	Stressed
50	2,4-Dinitrotoluene		1,003.9	µg/mL	+/-	5.8366	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/-	12.0003	µg/mL	Unstressed
	Purity 99%				+/-	19.0983	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,001.9	µg/mL	+/-	5.8253	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot B180305L)			+/-	11.9772	µg/mL	Unstressed
	Purity 99%				+/-	19.0615	µg/mL	Stressed
52	Fluorene		1,002.0	µg/mL	+/-	5.8257	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10193329)			+/-	11.9780	µg/mL	Unstressed
	Purity 99%				+/-	19.0628	µg/mL	Stressed
53	n-Hexadecane (C16)		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBG2582V)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
54	Diethylphthalate		1,003.3	µg/mL	+/-	5.8335	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBV9622V)			+/-	11.9939	µg/mL	Unstressed
	Purity 99%				+/-	19.0881	µg/mL	Stressed
55	4-Chlorophenyl phenyl ether		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBX5225V)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed

56	4-Nitroaniline		1,003.1	µg/mL	+/-	5.8319	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	11.9907	µg/mL	Unstressed
	Purity 98%				+/-	19.0830	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,003.7	µg/mL	+/-	11.6495	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC25844V)			+/-	23.9520	µg/mL	Unstressed
	Purity 99%				+/-	38.1192	µg/mL	Stressed
58	Diphenylamine		852.3	µg/mL	+/-	4.9555	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1888	µg/mL	Unstressed
	Purity 99%				+/-	16.2154	µg/mL	Stressed
59	Azobenzene		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBQ0927V)			+/-	12.0202	µg/mL	Unstressed
	Purity 99%				+/-	19.1300	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,022.3	µg/mL	+/-	5.9439	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.2210	µg/mL	Unstressed
	Purity 99%				+/-	19.4496	µg/mL	Stressed
61	Hexachlorobenzene		1,002.5	µg/mL	+/-	5.8288	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot 7013600)			+/-	11.9843	µg/mL	Unstressed
	Purity 99%				+/-	19.0729	µg/mL	Stressed
62	Pentachlorophenol		2,002.1	µg/mL	+/-	11.6406	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170306KJA)			+/-	23.9336	µg/mL	Unstressed
	Purity 99%				+/-	38.0900	µg/mL	Stressed
63	n-Octadecane (C18)		1,002.9	µg/mL	+/-	5.8308	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot OGCDK)			+/-	11.9883	µg/mL	Unstressed
	Purity 99%				+/-	19.0792	µg/mL	Stressed
64	Phenanthrene		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed
65	Anthracene		1,000.3	µg/mL	+/-	5.8156	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBV7759V)			+/-	11.9573	µg/mL	Unstressed
	Purity 99%				+/-	19.0298	µg/mL	Stressed
66	Carbazole		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 6489700)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.7	µg/mL	+/-	5.8470	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0218	µg/mL	Unstressed
	Purity 99%				+/-	19.1325	µg/mL	Stressed
68	Fluoranthene		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	12.0204	µg/mL	Unstressed
	Purity 98%				+/-	19.1302	µg/mL	Stressed
69	Pyrene		1,005.8	µg/mL	+/-	5.8478	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0234	µg/mL	Unstressed
	Purity 99%				+/-	19.1351	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.3	µg/mL	+/-	5.8156	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKBZ4553V)			+/-	11.9571	µg/mL	Unstressed
	Purity 98%				+/-	19.0295	µg/mL	Stressed
71	Benz(a)anthracene		1,003.1	µg/mL	+/-	5.8323	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012012)			+/-	11.9915	µg/mL	Unstressed
	Purity 98%				+/-	19.0842	µg/mL	Stressed

72	Chrysene		1,004.6	µg/mL	+/-	5.8408	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0091	µg/mL	Unstressed
	Purity 99%				+/-	19.1122	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,002.7	µg/mL	+/-	5.8296	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	11.9859	µg/mL	Unstressed
	Purity 99%				+/-	19.0754	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.9	µg/mL	+/-	5.8602	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 6016000)			+/-	12.0489	µg/mL	Unstressed
	Purity 99%				+/-	19.1756	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.6	µg/mL	+/-	5.8350	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9971	µg/mL	Unstressed
	Purity 99%				+/-	19.0932	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012017K)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
77	Benzo(a)pyrene		1,002.1	µg/mL	+/-	5.8261	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	11.9788	µg/mL	Unstressed
	Purity 99%				+/-	19.0640	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,004.0	µg/mL	+/-	5.8373	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0019	µg/mL	Unstressed
	Purity 99%				+/-	19.1008	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,001.9	µg/mL	+/-	5.8249	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	11.9764	µg/mL	Unstressed
	Purity 99%				+/-	19.0602	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.9	µg/mL	+/-	5.8195	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9652	µg/mL	Unstressed
	Purity 99%				+/-	19.0425	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

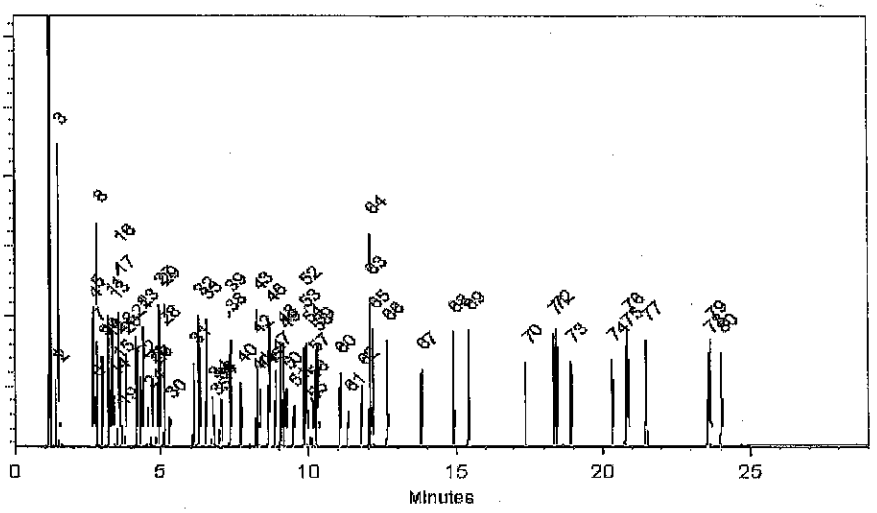
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Joseph Jaglowski - Mix Technician

Date Mixed: 12-Mar-2018 **Balance:** 1128360905

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 27-Mar-2018

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

571995_00044

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0136052

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : September 30, 2019 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane	1,002.0 µg/mL	+/- 5.8257 µg/mL	Gravimetric
	CAS # 123-91-1 (Lot SHBH5677)		+/- 11.9780 µg/mL	Unstressed
	Purity 99%		+/- 19.0628 µg/mL	Stressed
2	N-Nitrosodimethylamine	1,002.0 µg/mL	+/- 5.8257 µg/mL	Gravimetric
	CAS # 62-75-9 (Lot 161108JLM)		+/- 11.9780 µg/mL	Unstressed
	Purity 99%		+/- 19.0628 µg/mL	Stressed
3	Pyridine	2,011.2 µg/mL	+/- 11.6933 µg/mL	Gravimetric
	CAS # 110-86-1 (Lot SHBC7174V)		+/- 24.0420 µg/mL	Unstressed
	Purity 99%		+/- 38.2625 µg/mL	Stressed
4	Phenol	1,005.1 µg/mL	+/- 5.8439 µg/mL	Gravimetric
	CAS # 108-95-2 (Lot SHBF1351V)		+/- 12.0154 µg/mL	Unstressed
	Purity 99%		+/- 19.1224 µg/mL	Stressed
5	Aniline	1,002.6 µg/mL	+/- 5.8292 µg/mL	Gravimetric
	CAS # 62-53-3 (Lot K22Z462)		+/- 11.9851 µg/mL	Unstressed
	Purity 99%		+/- 19.0742 µg/mL	Stressed
6	Bis(2-chloroethyl)ether	1,001.4 µg/mL	+/- 5.8222 µg/mL	Gravimetric
	CAS # 111-44-4 (Lot SHBD4430V)		+/- 11.9708 µg/mL	Unstressed
	Purity 99%		+/- 19.0513 µg/mL	Stressed
7	n-Decane (C10)	1,000.7 µg/mL	+/- 5.8180 µg/mL	Gravimetric
	CAS # 124-18-5 (Lot SHBH3926V)		+/- 11.9620 µg/mL	Unstressed
	Purity 99%		+/- 19.0374 µg/mL	Stressed

8	2-Chlorophenol		1,007.1	µg/mL	+/-	5.8552	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0385	µg/mL	Unstressed
	Purity 99%				+/-	19.1592	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,001.0	µg/mL	+/-	5.8199	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBM5751V)			+/-	11.9660	µg/mL	Unstressed
	Purity 99%				+/-	19.0437	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,004.4	µg/mL	+/-	5.8397	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0067	µg/mL	Unstressed
	Purity 99%				+/-	19.1084	µg/mL	Stressed
11	Benzyl alcohol		1,005.2	µg/mL	+/-	5.8443	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBC1850V)			+/-	12.0162	µg/mL	Unstressed
	Purity 99%				+/-	19.1236	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot 68996CMV)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,006.7	µg/mL	+/-	5.8528	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 5510800)			+/-	12.0336	µg/mL	Unstressed
	Purity 98%				+/-	19.1513	µg/mL	Stressed
15	Acetophenone		1,005.5	µg/mL	+/-	5.8459	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG7113)			+/-	12.0194	µg/mL	Unstressed
	Purity 99%				+/-	19.1287	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		501.0	µg/mL	+/-	2.9196	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	5.9923	µg/mL	Unstressed
	Purity 99%				+/-	9.5334	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.7	µg/mL	+/-	2.9235	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0002	µg/mL	Unstressed
	Purity 99%				+/-	9.5461	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,003.1	µg/mL	+/-	5.8323	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot NOPCF)			+/-	11.9915	µg/mL	Unstressed
	Purity 99%				+/-	19.0843	µg/mL	Stressed
19	Hexachloroethane		1,003.4	µg/mL	+/-	5.8339	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9947	µg/mL	Unstressed
	Purity 99%				+/-	19.0894	µg/mL	Stressed
20	Nitrobenzene		1,002.3	µg/mL	+/-	5.8273	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	11.9812	µg/mL	Unstressed
	Purity 99%				+/-	19.0678	µg/mL	Stressed
21	Isophorone		1,003.3	µg/mL	+/-	5.8334	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	11.9938	µg/mL	Unstressed
	Purity 98%				+/-	19.0879	µg/mL	Stressed
22	2-Nitrophenol		1,007.7	µg/mL	+/-	5.8587	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0457	µg/mL	Unstressed
	Purity 99%				+/-	19.1706	µg/mL	Stressed
23	2,4-Dimethylphenol		1,000.9	µg/mL	+/-	5.8191	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	11.9644	µg/mL	Unstressed
	Purity 99%				+/-	19.0412	µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 4621000)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
25	2,4-Dichlorophenol		1,003.1	µg/mL	+/-	5.8323	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.9915	µg/mL	Unstressed
	Purity 99%				+/-	19.0843	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,005.0	µg/mL	+/-	5.8432	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0138	µg/mL	Unstressed
	Purity 99%				+/-	19.1198	µg/mL	Stressed
27	Naphthalene		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
28	2,6-Dichlorophenol		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
29	4-Chloroaniline		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
30	Hexachlorobutadiene		1,002.5	µg/mL	+/-	5.8284	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	11.9835	µg/mL	Unstressed
	Purity 99%				+/-	19.0716	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,007.7	µg/mL	+/-	5.8587	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBG8884)			+/-	12.0459	µg/mL	Unstressed
	Purity 96%				+/-	19.1708	µg/mL	Stressed
33	1-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-9)			+/-	12.0202	µg/mL	Unstressed
	Purity 99%				+/-	19.1300	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,004.3	µg/mL	+/-	5.8389	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0051	µg/mL	Unstressed
	Purity 99%				+/-	19.1059	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,007.1	µg/mL	+/-	5.8552	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012017H)			+/-	12.0385	µg/mL	Unstressed
	Purity 99%				+/-	19.1592	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,003.5	µg/mL	+/-	5.8342	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	11.9955	µg/mL	Unstressed
	Purity 99%				+/-	19.0907	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,006.4	µg/mL	+/-	5.8513	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0306	µg/mL	Unstressed
	Purity 99%				+/-	19.1465	µg/mL	Stressed
38	2-Chloronaphthalene		1,002.9	µg/mL	+/-	5.8308	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	11.9883	µg/mL	Unstressed
	Purity 99%				+/-	19.0792	µg/mL	Stressed
39	Biphenyl		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed

40	2-Nitroaniline		1,004.5	µg/mL	+/-	5.8401	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)			+/-	12.0075	µg/mL	Unstressed
	Purity 99%				+/-	19.1097	µg/mL	Stressed
41	Acenaphthylene		1,006.0	µg/mL	+/-	5.8491	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot O03R)			+/-	12.0260	µg/mL	Unstressed
	Purity 97%				+/-	19.1392	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,001.8	µg/mL	+/-	5.8246	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBN4329V)			+/-	11.9756	µg/mL	Unstressed
	Purity 99%				+/-	19.0590	µg/mL	Stressed
43	Dimethylphthalate		1,003.7	µg/mL	+/-	5.8358	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)			+/-	11.9987	µg/mL	Unstressed
	Purity 99%				+/-	19.0957	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,000.7	µg/mL	+/-	5.8183	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot BCBB8606V)			+/-	11.9628	µg/mL	Unstressed
	Purity 99%				+/-	19.0387	µg/mL	Stressed
45	3-Nitroaniline		1,005.2	µg/mL	+/-	5.8443	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBX1283V)			+/-	12.0162	µg/mL	Unstressed
	Purity 99%				+/-	19.1236	µg/mL	Stressed
46	Acenaphthene		1,005.9	µg/mL	+/-	5.8482	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKCC8329)			+/-	12.0242	µg/mL	Unstressed
	Purity 99%				+/-	19.1363	µg/mL	Stressed
47	2,4-Dinitrophenol		2,008.3	µg/mL	+/-	11.6766	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBF9439V)			+/-	24.0077	µg/mL	Unstressed
	Purity 99%				+/-	38.2080	µg/mL	Stressed
48	Dibenzofuran		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBW2691V)			+/-	12.0202	µg/mL	Unstressed
	Purity 99%				+/-	19.1300	µg/mL	Stressed
49	4-Nitrophenol		2,009.3	µg/mL	+/-	11.6824	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBV0501V)			+/-	24.0197	µg/mL	Unstressed
	Purity 99%				+/-	38.2270	µg/mL	Stressed
50	2,4-Dinitrotoluene		1,003.9	µg/mL	+/-	5.8366	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/-	12.0003	µg/mL	Unstressed
	Purity 99%				+/-	19.0983	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,001.9	µg/mL	+/-	5.8253	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot B180305L)			+/-	11.9772	µg/mL	Unstressed
	Purity 99%				+/-	19.0615	µg/mL	Stressed
52	Fluorene		1,002.0	µg/mL	+/-	5.8257	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10193329)			+/-	11.9780	µg/mL	Unstressed
	Purity 99%				+/-	19.0628	µg/mL	Stressed
53	n-Hexadecane (C16)		1,001.6	µg/mL	+/-	5.8234	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBG2582V)			+/-	11.9732	µg/mL	Unstressed
	Purity 99%				+/-	19.0551	µg/mL	Stressed
54	Diethylphthalate		1,003.3	µg/mL	+/-	5.8335	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBV9622V)			+/-	11.9939	µg/mL	Unstressed
	Purity 99%				+/-	19.0881	µg/mL	Stressed
55	4-Chlorophenyl phenyl ether		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBX5225V)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed

56	4-Nitroaniline		1,003.1	µg/mL	+/-	5.8319	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	11.9907	µg/mL	Unstressed
	Purity 98%				+/-	19.0830	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,003.7	µg/mL	+/-	11.6495	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC25844V)			+/-	23.9520	µg/mL	Unstressed
	Purity 99%				+/-	38.1192	µg/mL	Stressed
58	Diphenylamine		852.3	µg/mL	+/-	4.9555	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1888	µg/mL	Unstressed
	Purity 99%				+/-	16.2154	µg/mL	Stressed
59	Azobenzene		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBQ0927V)			+/-	12.0202	µg/mL	Unstressed
	Purity 99%				+/-	19.1300	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,022.3	µg/mL	+/-	5.9439	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.2210	µg/mL	Unstressed
	Purity 99%				+/-	19.4496	µg/mL	Stressed
61	Hexachlorobenzene		1,002.5	µg/mL	+/-	5.8288	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot 7013600)			+/-	11.9843	µg/mL	Unstressed
	Purity 99%				+/-	19.0729	µg/mL	Stressed
62	Pentachlorophenol		2,002.1	µg/mL	+/-	11.6406	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170306KJA)			+/-	23.9336	µg/mL	Unstressed
	Purity 99%				+/-	38.0900	µg/mL	Stressed
63	n-Octadecane (C18)		1,002.9	µg/mL	+/-	5.8308	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot OGCDK)			+/-	11.9883	µg/mL	Unstressed
	Purity 99%				+/-	19.0792	µg/mL	Stressed
64	Phenanthrene		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed
65	Anthracene		1,000.3	µg/mL	+/-	5.8156	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBV7759V)			+/-	11.9573	µg/mL	Unstressed
	Purity 99%				+/-	19.0298	µg/mL	Stressed
66	Carbazole		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 6489700)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.7	µg/mL	+/-	5.8470	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0218	µg/mL	Unstressed
	Purity 99%				+/-	19.1325	µg/mL	Stressed
68	Fluoranthene		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	12.0204	µg/mL	Unstressed
	Purity 98%				+/-	19.1302	µg/mL	Stressed
69	Pyrene		1,005.8	µg/mL	+/-	5.8478	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0234	µg/mL	Unstressed
	Purity 99%				+/-	19.1351	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.3	µg/mL	+/-	5.8156	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKBZ4553V)			+/-	11.9571	µg/mL	Unstressed
	Purity 98%				+/-	19.0295	µg/mL	Stressed
71	Benz(a)anthracene		1,003.1	µg/mL	+/-	5.8323	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012012)			+/-	11.9915	µg/mL	Unstressed
	Purity 98%				+/-	19.0842	µg/mL	Stressed

72	Chrysene		1,004.6	µg/mL	+/-	5.8408	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0091	µg/mL	Unstressed
	Purity 99%				+/-	19.1122	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,002.7	µg/mL	+/-	5.8296	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	11.9859	µg/mL	Unstressed
	Purity 99%				+/-	19.0754	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.9	µg/mL	+/-	5.8602	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 6016000)			+/-	12.0489	µg/mL	Unstressed
	Purity 99%				+/-	19.1756	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.6	µg/mL	+/-	5.8350	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9971	µg/mL	Unstressed
	Purity 99%				+/-	19.0932	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012017K)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
77	Benzo(a)pyrene		1,002.1	µg/mL	+/-	5.8261	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	11.9788	µg/mL	Unstressed
	Purity 99%				+/-	19.0640	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,004.0	µg/mL	+/-	5.8373	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0019	µg/mL	Unstressed
	Purity 99%				+/-	19.1008	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,001.9	µg/mL	+/-	5.8249	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	11.9764	µg/mL	Unstressed
	Purity 99%				+/-	19.0602	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.9	µg/mL	+/-	5.8195	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9652	µg/mL	Unstressed
	Purity 99%				+/-	19.0425	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

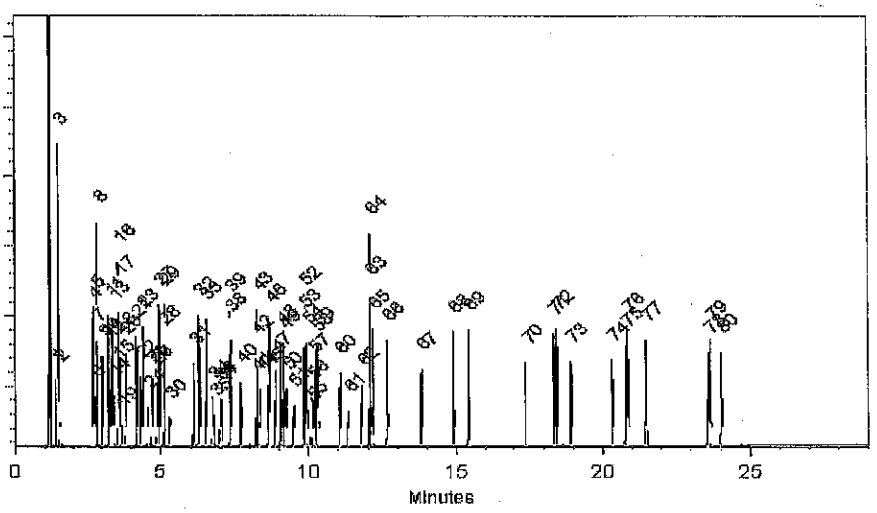
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Joseph Jaglowski - Mix Technician **Date Mixed:** 12-Mar-2018 **Balance:** 1128360905

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 27-Mar-2018

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

571995_00049

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0140111

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBJ5124) **Purity** 99%	1,006.6 µg/mL	+/- 5.8525 µg/mL +/- 12.0330 µg/mL +/- 19.1503 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 180322JLM) **Purity** 99%	1,005.1 µg/mL	+/- 5.8437 µg/mL +/- 12.0150 µg/mL +/- 19.1217 µg/mL	Gravimetric Unstressed Stressed
3	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	2,012.7 µg/mL	+/- 11.7020 µg/mL +/- 24.0599 µg/mL +/- 38.2910 µg/mL	Gravimetric Unstressed Stressed
4	Phenol **CAS #** 108-95-2 (Lot SHBF9719V) **Purity** 99%	1,008.6 µg/mL	+/- 5.8641 µg/mL +/- 12.0569 µg/mL +/- 19.1883 µg/mL	Gravimetric Unstressed Stressed
5	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,006.2 µg/mL	+/- 5.8501 µg/mL +/- 12.0282 µg/mL +/- 19.1427 µg/mL	Gravimetric Unstressed Stressed
6	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot SHBD4430V) **Purity** 99%	1,009.5 µg/mL	+/- 5.8693 µg/mL +/- 12.0676 µg/mL +/- 19.2054 µg/mL	Gravimetric Unstressed Stressed
7	n-Decane (C10) **CAS #** 124-18-5 (Lot SHBJ8526) **Purity** 99%	1,010.0 µg/mL	+/- 5.8722 µg/mL +/- 12.0736 µg/mL +/- 19.2150 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 5670100)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
25	2,4-Dichlorophenol		1,009.0	µg/mL	+/-	5.8664	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBJ8113V)			+/-	12.0616	µg/mL	Unstressed
	Purity 99%				+/-	19.1959	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
27	Naphthalene		1,008.3	µg/mL	+/-	5.8623	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	12.0533	µg/mL	Unstressed
	Purity 99%				+/-	19.1826	µg/mL	Stressed
28	2,6-Dichlorophenol		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
29	4-Chloroaniline		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
30	Hexachlorobutadiene		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8461	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	12.0199	µg/mL	Unstressed
	Purity 96%				+/-	19.1294	µg/mL	Stressed
33	1-Methylnaphthalene		1,002.4	µg/mL	+/-	5.8283	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 523400-9)			+/-	11.9833	µg/mL	Unstressed
	Purity 98%				+/-	19.0712	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,007.2	µg/mL	+/-	5.8559	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0401	µg/mL	Unstressed
	Purity 99%				+/-	19.1617	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,009.2	µg/mL	+/-	5.8676	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0640	µg/mL	Unstressed
	Purity 99%				+/-	19.1997	µg/mL	Stressed
38	2-Chloronaphthalene		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
39	Biphenyl		1,006.3	µg/mL	+/-	5.8507	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	12.0294	µg/mL	Unstressed
	Purity 99%				+/-	19.1446	µg/mL	Stressed

56	4-Nitroaniline		1,007.5	µg/mL	+/-	5.8579	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	12.0442	µg/mL	Unstressed
	Purity 98%				+/-	19.1681	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,012.4	µg/mL	+/-	11.7003	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot B180716L)			+/-	24.0564	µg/mL	Unstressed
	Purity 99%				+/-	38.2853	µg/mL	Stressed
58	Diphenylamine		856.1	µg/mL	+/-	4.9889	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.2395	µg/mL	Unstressed
	Purity 99%				+/-	16.2906	µg/mL	Stressed
59	Azobenzene		1,009.8	µg/mL	+/-	5.8709	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBS6535V)			+/-	12.0709	µg/mL	Unstressed
	Purity 97%				+/-	19.2106	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
61	Hexachlorobenzene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LRAB8468)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
62	Pentachlorophenol		2,005.9	µg/mL	+/-	11.6625	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170717KJA)			+/-	23.9787	µg/mL	Unstressed
	Purity 99%				+/-	38.1617	µg/mL	Stressed
63	n-Octadecane (C18)		1,004.8	µg/mL	+/-	5.8420	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot T7N4E)			+/-	12.0114	µg/mL	Unstressed
	Purity 99%				+/-	19.1160	µg/mL	Stressed
64	Phenanthrene		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
65	Anthracene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
66	Carbazole		1,002.7	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 7528800)			+/-	11.9863	µg/mL	Unstressed
	Purity 99%				+/-	19.0761	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
68	Fluoranthene		1,002.6	µg/mL	+/-	5.8294	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9856	µg/mL	Unstressed
	Purity 98%				+/-	19.0749	µg/mL	Stressed
69	Pyrene		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
70	Benzyl butyl phthalate		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKCF0058)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
71	Benz(a)anthracene		1,004.8	µg/mL	+/-	5.8422	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012018)			+/-	12.0118	µg/mL	Unstressed
	Purity 96%				+/-	19.1166	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

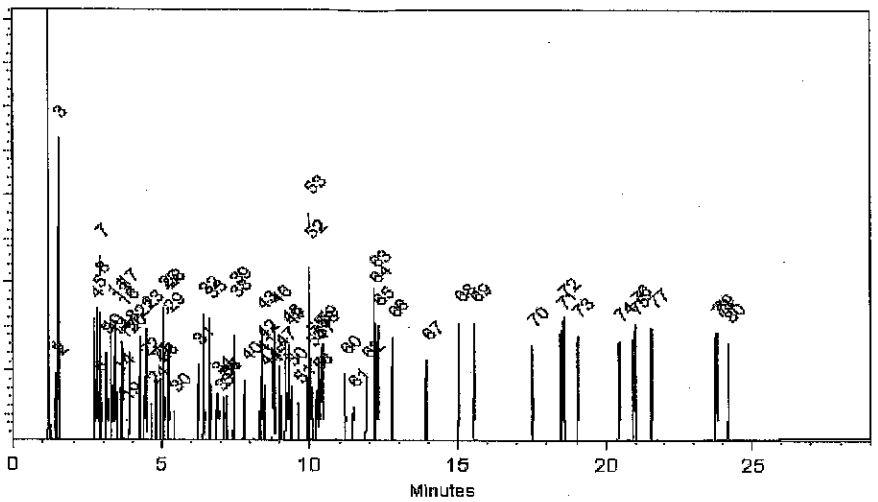
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 30-Jul-2018 **Balance:** B442140311

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 02-Aug-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,007.3	µg/mL	+/-	5.8565	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	12.0413	µg/mL	Unstressed
	Purity 99%				+/-	19.1636	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.0	µg/mL	+/-	5.8548	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 7170200)			+/-	12.0377	µg/mL	Unstressed
	Purity 99%				+/-	19.1579	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.7	µg/mL	+/-	5.8356	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9983	µg/mL	Unstressed
	Purity 99%				+/-	19.0951	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,005.7	µg/mL	+/-	5.8472	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	12.0222	µg/mL	Unstressed
	Purity 99%				+/-	19.1332	µg/mL	Stressed
77	Benzo(a)pyrene		1,008.8	µg/mL	+/-	5.8653	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	12.0593	µg/mL	Unstressed
	Purity 99%				+/-	19.1921	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,006.9	µg/mL	+/-	5.8542	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0365	µg/mL	Unstressed
	Purity 99%				+/-	19.1560	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

40	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,007.5	µg/mL	+/- 5.8577 +/- 12.0437 +/- 19.1674	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	Acenaphthylene **CAS #** 208-96-8 **Purity** 97%	(Lot O03R)	1,007.2	µg/mL	+/- 5.8557 +/- 12.0395 +/- 19.1608	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	1,3-Dinitrobenzene **CAS #** 99-65-0 **Purity** 99%	(Lot BCBN4329V)	1,008.9	µg/mL	+/- 5.8658 +/- 12.0605 +/- 19.1940	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	Dimethylphthalate **CAS #** 131-11-3 **Purity** 99%	(Lot 10117699)	1,009.2	µg/mL	+/- 5.8676 +/- 12.0640 +/- 19.1997	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	2,6-Dinitrotoluene **CAS #** 606-20-2 **Purity** 99%	(Lot 1437483V)	1,009.1	µg/mL	+/- 5.8670 +/- 12.0628 +/- 19.1978	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	3-Nitroaniline **CAS #** 99-09-2 **Purity** 99%	(Lot MKBX1283V)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	Acenaphthene **CAS #** 83-32-9 **Purity** 99%	(Lot MKCC8329)	1,008.1	µg/mL	+/- 5.8612 +/- 12.0509 +/- 19.1788	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	2,4-Dinitrophenol **CAS #** 51-28-5 **Purity** 99%	(Lot STBG3580V)	2,013.2	µg/mL	+/- 11.7049 +/- 24.0659 +/- 38.3005	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	Dibenzofuran **CAS #** 132-64-9 **Purity** 99%	(Lot MKCD9952)	1,007.0	µg/mL	+/- 5.8548 +/- 12.0377 +/- 19.1579	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	4-Nitrophenol **CAS #** 100-02-7 **Purity** 99%	(Lot MKBK1842V)	2,015.4	µg/mL	+/- 11.7177 +/- 24.0922 +/- 38.3424	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,009.5	µg/mL	+/- 5.8693 +/- 12.0676 +/- 19.2054	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	2,3,4,6-Tetrachlorophenol **CAS #** 58-90-2 **Purity** 99%	(Lot PR-30126)	1,005.3	µg/mL	+/- 5.8449 +/- 12.0174 +/- 19.1255	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	Fluorene **CAS #** 86-73-7 **Purity** 98%	(Lot 10174662)	1,007.7	µg/mL	+/- 5.8591 +/- 12.0465 +/- 19.1718	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	n-Hexadecane (C16) **CAS #** 544-76-3 **Purity** 99%	(Lot SHBJ3997)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Diethylphthalate **CAS #** 84-66-2 **Purity** 99%	(Lot MKCB0810V)	1,007.4	µg/mL	+/- 5.8571 +/- 12.0425 +/- 19.1655	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	4-Chlorophenyl phenyl ether **CAS #** 7005-72-3 **Purity** 99%	(Lot MKBX5225V)	1,006.7	µg/mL	+/- 5.8530 +/- 12.0342 +/- 19.1522	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,009.7	µg/mL	+/-	5.8705	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	12.0700	µg/mL	Unstressed
	Purity 99%				+/-	19.2092	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
11	Benzyl alcohol		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBJ0534)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,007.7	µg/mL	+/-	5.8589	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	12.0461	µg/mL	Unstressed
	Purity 99%				+/-	19.1712	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 7577400)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
15	Acetophenone		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG8586)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		504.9	µg/mL	+/-	2.9423	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	6.0389	µg/mL	Unstressed
	Purity 99%				+/-	9.6077	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.8	µg/mL	+/-	2.9242	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0018	µg/mL	Unstressed
	Purity 99%				+/-	9.5487	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
19	Hexachloroethane		1,001.4	µg/mL	+/-	5.8222	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9708	µg/mL	Unstressed
	Purity 99%				+/-	19.0513	µg/mL	Stressed
20	Nitrobenzene		1,005.9	µg/mL	+/-	5.8484	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	12.0246	µg/mL	Unstressed
	Purity 99%				+/-	19.1370	µg/mL	Stressed
21	Isophorone		1,009.1	µg/mL	+/-	5.8670	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	12.0629	µg/mL	Unstressed
	Purity 98%				+/-	19.1979	µg/mL	Stressed
22	2-Nitrophenol		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
23	2,4-Dimethylphenol		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed

Reagent

571995_00050

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0140111

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dioxane		1,006.6	µg/mL	+/- 5.8525	µg/mL	Gravimetric
	CAS # 123-91-1	(Lot SHBJ5124)			+/- 12.0330	µg/mL	Unstressed
	Purity 99%				+/- 19.1503	µg/mL	Stressed
2	N-Nitrosodimethylamine		1,005.1	µg/mL	+/- 5.8437	µg/mL	Gravimetric
	CAS # 62-75-9	(Lot 180322JLM)			+/- 12.0150	µg/mL	Unstressed
	Purity 99%				+/- 19.1217	µg/mL	Stressed
3	Pyridine		2,012.7	µg/mL	+/- 11.7020	µg/mL	Gravimetric
	CAS # 110-86-1	(Lot SHBC7174V)			+/- 24.0599	µg/mL	Unstressed
	Purity 99%				+/- 38.2910	µg/mL	Stressed
4	Phenol		1,008.6	µg/mL	+/- 5.8641	µg/mL	Gravimetric
	CAS # 108-95-2	(Lot SHBF9719V)			+/- 12.0569	µg/mL	Unstressed
	Purity 99%				+/- 19.1883	µg/mL	Stressed
5	Aniline		1,006.2	µg/mL	+/- 5.8501	µg/mL	Gravimetric
	CAS # 62-53-3	(Lot K22Z462)			+/- 12.0282	µg/mL	Unstressed
	Purity 99%				+/- 19.1427	µg/mL	Stressed
6	Bis(2-chloroethyl)ether		1,009.5	µg/mL	+/- 5.8693	µg/mL	Gravimetric
	CAS # 111-44-4	(Lot SHBD4430V)			+/- 12.0676	µg/mL	Unstressed
	Purity 99%				+/- 19.2054	µg/mL	Stressed
7	n-Decane (C10)		1,010.0	µg/mL	+/- 5.8722	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBJ8526)			+/- 12.0736	µg/mL	Unstressed
	Purity 99%				+/- 19.2150	µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 5670100)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
25	2,4-Dichlorophenol		1,009.0	µg/mL	+/-	5.8664	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBJ8113V)			+/-	12.0616	µg/mL	Unstressed
	Purity 99%				+/-	19.1959	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
27	Naphthalene		1,008.3	µg/mL	+/-	5.8623	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	12.0533	µg/mL	Unstressed
	Purity 99%				+/-	19.1826	µg/mL	Stressed
28	2,6-Dichlorophenol		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
29	4-Chloroaniline		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
30	Hexachlorobutadiene		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8461	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	12.0199	µg/mL	Unstressed
	Purity 96%				+/-	19.1294	µg/mL	Stressed
33	1-Methylnaphthalene		1,002.4	µg/mL	+/-	5.8283	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 523400-9)			+/-	11.9833	µg/mL	Unstressed
	Purity 98%				+/-	19.0712	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,007.2	µg/mL	+/-	5.8559	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0401	µg/mL	Unstressed
	Purity 99%				+/-	19.1617	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,009.2	µg/mL	+/-	5.8676	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0640	µg/mL	Unstressed
	Purity 99%				+/-	19.1997	µg/mL	Stressed
38	2-Chloronaphthalene		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
39	Biphenyl		1,006.3	µg/mL	+/-	5.8507	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	12.0294	µg/mL	Unstressed
	Purity 99%				+/-	19.1446	µg/mL	Stressed

56	4-Nitroaniline		1,007.5	µg/mL	+/-	5.8579	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	12.0442	µg/mL	Unstressed
	Purity 98%				+/-	19.1681	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,012.4	µg/mL	+/-	11.7003	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot B180716L)			+/-	24.0564	µg/mL	Unstressed
	Purity 99%				+/-	38.2853	µg/mL	Stressed
58	Diphenylamine		856.1	µg/mL	+/-	4.9889	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.2395	µg/mL	Unstressed
	Purity 99%				+/-	16.2906	µg/mL	Stressed
59	Azobenzene		1,009.8	µg/mL	+/-	5.8709	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBS6535V)			+/-	12.0709	µg/mL	Unstressed
	Purity 97%				+/-	19.2106	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
61	Hexachlorobenzene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LRAB8468)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
62	Pentachlorophenol		2,005.9	µg/mL	+/-	11.6625	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170717KJA)			+/-	23.9787	µg/mL	Unstressed
	Purity 99%				+/-	38.1617	µg/mL	Stressed
63	n-Octadecane (C18)		1,004.8	µg/mL	+/-	5.8420	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot T7N4E)			+/-	12.0114	µg/mL	Unstressed
	Purity 99%				+/-	19.1160	µg/mL	Stressed
64	Phenanthrene		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
65	Anthracene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
66	Carbazole		1,002.7	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 7528800)			+/-	11.9863	µg/mL	Unstressed
	Purity 99%				+/-	19.0761	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
68	Fluoranthene		1,002.6	µg/mL	+/-	5.8294	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9856	µg/mL	Unstressed
	Purity 98%				+/-	19.0749	µg/mL	Stressed
69	Pyrene		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
70	Benzyl butyl phthalate		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKCF0058)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
71	Benz(a)anthracene		1,004.8	µg/mL	+/-	5.8422	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012018)			+/-	12.0118	µg/mL	Unstressed
	Purity 96%				+/-	19.1166	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

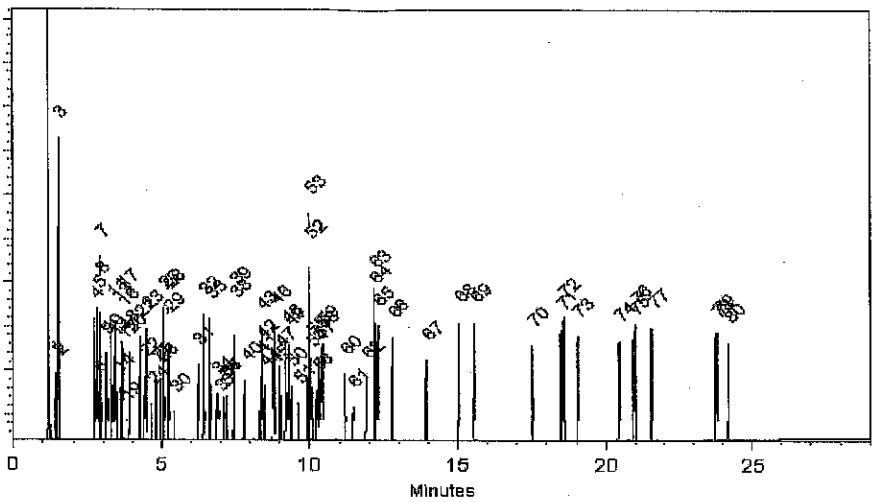
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 30-Jul-2018 **Balance:** B442140311

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 02-Aug-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,007.3	µg/mL	+/-	5.8565	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	12.0413	µg/mL	Unstressed
	Purity 99%				+/-	19.1636	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.0	µg/mL	+/-	5.8548	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 7170200)			+/-	12.0377	µg/mL	Unstressed
	Purity 99%				+/-	19.1579	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.7	µg/mL	+/-	5.8356	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9983	µg/mL	Unstressed
	Purity 99%				+/-	19.0951	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,005.7	µg/mL	+/-	5.8472	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	12.0222	µg/mL	Unstressed
	Purity 99%				+/-	19.1332	µg/mL	Stressed
77	Benzo(a)pyrene		1,008.8	µg/mL	+/-	5.8653	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	12.0593	µg/mL	Unstressed
	Purity 99%				+/-	19.1921	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,006.9	µg/mL	+/-	5.8542	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0365	µg/mL	Unstressed
	Purity 99%				+/-	19.1560	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

40	2-Nitroaniline		1,007.5 µg/mL	+/-	5.8577	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)		+/-	12.0437	µg/mL	Unstressed
	Purity 99%			+/-	19.1674	µg/mL	Stressed
41	Acenaphthylene		1,007.2 µg/mL	+/-	5.8557	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot O03R)		+/-	12.0395	µg/mL	Unstressed
	Purity 97%			+/-	19.1608	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,008.9 µg/mL	+/-	5.8658	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBN4329V)		+/-	12.0605	µg/mL	Unstressed
	Purity 99%			+/-	19.1940	µg/mL	Stressed
43	Dimethylphthalate		1,009.2 µg/mL	+/-	5.8676	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)		+/-	12.0640	µg/mL	Unstressed
	Purity 99%			+/-	19.1997	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,009.1 µg/mL	+/-	5.8670	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)		+/-	12.0628	µg/mL	Unstressed
	Purity 99%			+/-	19.1978	µg/mL	Stressed
45	3-Nitroaniline		1,009.8 µg/mL	+/-	5.8711	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBX1283V)		+/-	12.0712	µg/mL	Unstressed
	Purity 99%			+/-	19.2112	µg/mL	Stressed
46	Acenaphthene		1,008.1 µg/mL	+/-	5.8612	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKCC8329)		+/-	12.0509	µg/mL	Unstressed
	Purity 99%			+/-	19.1788	µg/mL	Stressed
47	2,4-Dinitrophenol		2,013.2 µg/mL	+/-	11.7049	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBG3580V)		+/-	24.0659	µg/mL	Unstressed
	Purity 99%			+/-	38.3005	µg/mL	Stressed
48	Dibenzofuran		1,007.0 µg/mL	+/-	5.8548	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKCD9952)		+/-	12.0377	µg/mL	Unstressed
	Purity 99%			+/-	19.1579	µg/mL	Stressed
49	4-Nitrophenol		2,015.4 µg/mL	+/-	11.7177	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBK1842V)		+/-	24.0922	µg/mL	Unstressed
	Purity 99%			+/-	38.3424	µg/mL	Stressed
50	2,4-Dinitrotoluene		1,009.5 µg/mL	+/-	5.8693	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)		+/-	12.0676	µg/mL	Unstressed
	Purity 99%			+/-	19.2054	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,005.3 µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot PR-30126)		+/-	12.0174	µg/mL	Unstressed
	Purity 99%			+/-	19.1255	µg/mL	Stressed
52	Fluorene		1,007.7 µg/mL	+/-	5.8591	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10174662)		+/-	12.0465	µg/mL	Unstressed
	Purity 98%			+/-	19.1718	µg/mL	Stressed
53	n-Hexadecane (C16)		1,009.8 µg/mL	+/-	5.8711	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBJ3997)		+/-	12.0712	µg/mL	Unstressed
	Purity 99%			+/-	19.2112	µg/mL	Stressed
54	Diethylphthalate		1,007.4 µg/mL	+/-	5.8571	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKCB0810V)		+/-	12.0425	µg/mL	Unstressed
	Purity 99%			+/-	19.1655	µg/mL	Stressed
55	4-Chlorophenyl phenyl ether		1,006.7 µg/mL	+/-	5.8530	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBX5225V)		+/-	12.0342	µg/mL	Unstressed
	Purity 99%			+/-	19.1522	µg/mL	Stressed

8	2-Chlorophenol		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,009.7	µg/mL	+/-	5.8705	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	12.0700	µg/mL	Unstressed
	Purity 99%				+/-	19.2092	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
11	Benzyl alcohol		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBJ0534)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,007.7	µg/mL	+/-	5.8589	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	12.0461	µg/mL	Unstressed
	Purity 99%				+/-	19.1712	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 7577400)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
15	Acetophenone		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG8586)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		504.9	µg/mL	+/-	2.9423	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	6.0389	µg/mL	Unstressed
	Purity 99%				+/-	9.6077	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.8	µg/mL	+/-	2.9242	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0018	µg/mL	Unstressed
	Purity 99%				+/-	9.5487	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
19	Hexachloroethane		1,001.4	µg/mL	+/-	5.8222	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9708	µg/mL	Unstressed
	Purity 99%				+/-	19.0513	µg/mL	Stressed
20	Nitrobenzene		1,005.9	µg/mL	+/-	5.8484	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	12.0246	µg/mL	Unstressed
	Purity 99%				+/-	19.1370	µg/mL	Stressed
21	Isophorone		1,009.1	µg/mL	+/-	5.8670	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	12.0629	µg/mL	Unstressed
	Purity 98%				+/-	19.1979	µg/mL	Stressed
22	2-Nitrophenol		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
23	2,4-Dimethylphenol		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed

Reagent

571995_00051

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0140111

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dioxane		1,006.6	µg/mL	+/- 5.8525	µg/mL	Gravimetric
	CAS # 123-91-1	(Lot SHBJ5124)			+/- 12.0330	µg/mL	Unstressed
	Purity 99%				+/- 19.1503	µg/mL	Stressed
2	N-Nitrosodimethylamine		1,005.1	µg/mL	+/- 5.8437	µg/mL	Gravimetric
	CAS # 62-75-9	(Lot 180322JLM)			+/- 12.0150	µg/mL	Unstressed
	Purity 99%				+/- 19.1217	µg/mL	Stressed
3	Pyridine		2,012.7	µg/mL	+/- 11.7020	µg/mL	Gravimetric
	CAS # 110-86-1	(Lot SHBC7174V)			+/- 24.0599	µg/mL	Unstressed
	Purity 99%				+/- 38.2910	µg/mL	Stressed
4	Phenol		1,008.6	µg/mL	+/- 5.8641	µg/mL	Gravimetric
	CAS # 108-95-2	(Lot SHBF9719V)			+/- 12.0569	µg/mL	Unstressed
	Purity 99%				+/- 19.1883	µg/mL	Stressed
5	Aniline		1,006.2	µg/mL	+/- 5.8501	µg/mL	Gravimetric
	CAS # 62-53-3	(Lot K22Z462)			+/- 12.0282	µg/mL	Unstressed
	Purity 99%				+/- 19.1427	µg/mL	Stressed
6	Bis(2-chloroethyl)ether		1,009.5	µg/mL	+/- 5.8693	µg/mL	Gravimetric
	CAS # 111-44-4	(Lot SHBD4430V)			+/- 12.0676	µg/mL	Unstressed
	Purity 99%				+/- 19.2054	µg/mL	Stressed
7	n-Decane (C10)		1,010.0	µg/mL	+/- 5.8722	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBJ8526)			+/- 12.0736	µg/mL	Unstressed
	Purity 99%				+/- 19.2150	µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 5670100)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
25	2,4-Dichlorophenol		1,009.0	µg/mL	+/-	5.8664	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBJ8113V)			+/-	12.0616	µg/mL	Unstressed
	Purity 99%				+/-	19.1959	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
27	Naphthalene		1,008.3	µg/mL	+/-	5.8623	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	12.0533	µg/mL	Unstressed
	Purity 99%				+/-	19.1826	µg/mL	Stressed
28	2,6-Dichlorophenol		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
29	4-Chloroaniline		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
30	Hexachlorobutadiene		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8461	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	12.0199	µg/mL	Unstressed
	Purity 96%				+/-	19.1294	µg/mL	Stressed
33	1-Methylnaphthalene		1,002.4	µg/mL	+/-	5.8283	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 523400-9)			+/-	11.9833	µg/mL	Unstressed
	Purity 98%				+/-	19.0712	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,007.2	µg/mL	+/-	5.8559	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0401	µg/mL	Unstressed
	Purity 99%				+/-	19.1617	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,009.2	µg/mL	+/-	5.8676	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0640	µg/mL	Unstressed
	Purity 99%				+/-	19.1997	µg/mL	Stressed
38	2-Chloronaphthalene		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
39	Biphenyl		1,006.3	µg/mL	+/-	5.8507	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	12.0294	µg/mL	Unstressed
	Purity 99%				+/-	19.1446	µg/mL	Stressed

56	4-Nitroaniline		1,007.5	µg/mL	+/-	5.8579	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	12.0442	µg/mL	Unstressed
	Purity 98%				+/-	19.1681	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,012.4	µg/mL	+/-	11.7003	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot B180716L)			+/-	24.0564	µg/mL	Unstressed
	Purity 99%				+/-	38.2853	µg/mL	Stressed
58	Diphenylamine		856.1	µg/mL	+/-	4.9889	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.2395	µg/mL	Unstressed
	Purity 99%				+/-	16.2906	µg/mL	Stressed
59	Azobenzene		1,009.8	µg/mL	+/-	5.8709	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBS6535V)			+/-	12.0709	µg/mL	Unstressed
	Purity 97%				+/-	19.2106	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
61	Hexachlorobenzene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LRAB8468)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
62	Pentachlorophenol		2,005.9	µg/mL	+/-	11.6625	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170717KJA)			+/-	23.9787	µg/mL	Unstressed
	Purity 99%				+/-	38.1617	µg/mL	Stressed
63	n-Octadecane (C18)		1,004.8	µg/mL	+/-	5.8420	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot T7N4E)			+/-	12.0114	µg/mL	Unstressed
	Purity 99%				+/-	19.1160	µg/mL	Stressed
64	Phenanthrene		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
65	Anthracene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
66	Carbazole		1,002.7	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 7528800)			+/-	11.9863	µg/mL	Unstressed
	Purity 99%				+/-	19.0761	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
68	Fluoranthene		1,002.6	µg/mL	+/-	5.8294	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9856	µg/mL	Unstressed
	Purity 98%				+/-	19.0749	µg/mL	Stressed
69	Pyrene		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
70	Benzyl butyl phthalate		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKCF0058)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
71	Benz(a)anthracene		1,004.8	µg/mL	+/-	5.8422	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012018)			+/-	12.0118	µg/mL	Unstressed
	Purity 96%				+/-	19.1166	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

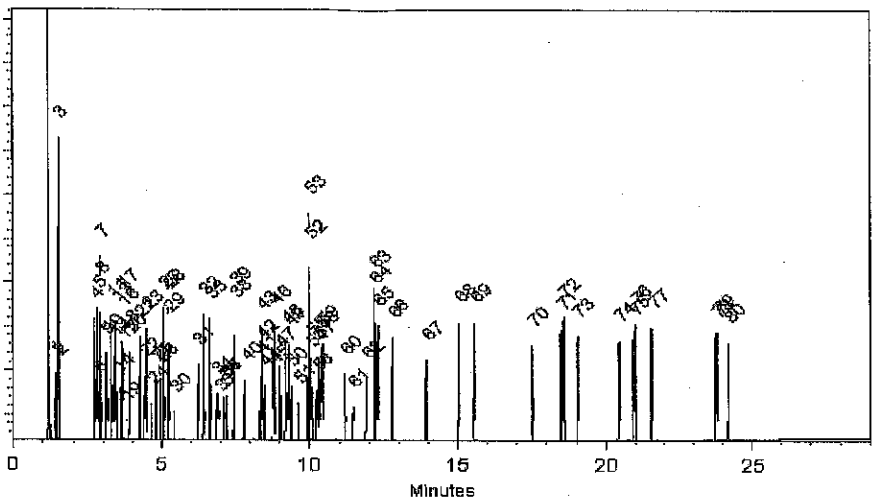
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 30-Jul-2018 **Balance:** B442140311

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 02-Aug-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,007.3	µg/mL	+/-	5.8565	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	12.0413	µg/mL	Unstressed
	Purity 99%				+/-	19.1636	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.0	µg/mL	+/-	5.8548	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 7170200)			+/-	12.0377	µg/mL	Unstressed
	Purity 99%				+/-	19.1579	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.7	µg/mL	+/-	5.8356	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9983	µg/mL	Unstressed
	Purity 99%				+/-	19.0951	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,005.7	µg/mL	+/-	5.8472	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	12.0222	µg/mL	Unstressed
	Purity 99%				+/-	19.1332	µg/mL	Stressed
77	Benzo(a)pyrene		1,008.8	µg/mL	+/-	5.8653	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	12.0593	µg/mL	Unstressed
	Purity 99%				+/-	19.1921	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,006.9	µg/mL	+/-	5.8542	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0365	µg/mL	Unstressed
	Purity 99%				+/-	19.1560	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

40	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,007.5	µg/mL	+/- 5.8577 +/- 12.0437 +/- 19.1674	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	Acenaphthylene **CAS #** 208-96-8 **Purity** 97%	(Lot O03R)	1,007.2	µg/mL	+/- 5.8557 +/- 12.0395 +/- 19.1608	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	1,3-Dinitrobenzene **CAS #** 99-65-0 **Purity** 99%	(Lot BCBN4329V)	1,008.9	µg/mL	+/- 5.8658 +/- 12.0605 +/- 19.1940	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	Dimethylphthalate **CAS #** 131-11-3 **Purity** 99%	(Lot 10117699)	1,009.2	µg/mL	+/- 5.8676 +/- 12.0640 +/- 19.1997	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	2,6-Dinitrotoluene **CAS #** 606-20-2 **Purity** 99%	(Lot 1437483V)	1,009.1	µg/mL	+/- 5.8670 +/- 12.0628 +/- 19.1978	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	3-Nitroaniline **CAS #** 99-09-2 **Purity** 99%	(Lot MKBX1283V)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	Acenaphthene **CAS #** 83-32-9 **Purity** 99%	(Lot MKCC8329)	1,008.1	µg/mL	+/- 5.8612 +/- 12.0509 +/- 19.1788	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	2,4-Dinitrophenol **CAS #** 51-28-5 **Purity** 99%	(Lot STBG3580V)	2,013.2	µg/mL	+/- 11.7049 +/- 24.0659 +/- 38.3005	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	Dibenzofuran **CAS #** 132-64-9 **Purity** 99%	(Lot MKCD9952)	1,007.0	µg/mL	+/- 5.8548 +/- 12.0377 +/- 19.1579	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	4-Nitrophenol **CAS #** 100-02-7 **Purity** 99%	(Lot MKBK1842V)	2,015.4	µg/mL	+/- 11.7177 +/- 24.0922 +/- 38.3424	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,009.5	µg/mL	+/- 5.8693 +/- 12.0676 +/- 19.2054	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	2,3,4,6-Tetrachlorophenol **CAS #** 58-90-2 **Purity** 99%	(Lot PR-30126)	1,005.3	µg/mL	+/- 5.8449 +/- 12.0174 +/- 19.1255	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	Fluorene **CAS #** 86-73-7 **Purity** 98%	(Lot 10174662)	1,007.7	µg/mL	+/- 5.8591 +/- 12.0465 +/- 19.1718	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	n-Hexadecane (C16) **CAS #** 544-76-3 **Purity** 99%	(Lot SHBJ3997)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Diethylphthalate **CAS #** 84-66-2 **Purity** 99%	(Lot MKCB0810V)	1,007.4	µg/mL	+/- 5.8571 +/- 12.0425 +/- 19.1655	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	4-Chlorophenyl phenyl ether **CAS #** 7005-72-3 **Purity** 99%	(Lot MKBX5225V)	1,006.7	µg/mL	+/- 5.8530 +/- 12.0342 +/- 19.1522	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,009.7	µg/mL	+/-	5.8705	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	12.0700	µg/mL	Unstressed
	Purity 99%				+/-	19.2092	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
11	Benzyl alcohol		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBJ0534)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,007.7	µg/mL	+/-	5.8589	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	12.0461	µg/mL	Unstressed
	Purity 99%				+/-	19.1712	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 7577400)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
15	Acetophenone		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG8586)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		504.9	µg/mL	+/-	2.9423	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	6.0389	µg/mL	Unstressed
	Purity 99%				+/-	9.6077	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.8	µg/mL	+/-	2.9242	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0018	µg/mL	Unstressed
	Purity 99%				+/-	9.5487	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
19	Hexachloroethane		1,001.4	µg/mL	+/-	5.8222	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9708	µg/mL	Unstressed
	Purity 99%				+/-	19.0513	µg/mL	Stressed
20	Nitrobenzene		1,005.9	µg/mL	+/-	5.8484	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	12.0246	µg/mL	Unstressed
	Purity 99%				+/-	19.1370	µg/mL	Stressed
21	Isophorone		1,009.1	µg/mL	+/-	5.8670	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	12.0629	µg/mL	Unstressed
	Purity 98%				+/-	19.1979	µg/mL	Stressed
22	2-Nitrophenol		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
23	2,4-Dimethylphenol		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed

Reagent

571995_00052

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0140111

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane		1,006.6 µg/mL	+/- 5.8525 µg/mL	Gravimetric
	CAS # 123-91-1	(Lot SHBJ5124)		+/- 12.0330 µg/mL	Unstressed
	Purity 99%			+/- 19.1503 µg/mL	Stressed
2	N-Nitrosodimethylamine		1,005.1 µg/mL	+/- 5.8437 µg/mL	Gravimetric
	CAS # 62-75-9	(Lot 180322JLM)		+/- 12.0150 µg/mL	Unstressed
	Purity 99%			+/- 19.1217 µg/mL	Stressed
3	Pyridine		2,012.7 µg/mL	+/- 11.7020 µg/mL	Gravimetric
	CAS # 110-86-1	(Lot SHBC7174V)		+/- 24.0599 µg/mL	Unstressed
	Purity 99%			+/- 38.2910 µg/mL	Stressed
4	Phenol		1,008.6 µg/mL	+/- 5.8641 µg/mL	Gravimetric
	CAS # 108-95-2	(Lot SHBF9719V)		+/- 12.0569 µg/mL	Unstressed
	Purity 99%			+/- 19.1883 µg/mL	Stressed
5	Aniline		1,006.2 µg/mL	+/- 5.8501 µg/mL	Gravimetric
	CAS # 62-53-3	(Lot K22Z462)		+/- 12.0282 µg/mL	Unstressed
	Purity 99%			+/- 19.1427 µg/mL	Stressed
6	Bis(2-chloroethyl)ether		1,009.5 µg/mL	+/- 5.8693 µg/mL	Gravimetric
	CAS # 111-44-4	(Lot SHBD4430V)		+/- 12.0676 µg/mL	Unstressed
	Purity 99%			+/- 19.2054 µg/mL	Stressed
7	n-Decane (C10)		1,010.0 µg/mL	+/- 5.8722 µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBJ8526)		+/- 12.0736 µg/mL	Unstressed
	Purity 99%			+/- 19.2150 µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 5670100)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
25	2,4-Dichlorophenol		1,009.0	µg/mL	+/-	5.8664	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBJ8113V)			+/-	12.0616	µg/mL	Unstressed
	Purity 99%				+/-	19.1959	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
27	Naphthalene		1,008.3	µg/mL	+/-	5.8623	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	12.0533	µg/mL	Unstressed
	Purity 99%				+/-	19.1826	µg/mL	Stressed
28	2,6-Dichlorophenol		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
29	4-Chloroaniline		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
30	Hexachlorobutadiene		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8461	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	12.0199	µg/mL	Unstressed
	Purity 96%				+/-	19.1294	µg/mL	Stressed
33	1-Methylnaphthalene		1,002.4	µg/mL	+/-	5.8283	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 523400-9)			+/-	11.9833	µg/mL	Unstressed
	Purity 98%				+/-	19.0712	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,007.2	µg/mL	+/-	5.8559	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0401	µg/mL	Unstressed
	Purity 99%				+/-	19.1617	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,009.2	µg/mL	+/-	5.8676	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0640	µg/mL	Unstressed
	Purity 99%				+/-	19.1997	µg/mL	Stressed
38	2-Chloronaphthalene		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
39	Biphenyl		1,006.3	µg/mL	+/-	5.8507	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	12.0294	µg/mL	Unstressed
	Purity 99%				+/-	19.1446	µg/mL	Stressed

56	4-Nitroaniline		1,007.5	µg/mL	+/-	5.8579	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	12.0442	µg/mL	Unstressed
	Purity 98%				+/-	19.1681	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,012.4	µg/mL	+/-	11.7003	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot B180716L)			+/-	24.0564	µg/mL	Unstressed
	Purity 99%				+/-	38.2853	µg/mL	Stressed
58	Diphenylamine		856.1	µg/mL	+/-	4.9889	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.2395	µg/mL	Unstressed
	Purity 99%				+/-	16.2906	µg/mL	Stressed
59	Azobenzene		1,009.8	µg/mL	+/-	5.8709	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBS6535V)			+/-	12.0709	µg/mL	Unstressed
	Purity 97%				+/-	19.2106	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
61	Hexachlorobenzene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LRAB8468)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
62	Pentachlorophenol		2,005.9	µg/mL	+/-	11.6625	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170717KJA)			+/-	23.9787	µg/mL	Unstressed
	Purity 99%				+/-	38.1617	µg/mL	Stressed
63	n-Octadecane (C18)		1,004.8	µg/mL	+/-	5.8420	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot T7N4E)			+/-	12.0114	µg/mL	Unstressed
	Purity 99%				+/-	19.1160	µg/mL	Stressed
64	Phenanthrene		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
65	Anthracene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
66	Carbazole		1,002.7	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 7528800)			+/-	11.9863	µg/mL	Unstressed
	Purity 99%				+/-	19.0761	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
68	Fluoranthene		1,002.6	µg/mL	+/-	5.8294	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9856	µg/mL	Unstressed
	Purity 98%				+/-	19.0749	µg/mL	Stressed
69	Pyrene		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
70	Benzyl butyl phthalate		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKCF0058)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
71	Benz(a)anthracene		1,004.8	µg/mL	+/-	5.8422	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012018)			+/-	12.0118	µg/mL	Unstressed
	Purity 96%				+/-	19.1166	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

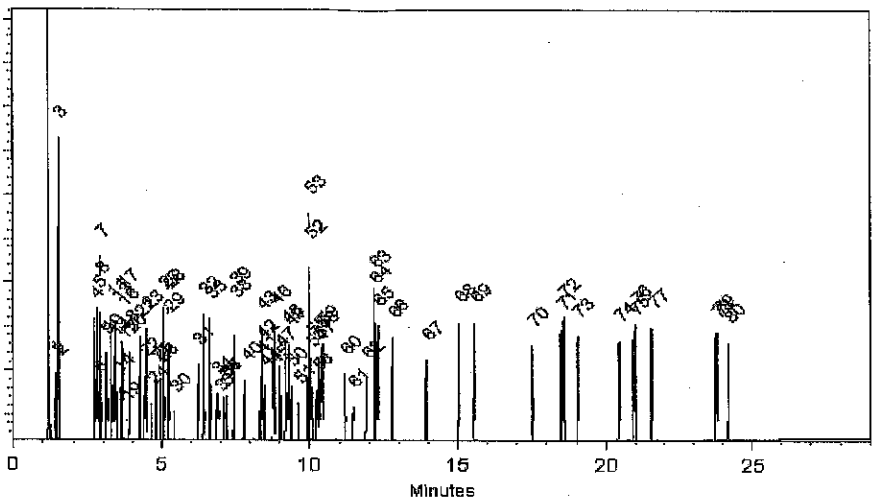
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 30-Jul-2018 **Balance:** B442140311

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 02-Aug-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,007.3	µg/mL	+/-	5.8565	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	12.0413	µg/mL	Unstressed
	Purity 99%				+/-	19.1636	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.0	µg/mL	+/-	5.8548	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 7170200)			+/-	12.0377	µg/mL	Unstressed
	Purity 99%				+/-	19.1579	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.7	µg/mL	+/-	5.8356	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9983	µg/mL	Unstressed
	Purity 99%				+/-	19.0951	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,005.7	µg/mL	+/-	5.8472	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	12.0222	µg/mL	Unstressed
	Purity 99%				+/-	19.1332	µg/mL	Stressed
77	Benzo(a)pyrene		1,008.8	µg/mL	+/-	5.8653	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	12.0593	µg/mL	Unstressed
	Purity 99%				+/-	19.1921	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,006.9	µg/mL	+/-	5.8542	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0365	µg/mL	Unstressed
	Purity 99%				+/-	19.1560	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

40	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,007.5	µg/mL	+/- 5.8577 +/- 12.0437 +/- 19.1674	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	Acenaphthylene **CAS #** 208-96-8 **Purity** 97%	(Lot O03R)	1,007.2	µg/mL	+/- 5.8557 +/- 12.0395 +/- 19.1608	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	1,3-Dinitrobenzene **CAS #** 99-65-0 **Purity** 99%	(Lot BCBN4329V)	1,008.9	µg/mL	+/- 5.8658 +/- 12.0605 +/- 19.1940	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	Dimethylphthalate **CAS #** 131-11-3 **Purity** 99%	(Lot 10117699)	1,009.2	µg/mL	+/- 5.8676 +/- 12.0640 +/- 19.1997	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	2,6-Dinitrotoluene **CAS #** 606-20-2 **Purity** 99%	(Lot 1437483V)	1,009.1	µg/mL	+/- 5.8670 +/- 12.0628 +/- 19.1978	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	3-Nitroaniline **CAS #** 99-09-2 **Purity** 99%	(Lot MKBX1283V)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	Acenaphthene **CAS #** 83-32-9 **Purity** 99%	(Lot MKCC8329)	1,008.1	µg/mL	+/- 5.8612 +/- 12.0509 +/- 19.1788	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	2,4-Dinitrophenol **CAS #** 51-28-5 **Purity** 99%	(Lot STBG3580V)	2,013.2	µg/mL	+/- 11.7049 +/- 24.0659 +/- 38.3005	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	Dibenzofuran **CAS #** 132-64-9 **Purity** 99%	(Lot MKCD9952)	1,007.0	µg/mL	+/- 5.8548 +/- 12.0377 +/- 19.1579	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	4-Nitrophenol **CAS #** 100-02-7 **Purity** 99%	(Lot MKBK1842V)	2,015.4	µg/mL	+/- 11.7177 +/- 24.0922 +/- 38.3424	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,009.5	µg/mL	+/- 5.8693 +/- 12.0676 +/- 19.2054	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	2,3,4,6-Tetrachlorophenol **CAS #** 58-90-2 **Purity** 99%	(Lot PR-30126)	1,005.3	µg/mL	+/- 5.8449 +/- 12.0174 +/- 19.1255	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	Fluorene **CAS #** 86-73-7 **Purity** 98%	(Lot 10174662)	1,007.7	µg/mL	+/- 5.8591 +/- 12.0465 +/- 19.1718	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	n-Hexadecane (C16) **CAS #** 544-76-3 **Purity** 99%	(Lot SHBJ3997)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Diethylphthalate **CAS #** 84-66-2 **Purity** 99%	(Lot MKCB0810V)	1,007.4	µg/mL	+/- 5.8571 +/- 12.0425 +/- 19.1655	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	4-Chlorophenyl phenyl ether **CAS #** 7005-72-3 **Purity** 99%	(Lot MKBX5225V)	1,006.7	µg/mL	+/- 5.8530 +/- 12.0342 +/- 19.1522	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,009.7	µg/mL	+/-	5.8705	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	12.0700	µg/mL	Unstressed
	Purity 99%				+/-	19.2092	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
11	Benzyl alcohol		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBJ0534)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,007.7	µg/mL	+/-	5.8589	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	12.0461	µg/mL	Unstressed
	Purity 99%				+/-	19.1712	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 7577400)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
15	Acetophenone		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG8586)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		504.9	µg/mL	+/-	2.9423	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	6.0389	µg/mL	Unstressed
	Purity 99%				+/-	9.6077	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.8	µg/mL	+/-	2.9242	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0018	µg/mL	Unstressed
	Purity 99%				+/-	9.5487	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
19	Hexachloroethane		1,001.4	µg/mL	+/-	5.8222	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9708	µg/mL	Unstressed
	Purity 99%				+/-	19.0513	µg/mL	Stressed
20	Nitrobenzene		1,005.9	µg/mL	+/-	5.8484	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	12.0246	µg/mL	Unstressed
	Purity 99%				+/-	19.1370	µg/mL	Stressed
21	Isophorone		1,009.1	µg/mL	+/-	5.8670	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	12.0629	µg/mL	Unstressed
	Purity 98%				+/-	19.1979	µg/mL	Stressed
22	2-Nitrophenol		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
23	2,4-Dimethylphenol		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed

Reagent

571995_00053

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0140111

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 **Purity** 99%	(Lot SHBJ5124)	1,006.6 µg/mL	+/- 5.8525 µg/mL +/- 12.0330 µg/mL +/- 19.1503 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine **CAS #** 62-75-9 **Purity** 99%	(Lot 180322JLM)	1,005.1 µg/mL	+/- 5.8437 µg/mL +/- 12.0150 µg/mL +/- 19.1217 µg/mL	Gravimetric Unstressed Stressed
3	Pyridine **CAS #** 110-86-1 **Purity** 99%	(Lot SHBC7174V)	2,012.7 µg/mL	+/- 11.7020 µg/mL +/- 24.0599 µg/mL +/- 38.2910 µg/mL	Gravimetric Unstressed Stressed
4	Phenol **CAS #** 108-95-2 **Purity** 99%	(Lot SHBF9719V)	1,008.6 µg/mL	+/- 5.8641 µg/mL +/- 12.0569 µg/mL +/- 19.1883 µg/mL	Gravimetric Unstressed Stressed
5	Aniline **CAS #** 62-53-3 **Purity** 99%	(Lot K22Z462)	1,006.2 µg/mL	+/- 5.8501 µg/mL +/- 12.0282 µg/mL +/- 19.1427 µg/mL	Gravimetric Unstressed Stressed
6	Bis(2-chloroethyl)ether **CAS #** 111-44-4 **Purity** 99%	(Lot SHBD4430V)	1,009.5 µg/mL	+/- 5.8693 µg/mL +/- 12.0676 µg/mL +/- 19.2054 µg/mL	Gravimetric Unstressed Stressed
7	n-Decane (C10) **CAS #** 124-18-5 **Purity** 99%	(Lot SHBJ8526)	1,010.0 µg/mL	+/- 5.8722 µg/mL +/- 12.0736 µg/mL +/- 19.2150 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 5670100)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
25	2,4-Dichlorophenol		1,009.0	µg/mL	+/-	5.8664	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBJ8113V)			+/-	12.0616	µg/mL	Unstressed
	Purity 99%				+/-	19.1959	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
27	Naphthalene		1,008.3	µg/mL	+/-	5.8623	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	12.0533	µg/mL	Unstressed
	Purity 99%				+/-	19.1826	µg/mL	Stressed
28	2,6-Dichlorophenol		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
29	4-Chloroaniline		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
30	Hexachlorobutadiene		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8461	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	12.0199	µg/mL	Unstressed
	Purity 96%				+/-	19.1294	µg/mL	Stressed
33	1-Methylnaphthalene		1,002.4	µg/mL	+/-	5.8283	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 523400-9)			+/-	11.9833	µg/mL	Unstressed
	Purity 98%				+/-	19.0712	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,007.2	µg/mL	+/-	5.8559	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0401	µg/mL	Unstressed
	Purity 99%				+/-	19.1617	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,009.2	µg/mL	+/-	5.8676	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0640	µg/mL	Unstressed
	Purity 99%				+/-	19.1997	µg/mL	Stressed
38	2-Chloronaphthalene		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
39	Biphenyl		1,006.3	µg/mL	+/-	5.8507	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	12.0294	µg/mL	Unstressed
	Purity 99%				+/-	19.1446	µg/mL	Stressed

56	4-Nitroaniline		1,007.5	µg/mL	+/-	5.8579	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	12.0442	µg/mL	Unstressed
	Purity 98%				+/-	19.1681	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,012.4	µg/mL	+/-	11.7003	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot B180716L)			+/-	24.0564	µg/mL	Unstressed
	Purity 99%				+/-	38.2853	µg/mL	Stressed
58	Diphenylamine		856.1	µg/mL	+/-	4.9889	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.2395	µg/mL	Unstressed
	Purity 99%				+/-	16.2906	µg/mL	Stressed
59	Azobenzene		1,009.8	µg/mL	+/-	5.8709	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBS6535V)			+/-	12.0709	µg/mL	Unstressed
	Purity 97%				+/-	19.2106	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
61	Hexachlorobenzene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LRAB8468)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
62	Pentachlorophenol		2,005.9	µg/mL	+/-	11.6625	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170717KJA)			+/-	23.9787	µg/mL	Unstressed
	Purity 99%				+/-	38.1617	µg/mL	Stressed
63	n-Octadecane (C18)		1,004.8	µg/mL	+/-	5.8420	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot T7N4E)			+/-	12.0114	µg/mL	Unstressed
	Purity 99%				+/-	19.1160	µg/mL	Stressed
64	Phenanthrene		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
65	Anthracene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
66	Carbazole		1,002.7	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 7528800)			+/-	11.9863	µg/mL	Unstressed
	Purity 99%				+/-	19.0761	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
68	Fluoranthene		1,002.6	µg/mL	+/-	5.8294	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9856	µg/mL	Unstressed
	Purity 98%				+/-	19.0749	µg/mL	Stressed
69	Pyrene		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
70	Benzyl butyl phthalate		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKCF0058)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
71	Benz(a)anthracene		1,004.8	µg/mL	+/-	5.8422	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012018)			+/-	12.0118	µg/mL	Unstressed
	Purity 96%				+/-	19.1166	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

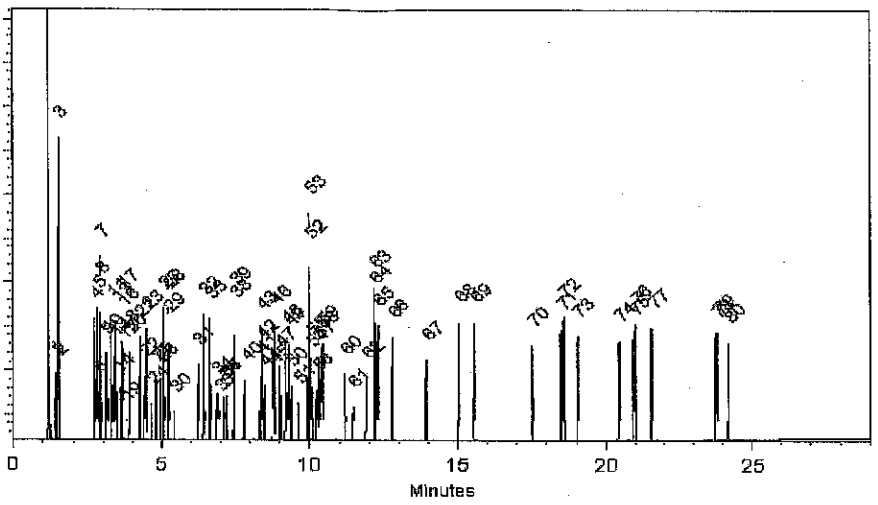
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 30-Jul-2018 **Balance:** B442140311

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 02-Aug-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,007.3	µg/mL	+/-	5.8565	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	12.0413	µg/mL	Unstressed
	Purity 99%				+/-	19.1636	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.0	µg/mL	+/-	5.8548	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 7170200)			+/-	12.0377	µg/mL	Unstressed
	Purity 99%				+/-	19.1579	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.7	µg/mL	+/-	5.8356	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9983	µg/mL	Unstressed
	Purity 99%				+/-	19.0951	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,005.7	µg/mL	+/-	5.8472	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	12.0222	µg/mL	Unstressed
	Purity 99%				+/-	19.1332	µg/mL	Stressed
77	Benzo(a)pyrene		1,008.8	µg/mL	+/-	5.8653	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	12.0593	µg/mL	Unstressed
	Purity 99%				+/-	19.1921	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,006.9	µg/mL	+/-	5.8542	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0365	µg/mL	Unstressed
	Purity 99%				+/-	19.1560	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

40	2-Nitroaniline		1,007.5 µg/mL	+/- 5.8577	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)		+/- 12.0437	µg/mL	Unstressed
	Purity 99%			+/- 19.1674	µg/mL	Stressed
41	Acenaphthylene		1,007.2 µg/mL	+/- 5.8557	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot O03R)		+/- 12.0395	µg/mL	Unstressed
	Purity 97%			+/- 19.1608	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,008.9 µg/mL	+/- 5.8658	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBN4329V)		+/- 12.0605	µg/mL	Unstressed
	Purity 99%			+/- 19.1940	µg/mL	Stressed
43	Dimethylphthalate		1,009.2 µg/mL	+/- 5.8676	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)		+/- 12.0640	µg/mL	Unstressed
	Purity 99%			+/- 19.1997	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,009.1 µg/mL	+/- 5.8670	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)		+/- 12.0628	µg/mL	Unstressed
	Purity 99%			+/- 19.1978	µg/mL	Stressed
45	3-Nitroaniline		1,009.8 µg/mL	+/- 5.8711	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBX1283V)		+/- 12.0712	µg/mL	Unstressed
	Purity 99%			+/- 19.2112	µg/mL	Stressed
46	Acenaphthene		1,008.1 µg/mL	+/- 5.8612	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKCC8329)		+/- 12.0509	µg/mL	Unstressed
	Purity 99%			+/- 19.1788	µg/mL	Stressed
47	2,4-Dinitrophenol		2,013.2 µg/mL	+/- 11.7049	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot STBG3580V)		+/- 24.0659	µg/mL	Unstressed
	Purity 99%			+/- 38.3005	µg/mL	Stressed
48	Dibenzofuran		1,007.0 µg/mL	+/- 5.8548	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKCD9952)		+/- 12.0377	µg/mL	Unstressed
	Purity 99%			+/- 19.1579	µg/mL	Stressed
49	4-Nitrophenol		2,015.4 µg/mL	+/- 11.7177	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBK1842V)		+/- 24.0922	µg/mL	Unstressed
	Purity 99%			+/- 38.3424	µg/mL	Stressed
50	2,4-Dinitrotoluene		1,009.5 µg/mL	+/- 5.8693	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)		+/- 12.0676	µg/mL	Unstressed
	Purity 99%			+/- 19.2054	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,005.3 µg/mL	+/- 5.8449	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot PR-30126)		+/- 12.0174	µg/mL	Unstressed
	Purity 99%			+/- 19.1255	µg/mL	Stressed
52	Fluorene		1,007.7 µg/mL	+/- 5.8591	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10174662)		+/- 12.0465	µg/mL	Unstressed
	Purity 98%			+/- 19.1718	µg/mL	Stressed
53	n-Hexadecane (C16)		1,009.8 µg/mL	+/- 5.8711	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBJ3997)		+/- 12.0712	µg/mL	Unstressed
	Purity 99%			+/- 19.2112	µg/mL	Stressed
54	Diethylphthalate		1,007.4 µg/mL	+/- 5.8571	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKCB0810V)		+/- 12.0425	µg/mL	Unstressed
	Purity 99%			+/- 19.1655	µg/mL	Stressed
55	4-Chlorophenyl phenyl ether		1,006.7 µg/mL	+/- 5.8530	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBX5225V)		+/- 12.0342	µg/mL	Unstressed
	Purity 99%			+/- 19.1522	µg/mL	Stressed

8	2-Chlorophenol		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,009.7	µg/mL	+/-	5.8705	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	12.0700	µg/mL	Unstressed
	Purity 99%				+/-	19.2092	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
11	Benzyl alcohol		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBJ0534)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,007.7	µg/mL	+/-	5.8589	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	12.0461	µg/mL	Unstressed
	Purity 99%				+/-	19.1712	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 7577400)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
15	Acetophenone		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG8586)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		504.9	µg/mL	+/-	2.9423	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	6.0389	µg/mL	Unstressed
	Purity 99%				+/-	9.6077	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.8	µg/mL	+/-	2.9242	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0018	µg/mL	Unstressed
	Purity 99%				+/-	9.5487	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
19	Hexachloroethane		1,001.4	µg/mL	+/-	5.8222	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9708	µg/mL	Unstressed
	Purity 99%				+/-	19.0513	µg/mL	Stressed
20	Nitrobenzene		1,005.9	µg/mL	+/-	5.8484	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	12.0246	µg/mL	Unstressed
	Purity 99%				+/-	19.1370	µg/mL	Stressed
21	Isophorone		1,009.1	µg/mL	+/-	5.8670	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	12.0629	µg/mL	Unstressed
	Purity 98%				+/-	19.1979	µg/mL	Stressed
22	2-Nitrophenol		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
23	2,4-Dimethylphenol		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed

Reagent

571995_00055

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0140111

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dioxane		1,006.6	µg/mL	+/- 5.8525	µg/mL	Gravimetric
	CAS # 123-91-1	(Lot SHBJ5124)			+/- 12.0330	µg/mL	Unstressed
	Purity 99%				+/- 19.1503	µg/mL	Stressed
2	N-Nitrosodimethylamine		1,005.1	µg/mL	+/- 5.8437	µg/mL	Gravimetric
	CAS # 62-75-9	(Lot 180322JLM)			+/- 12.0150	µg/mL	Unstressed
	Purity 99%				+/- 19.1217	µg/mL	Stressed
3	Pyridine		2,012.7	µg/mL	+/- 11.7020	µg/mL	Gravimetric
	CAS # 110-86-1	(Lot SHBC7174V)			+/- 24.0599	µg/mL	Unstressed
	Purity 99%				+/- 38.2910	µg/mL	Stressed
4	Phenol		1,008.6	µg/mL	+/- 5.8641	µg/mL	Gravimetric
	CAS # 108-95-2	(Lot SHBF9719V)			+/- 12.0569	µg/mL	Unstressed
	Purity 99%				+/- 19.1883	µg/mL	Stressed
5	Aniline		1,006.2	µg/mL	+/- 5.8501	µg/mL	Gravimetric
	CAS # 62-53-3	(Lot K22Z462)			+/- 12.0282	µg/mL	Unstressed
	Purity 99%				+/- 19.1427	µg/mL	Stressed
6	Bis(2-chloroethyl)ether		1,009.5	µg/mL	+/- 5.8693	µg/mL	Gravimetric
	CAS # 111-44-4	(Lot SHBD4430V)			+/- 12.0676	µg/mL	Unstressed
	Purity 99%				+/- 19.2054	µg/mL	Stressed
7	n-Decane (C10)		1,010.0	µg/mL	+/- 5.8722	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBJ8526)			+/- 12.0736	µg/mL	Unstressed
	Purity 99%				+/- 19.2150	µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 5670100)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
25	2,4-Dichlorophenol		1,009.0	µg/mL	+/-	5.8664	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBJ8113V)			+/-	12.0616	µg/mL	Unstressed
	Purity 99%				+/-	19.1959	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
27	Naphthalene		1,008.3	µg/mL	+/-	5.8623	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	12.0533	µg/mL	Unstressed
	Purity 99%				+/-	19.1826	µg/mL	Stressed
28	2,6-Dichlorophenol		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
29	4-Chloroaniline		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
30	Hexachlorobutadiene		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8461	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	12.0199	µg/mL	Unstressed
	Purity 96%				+/-	19.1294	µg/mL	Stressed
33	1-Methylnaphthalene		1,002.4	µg/mL	+/-	5.8283	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 523400-9)			+/-	11.9833	µg/mL	Unstressed
	Purity 98%				+/-	19.0712	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,007.2	µg/mL	+/-	5.8559	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0401	µg/mL	Unstressed
	Purity 99%				+/-	19.1617	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,009.2	µg/mL	+/-	5.8676	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0640	µg/mL	Unstressed
	Purity 99%				+/-	19.1997	µg/mL	Stressed
38	2-Chloronaphthalene		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
39	Biphenyl		1,006.3	µg/mL	+/-	5.8507	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	12.0294	µg/mL	Unstressed
	Purity 99%				+/-	19.1446	µg/mL	Stressed

56	4-Nitroaniline		1,007.5	µg/mL	+/-	5.8579	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	12.0442	µg/mL	Unstressed
	Purity 98%				+/-	19.1681	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,012.4	µg/mL	+/-	11.7003	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot B180716L)			+/-	24.0564	µg/mL	Unstressed
	Purity 99%				+/-	38.2853	µg/mL	Stressed
58	Diphenylamine		856.1	µg/mL	+/-	4.9889	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.2395	µg/mL	Unstressed
	Purity 99%				+/-	16.2906	µg/mL	Stressed
59	Azobenzene		1,009.8	µg/mL	+/-	5.8709	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBS6535V)			+/-	12.0709	µg/mL	Unstressed
	Purity 97%				+/-	19.2106	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
61	Hexachlorobenzene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LRAB8468)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
62	Pentachlorophenol		2,005.9	µg/mL	+/-	11.6625	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170717KJA)			+/-	23.9787	µg/mL	Unstressed
	Purity 99%				+/-	38.1617	µg/mL	Stressed
63	n-Octadecane (C18)		1,004.8	µg/mL	+/-	5.8420	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot T7N4E)			+/-	12.0114	µg/mL	Unstressed
	Purity 99%				+/-	19.1160	µg/mL	Stressed
64	Phenanthrene		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
65	Anthracene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
66	Carbazole		1,002.7	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 7528800)			+/-	11.9863	µg/mL	Unstressed
	Purity 99%				+/-	19.0761	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
68	Fluoranthene		1,002.6	µg/mL	+/-	5.8294	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9856	µg/mL	Unstressed
	Purity 98%				+/-	19.0749	µg/mL	Stressed
69	Pyrene		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
70	Benzyl butyl phthalate		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKCF0058)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
71	Benz(a)anthracene		1,004.8	µg/mL	+/-	5.8422	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012018)			+/-	12.0118	µg/mL	Unstressed
	Purity 96%				+/-	19.1166	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

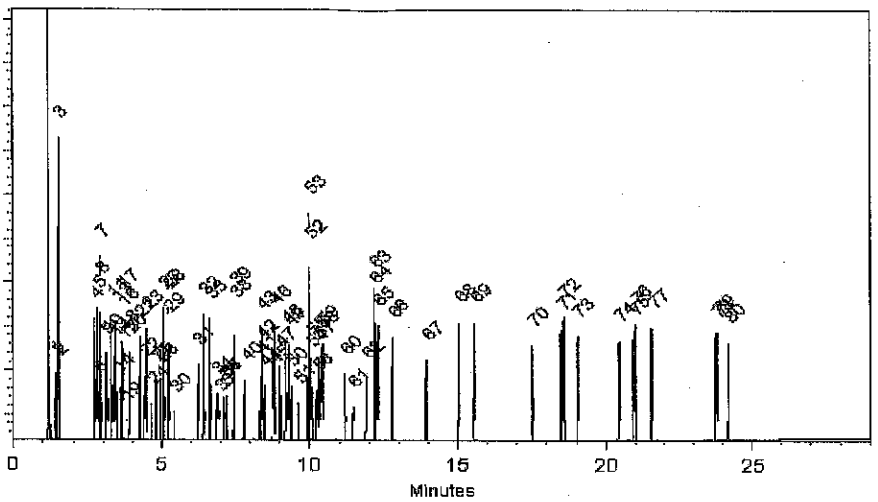
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 30-Jul-2018 **Balance:** B442140311

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 02-Aug-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,007.3	µg/mL	+/-	5.8565	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	12.0413	µg/mL	Unstressed
	Purity 99%				+/-	19.1636	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.0	µg/mL	+/-	5.8548	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 7170200)			+/-	12.0377	µg/mL	Unstressed
	Purity 99%				+/-	19.1579	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.7	µg/mL	+/-	5.8356	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9983	µg/mL	Unstressed
	Purity 99%				+/-	19.0951	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,005.7	µg/mL	+/-	5.8472	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	12.0222	µg/mL	Unstressed
	Purity 99%				+/-	19.1332	µg/mL	Stressed
77	Benzo(a)pyrene		1,008.8	µg/mL	+/-	5.8653	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	12.0593	µg/mL	Unstressed
	Purity 99%				+/-	19.1921	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,006.9	µg/mL	+/-	5.8542	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0365	µg/mL	Unstressed
	Purity 99%				+/-	19.1560	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

40	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,007.5	µg/mL	+/- 5.8577 +/- 12.0437 +/- 19.1674	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	Acenaphthylene **CAS #** 208-96-8 **Purity** 97%	(Lot O03R)	1,007.2	µg/mL	+/- 5.8557 +/- 12.0395 +/- 19.1608	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	1,3-Dinitrobenzene **CAS #** 99-65-0 **Purity** 99%	(Lot BCBN4329V)	1,008.9	µg/mL	+/- 5.8658 +/- 12.0605 +/- 19.1940	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	Dimethylphthalate **CAS #** 131-11-3 **Purity** 99%	(Lot 10117699)	1,009.2	µg/mL	+/- 5.8676 +/- 12.0640 +/- 19.1997	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	2,6-Dinitrotoluene **CAS #** 606-20-2 **Purity** 99%	(Lot 1437483V)	1,009.1	µg/mL	+/- 5.8670 +/- 12.0628 +/- 19.1978	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	3-Nitroaniline **CAS #** 99-09-2 **Purity** 99%	(Lot MKBX1283V)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	Acenaphthene **CAS #** 83-32-9 **Purity** 99%	(Lot MKCC8329)	1,008.1	µg/mL	+/- 5.8612 +/- 12.0509 +/- 19.1788	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	2,4-Dinitrophenol **CAS #** 51-28-5 **Purity** 99%	(Lot STBG3580V)	2,013.2	µg/mL	+/- 11.7049 +/- 24.0659 +/- 38.3005	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	Dibenzofuran **CAS #** 132-64-9 **Purity** 99%	(Lot MKCD9952)	1,007.0	µg/mL	+/- 5.8548 +/- 12.0377 +/- 19.1579	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	4-Nitrophenol **CAS #** 100-02-7 **Purity** 99%	(Lot MKBK1842V)	2,015.4	µg/mL	+/- 11.7177 +/- 24.0922 +/- 38.3424	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,009.5	µg/mL	+/- 5.8693 +/- 12.0676 +/- 19.2054	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	2,3,4,6-Tetrachlorophenol **CAS #** 58-90-2 **Purity** 99%	(Lot PR-30126)	1,005.3	µg/mL	+/- 5.8449 +/- 12.0174 +/- 19.1255	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	Fluorene **CAS #** 86-73-7 **Purity** 98%	(Lot 10174662)	1,007.7	µg/mL	+/- 5.8591 +/- 12.0465 +/- 19.1718	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	n-Hexadecane (C16) **CAS #** 544-76-3 **Purity** 99%	(Lot SHBJ3997)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Diethylphthalate **CAS #** 84-66-2 **Purity** 99%	(Lot MKCB0810V)	1,007.4	µg/mL	+/- 5.8571 +/- 12.0425 +/- 19.1655	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	4-Chlorophenyl phenyl ether **CAS #** 7005-72-3 **Purity** 99%	(Lot MKBX5225V)	1,006.7	µg/mL	+/- 5.8530 +/- 12.0342 +/- 19.1522	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,009.7	µg/mL	+/-	5.8705	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	12.0700	µg/mL	Unstressed
	Purity 99%				+/-	19.2092	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
11	Benzyl alcohol		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBJ0534)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,007.7	µg/mL	+/-	5.8589	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	12.0461	µg/mL	Unstressed
	Purity 99%				+/-	19.1712	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 7577400)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
15	Acetophenone		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG8586)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		504.9	µg/mL	+/-	2.9423	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	6.0389	µg/mL	Unstressed
	Purity 99%				+/-	9.6077	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.8	µg/mL	+/-	2.9242	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0018	µg/mL	Unstressed
	Purity 99%				+/-	9.5487	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
19	Hexachloroethane		1,001.4	µg/mL	+/-	5.8222	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9708	µg/mL	Unstressed
	Purity 99%				+/-	19.0513	µg/mL	Stressed
20	Nitrobenzene		1,005.9	µg/mL	+/-	5.8484	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	12.0246	µg/mL	Unstressed
	Purity 99%				+/-	19.1370	µg/mL	Stressed
21	Isophorone		1,009.1	µg/mL	+/-	5.8670	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	12.0629	µg/mL	Unstressed
	Purity 98%				+/-	19.1979	µg/mL	Stressed
22	2-Nitrophenol		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
23	2,4-Dimethylphenol		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed

Reagent

571995_00056

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0140111

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 **Purity** 99%	(Lot SHBJ5124)	1,006.6 µg/mL	+/- 5.8525 µg/mL +/- 12.0330 µg/mL +/- 19.1503 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine **CAS #** 62-75-9 **Purity** 99%	(Lot 180322JLM)	1,005.1 µg/mL	+/- 5.8437 µg/mL +/- 12.0150 µg/mL +/- 19.1217 µg/mL	Gravimetric Unstressed Stressed
3	Pyridine **CAS #** 110-86-1 **Purity** 99%	(Lot SHBC7174V)	2,012.7 µg/mL	+/- 11.7020 µg/mL +/- 24.0599 µg/mL +/- 38.2910 µg/mL	Gravimetric Unstressed Stressed
4	Phenol **CAS #** 108-95-2 **Purity** 99%	(Lot SHBF9719V)	1,008.6 µg/mL	+/- 5.8641 µg/mL +/- 12.0569 µg/mL +/- 19.1883 µg/mL	Gravimetric Unstressed Stressed
5	Aniline **CAS #** 62-53-3 **Purity** 99%	(Lot K22Z462)	1,006.2 µg/mL	+/- 5.8501 µg/mL +/- 12.0282 µg/mL +/- 19.1427 µg/mL	Gravimetric Unstressed Stressed
6	Bis(2-chloroethyl)ether **CAS #** 111-44-4 **Purity** 99%	(Lot SHBD4430V)	1,009.5 µg/mL	+/- 5.8693 µg/mL +/- 12.0676 µg/mL +/- 19.2054 µg/mL	Gravimetric Unstressed Stressed
7	n-Decane (C10) **CAS #** 124-18-5 **Purity** 99%	(Lot SHBJ8526)	1,010.0 µg/mL	+/- 5.8722 µg/mL +/- 12.0736 µg/mL +/- 19.2150 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 5670100)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
25	2,4-Dichlorophenol		1,009.0	µg/mL	+/-	5.8664	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBJ8113V)			+/-	12.0616	µg/mL	Unstressed
	Purity 99%				+/-	19.1959	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
27	Naphthalene		1,008.3	µg/mL	+/-	5.8623	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	12.0533	µg/mL	Unstressed
	Purity 99%				+/-	19.1826	µg/mL	Stressed
28	2,6-Dichlorophenol		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
29	4-Chloroaniline		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
30	Hexachlorobutadiene		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8461	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	12.0199	µg/mL	Unstressed
	Purity 96%				+/-	19.1294	µg/mL	Stressed
33	1-Methylnaphthalene		1,002.4	µg/mL	+/-	5.8283	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 523400-9)			+/-	11.9833	µg/mL	Unstressed
	Purity 98%				+/-	19.0712	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,007.2	µg/mL	+/-	5.8559	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0401	µg/mL	Unstressed
	Purity 99%				+/-	19.1617	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,009.2	µg/mL	+/-	5.8676	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0640	µg/mL	Unstressed
	Purity 99%				+/-	19.1997	µg/mL	Stressed
38	2-Chloronaphthalene		1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0353	µg/mL	Unstressed
	Purity 99%				+/-	19.1541	µg/mL	Stressed
39	Biphenyl		1,006.3	µg/mL	+/-	5.8507	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	12.0294	µg/mL	Unstressed
	Purity 99%				+/-	19.1446	µg/mL	Stressed

56	4-Nitroaniline		1,007.5	µg/mL	+/-	5.8579	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	12.0442	µg/mL	Unstressed
	Purity 98%				+/-	19.1681	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,012.4	µg/mL	+/-	11.7003	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot B180716L)			+/-	24.0564	µg/mL	Unstressed
	Purity 99%				+/-	38.2853	µg/mL	Stressed
58	Diphenylamine		856.1	µg/mL	+/-	4.9889	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.2395	µg/mL	Unstressed
	Purity 99%				+/-	16.2906	µg/mL	Stressed
59	Azobenzene		1,009.8	µg/mL	+/-	5.8709	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBS6535V)			+/-	12.0709	µg/mL	Unstressed
	Purity 97%				+/-	19.2106	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
61	Hexachlorobenzene		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LRAB8468)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
62	Pentachlorophenol		2,005.9	µg/mL	+/-	11.6625	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170717KJA)			+/-	23.9787	µg/mL	Unstressed
	Purity 99%				+/-	38.1617	µg/mL	Stressed
63	n-Octadecane (C18)		1,004.8	µg/mL	+/-	5.8420	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot T7N4E)			+/-	12.0114	µg/mL	Unstressed
	Purity 99%				+/-	19.1160	µg/mL	Stressed
64	Phenanthrene		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
65	Anthracene		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
66	Carbazole		1,002.7	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 7528800)			+/-	11.9863	µg/mL	Unstressed
	Purity 99%				+/-	19.0761	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
68	Fluoranthene		1,002.6	µg/mL	+/-	5.8294	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	11.9856	µg/mL	Unstressed
	Purity 98%				+/-	19.0749	µg/mL	Stressed
69	Pyrene		1,009.3	µg/mL	+/-	5.8682	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0652	µg/mL	Unstressed
	Purity 99%				+/-	19.2016	µg/mL	Stressed
70	Benzyl butyl phthalate		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKCF0058)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
71	Benz(a)anthracene		1,004.8	µg/mL	+/-	5.8422	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012018)			+/-	12.0118	µg/mL	Unstressed
	Purity 96%				+/-	19.1166	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

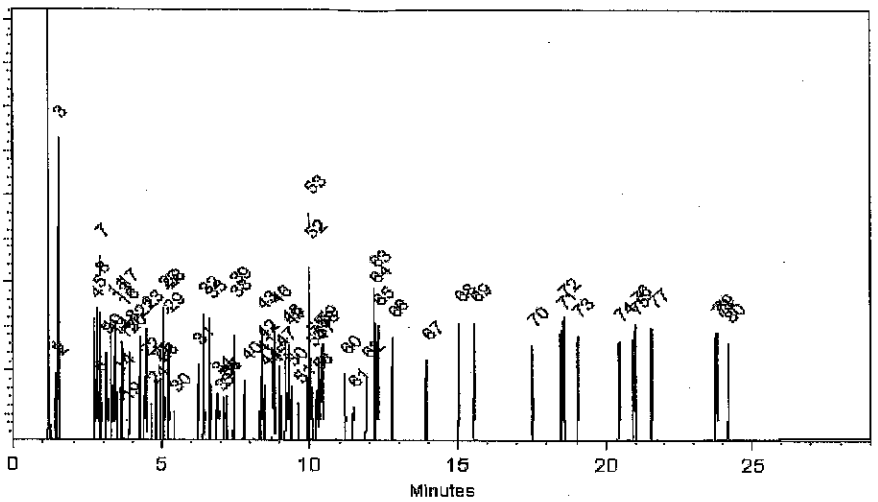
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 30-Jul-2018 **Balance:** B442140311

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 02-Aug-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

72	Chrysene		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,007.3	µg/mL	+/-	5.8565	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBZ3868V)			+/-	12.0413	µg/mL	Unstressed
	Purity 99%				+/-	19.1636	µg/mL	Stressed
74	Di-n-octyl phthalate		1,007.0	µg/mL	+/-	5.8548	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 7170200)			+/-	12.0377	µg/mL	Unstressed
	Purity 99%				+/-	19.1579	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,003.7	µg/mL	+/-	5.8356	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot 012012B)			+/-	11.9983	µg/mL	Unstressed
	Purity 99%				+/-	19.0951	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,005.7	µg/mL	+/-	5.8472	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	12.0222	µg/mL	Unstressed
	Purity 99%				+/-	19.1332	µg/mL	Stressed
77	Benzo(a)pyrene		1,008.8	µg/mL	+/-	5.8653	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	12.0593	µg/mL	Unstressed
	Purity 99%				+/-	19.1921	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,006.9	µg/mL	+/-	5.8542	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0365	µg/mL	Unstressed
	Purity 99%				+/-	19.1560	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.2	µg/mL	+/-	5.8152	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	11.9565	µg/mL	Unstressed
	Purity 99%				+/-	19.0285	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

40	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,007.5	µg/mL	+/- 5.8577 +/- 12.0437 +/- 19.1674	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	Acenaphthylene **CAS #** 208-96-8 **Purity** 97%	(Lot O03R)	1,007.2	µg/mL	+/- 5.8557 +/- 12.0395 +/- 19.1608	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	1,3-Dinitrobenzene **CAS #** 99-65-0 **Purity** 99%	(Lot BCBN4329V)	1,008.9	µg/mL	+/- 5.8658 +/- 12.0605 +/- 19.1940	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	Dimethylphthalate **CAS #** 131-11-3 **Purity** 99%	(Lot 10117699)	1,009.2	µg/mL	+/- 5.8676 +/- 12.0640 +/- 19.1997	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	2,6-Dinitrotoluene **CAS #** 606-20-2 **Purity** 99%	(Lot 1437483V)	1,009.1	µg/mL	+/- 5.8670 +/- 12.0628 +/- 19.1978	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	3-Nitroaniline **CAS #** 99-09-2 **Purity** 99%	(Lot MKBX1283V)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	Acenaphthene **CAS #** 83-32-9 **Purity** 99%	(Lot MKCC8329)	1,008.1	µg/mL	+/- 5.8612 +/- 12.0509 +/- 19.1788	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	2,4-Dinitrophenol **CAS #** 51-28-5 **Purity** 99%	(Lot STBG3580V)	2,013.2	µg/mL	+/- 11.7049 +/- 24.0659 +/- 38.3005	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	Dibenzofuran **CAS #** 132-64-9 **Purity** 99%	(Lot MKCD9952)	1,007.0	µg/mL	+/- 5.8548 +/- 12.0377 +/- 19.1579	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	4-Nitrophenol **CAS #** 100-02-7 **Purity** 99%	(Lot MKBK1842V)	2,015.4	µg/mL	+/- 11.7177 +/- 24.0922 +/- 38.3424	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,009.5	µg/mL	+/- 5.8693 +/- 12.0676 +/- 19.2054	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	2,3,4,6-Tetrachlorophenol **CAS #** 58-90-2 **Purity** 99%	(Lot PR-30126)	1,005.3	µg/mL	+/- 5.8449 +/- 12.0174 +/- 19.1255	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	Fluorene **CAS #** 86-73-7 **Purity** 98%	(Lot 10174662)	1,007.7	µg/mL	+/- 5.8591 +/- 12.0465 +/- 19.1718	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	n-Hexadecane (C16) **CAS #** 544-76-3 **Purity** 99%	(Lot SHBJ3997)	1,009.8	µg/mL	+/- 5.8711 +/- 12.0712 +/- 19.2112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Diethylphthalate **CAS #** 84-66-2 **Purity** 99%	(Lot MKCB0810V)	1,007.4	µg/mL	+/- 5.8571 +/- 12.0425 +/- 19.1655	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	4-Chlorophenyl phenyl ether **CAS #** 7005-72-3 **Purity** 99%	(Lot MKBX5225V)	1,006.7	µg/mL	+/- 5.8530 +/- 12.0342 +/- 19.1522	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol		1,005.6	µg/mL	+/-	5.8466	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	12.0210	µg/mL	Unstressed
	Purity 99%				+/-	19.1312	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,009.7	µg/mL	+/-	5.8705	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	12.0700	µg/mL	Unstressed
	Purity 99%				+/-	19.2092	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
11	Benzyl alcohol		1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBJ0534)			+/-	12.0688	µg/mL	Unstressed
	Purity 99%				+/-	19.2073	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,007.7	µg/mL	+/-	5.8589	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	12.0461	µg/mL	Unstressed
	Purity 99%				+/-	19.1712	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBH6379)			+/-	12.0545	µg/mL	Unstressed
	Purity 99%				+/-	19.1845	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 7577400)			+/-	12.0449	µg/mL	Unstressed
	Purity 99%				+/-	19.1693	µg/mL	Stressed
15	Acetophenone		1,009.4	µg/mL	+/-	5.8687	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG8586)			+/-	12.0664	µg/mL	Unstressed
	Purity 99%				+/-	19.2035	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		504.9	µg/mL	+/-	2.9423	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	6.0389	µg/mL	Unstressed
	Purity 99%				+/-	9.6077	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.8	µg/mL	+/-	2.9242	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	6.0018	µg/mL	Unstressed
	Purity 99%				+/-	9.5487	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,006.6	µg/mL	+/-	5.8525	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF)			+/-	12.0330	µg/mL	Unstressed
	Purity 99%				+/-	19.1503	µg/mL	Stressed
19	Hexachloroethane		1,001.4	µg/mL	+/-	5.8222	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	11.9708	µg/mL	Unstressed
	Purity 99%				+/-	19.0513	µg/mL	Stressed
20	Nitrobenzene		1,005.9	µg/mL	+/-	5.8484	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/-	12.0246	µg/mL	Unstressed
	Purity 99%				+/-	19.1370	µg/mL	Stressed
21	Isophorone		1,009.1	µg/mL	+/-	5.8670	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	12.0629	µg/mL	Unstressed
	Purity 98%				+/-	19.1979	µg/mL	Stressed
22	2-Nitrophenol		1,008.7	µg/mL	+/-	5.8647	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	12.0581	µg/mL	Unstressed
	Purity 99%				+/-	19.1902	µg/mL	Stressed
23	2,4-Dimethylphenol		1,008.6	µg/mL	+/-	5.8641	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	12.0569	µg/mL	Unstressed
	Purity 99%				+/-	19.1883	µg/mL	Stressed

Reagent

8081 ToxStock_00018

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: P-093S-H-10X
Description: Toxaphene Standard
Lot: 215011420
Solvent: Hexane
Hazards: **HIGHLY FLAMMABLE** - *Refer to SDS for safety info*



Danger 2

Date Certified: Jan 30, 2015
Expiration: Jan 30, 2025
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Toxaphene	8001-35-2	Tech Mix	1001	1001

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values:
A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: _____
Larry Decker, Organic QC Manager

Page 1 of 1

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 5/16

Reagent

8081/82 Surr_00105

Preliminary Report

TestAmerica Denver

Recovery Report

Data File:	\\ChromNA\Denver\ChromData\SGC_P3\20180928-74499.b\09281804.D				
Lims ID:	8082 Surr 105				
Client ID:					
Sample Type:	Client				
Inject. Date:	28-Sep-2018 11:22:28	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	8082 Surr 105				
Misc. Info.:	280-0074499-004				
Operator ID:	JAX/MED	Instrument ID:	SGC_P3		
Method:	\\ChromNA\Denver\ChromData\SGC_P3\20180928-74499.b\PCB_P3.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	01-Oct-2018 09:58:25	Calib Date:	20-Sep-2018 22:52:41		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P3\20180920-74190.b\09201835.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0302				

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	20.3	101.59
$ 15 DCB Decachlorobiphenyl	20.0	15.6	78.08

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	16.1	80.29
$ 15 DCB Decachlorobiphenyl	20.0	17.4	86.89

Reagent

8081ABResPS_00026

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #2222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32415 **Lot No.:** A0129369

Description : Organochlorine Pesticide Mix AB #3

Organochlorine Pesticide Mix AB #3 2,000 µg/mL, Hexane/Toluene (50:50), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2021 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	alpha-BHC		2,012.0	µg/mL	+/- 11.8075	µg/mL	Gravimetric
	CAS # 319-84-6	(Lot 0911942)			+/- 91.6450	µg/mL	Unstressed
	Purity 99%				+/- 132.3230	µg/mL	Stressed
2	gamma-BHC (Lindane)		2,010.5	µg/mL	+/- 11.7987	µg/mL	Gravimetric
	CAS # 58-89-9	(Lot 6357300)			+/- 91.5767	µg/mL	Unstressed
	Purity 99%				+/- 132.2244	µg/mL	Stressed
3	beta-BHC		2,011.9	µg/mL	+/- 11.8072	µg/mL	Gravimetric
	CAS # 319-85-7	(Lot SZBD116XV)			+/- 91.6423	µg/mL	Unstressed
	Purity 98%				+/- 132.3191	µg/mL	Stressed
4	delta-BHC		2,017.0	µg/mL	+/- 11.8369	µg/mL	Gravimetric
	CAS # 319-86-8	(Lot ER02101401)			+/- 91.8728	µg/mL	Unstressed
	Purity 99%				+/- 132.6518	µg/mL	Stressed
5	Heptachlor		2,011.5	µg/mL	+/- 11.8046	µg/mL	Gravimetric
	CAS # 76-44-8	(Lot NT056422)			+/- 91.6223	µg/mL	Unstressed
	Purity 99%				+/- 132.2901	µg/mL	Stressed
6	Aldrin		2,009.0	µg/mL	+/- 11.7899	µg/mL	Gravimetric
	CAS # 309-00-2	(Lot 5923100)			+/- 91.5084	µg/mL	Unstressed
	Purity 98%				+/- 132.1257	µg/mL	Stressed
7	Heptachlor epoxide (isomer B)		2,007.0	µg/mL	+/- 11.7782	µg/mL	Gravimetric
	CAS # 1024-57-3	(Lot ER121511-01)			+/- 91.4173	µg/mL	Unstressed
	Purity 99%				+/- 131.9942	µg/mL	Stressed

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

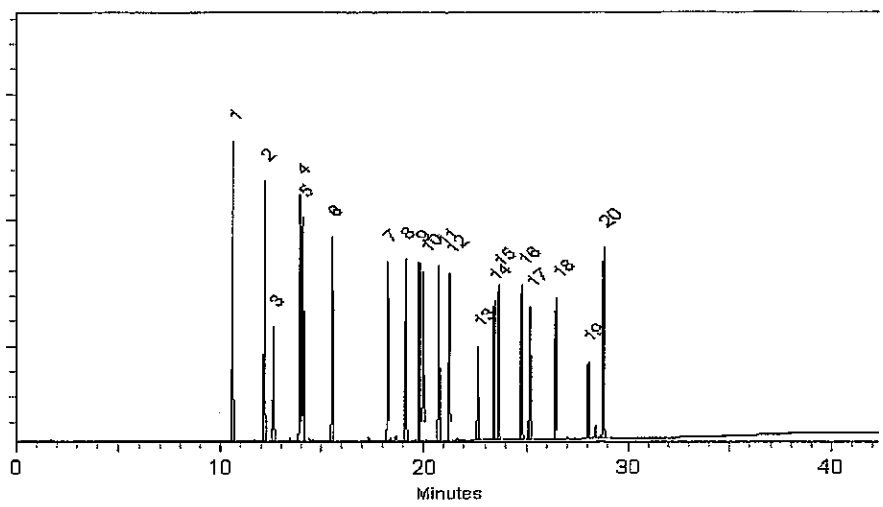
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
150°C to 300°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 24-Jul-2017 **Balance:** B442140311

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 25-Jul-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

8	trans-Chlordane		2,007.0	µg/mL	+/-	11.7782	µg/mL	Gravimetric
	CAS # 5103-74-2	(Lot ER061906-04)			+/-	91.4173	µg/mL	Unstressed
	Purity 99%				+/-	131.9942	µg/mL	Stressed
9	cis-Chlordane		2,006.0	µg/mL	+/-	11.7723	µg/mL	Gravimetric
	CAS # 5103-71-9	(Lot ER062410-01)			+/-	91.3717	µg/mL	Unstressed
	Purity 99%				+/-	131.9284	µg/mL	Stressed
10	Endosulfan I		2,013.0	µg/mL	+/-	11.8134	µg/mL	Gravimetric
	CAS # 959-98-8	(Lot ER012105-02)			+/-	91.6906	µg/mL	Unstressed
	Purity 99%				+/-	132.3888	µg/mL	Stressed
11	4,4'-DDE		2,008.5	µg/mL	+/-	11.7870	µg/mL	Gravimetric
	CAS # 72-55-9	(Lot GHYQG)			+/-	91.4856	µg/mL	Unstressed
	Purity 99%				+/-	132.0928	µg/mL	Stressed
12	Dieldrin		2,006.0	µg/mL	+/-	11.7723	µg/mL	Gravimetric
	CAS # 60-57-1	(Lot ER030105-03)			+/-	91.3717	µg/mL	Unstressed
	Purity 99%				+/-	131.9284	µg/mL	Stressed
13	Endrin		2,019.3	µg/mL	+/-	11.8503	µg/mL	Gravimetric
	CAS # 72-20-8	(Lot 6429800)			+/-	91.9771	µg/mL	Unstressed
	Purity 98%				+/-	132.8025	µg/mL	Stressed
14	4,4'-DDD		2,014.9	µg/mL	+/-	11.8244	µg/mL	Gravimetric
	CAS # 72-54-8	(Lot ER061207-01)			+/-	91.7762	µg/mL	Unstressed
	Purity 98%				+/-	132.5124	µg/mL	Stressed
15	Endosulfan II		2,007.5	µg/mL	+/-	11.7811	µg/mL	Gravimetric
	CAS # 33213-65-9	(Lot ER102407-02)			+/-	91.4401	µg/mL	Unstressed
	Purity 99%				+/-	132.0271	µg/mL	Stressed
16	Endrin aldehyde		2,008.5	µg/mL	+/-	11.7870	µg/mL	Gravimetric
	CAS # 7421-93-4	(Lot ER082306-01)			+/-	91.4856	µg/mL	Unstressed
	Purity 99%				+/-	132.0928	µg/mL	Stressed
17	4,4'-DDT		2,009.0	µg/mL	+/-	11.7899	µg/mL	Gravimetric
	CAS # 50-29-3	(Lot S37912V)			+/-	91.5084	µg/mL	Unstressed
	Purity 99%				+/-	132.1257	µg/mL	Stressed
18	Endosulfan sulfate		2,009.3	µg/mL	+/-	11.7916	µg/mL	Gravimetric
	CAS # 1031-07-8	(Lot SZBC213XV)			+/-	91.5211	µg/mL	Unstressed
	Purity 96%				+/-	132.1441	µg/mL	Stressed
19	Methoxychlor		2,015.4	µg/mL	+/-	11.8273	µg/mL	Gravimetric
	CAS # 72-43-5	(Lot 6429900)			+/-	91.7985	µg/mL	Unstressed
	Purity 98%				+/-	132.5446	µg/mL	Stressed
20	Endrin ketone		2,007.5	µg/mL	+/-	11.7811	µg/mL	Gravimetric
	CAS # 53494-70-5	(Lot 160405JLM)			+/-	91.4401	µg/mL	Unstressed
	Purity 99%				+/-	132.0271	µg/mL	Stressed

Solvent: Hexane/Toluene (50:50)
CAS # 110-54-3/108-88-3
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8081ABResPS_00028

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32415 **Lot No.:** A0133751

Description : Organochlorine Pesticide Mix AB #3

Organochlorine Pesticide Mix AB #3 2,000 µg/mL, Hexane/Toluene (50:50), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	alpha-BHC **CAS #** 319-84-6 (Lot 0911942) **Purity** 99%	2,017.5 µg/mL	+/- 11.8398 µg/mL +/- 91.8956 µg/mL +/- 132.6847 µg/mL	Gravimetric Unstressed Stressed
2	gamma-BHC (Lindane) **CAS #** 58-89-9 (Lot 6815700) **Purity** 99%	2,010.5 µg/mL	+/- 11.7987 µg/mL +/- 91.5767 µg/mL +/- 132.2244 µg/mL	Gravimetric Unstressed Stressed
3	beta-BHC **CAS #** 319-85-7 (Lot BCBS8692V) **Purity** 98%	2,014.9 µg/mL	+/- 11.8244 µg/mL +/- 91.7762 µg/mL +/- 132.5124 µg/mL	Gravimetric Unstressed Stressed
4	delta-BHC **CAS #** 319-86-8 (Lot ER02101401) **Purity** 99%	2,010.0 µg/mL	+/- 11.7958 µg/mL +/- 91.5539 µg/mL +/- 132.1915 µg/mL	Gravimetric Unstressed Stressed
5	Heptachlor **CAS #** 76-44-8 (Lot NT057754) **Purity** 99%	2,016.5 µg/mL	+/- 11.8340 µg/mL +/- 91.8500 µg/mL +/- 132.6190 µg/mL	Gravimetric Unstressed Stressed
6	Aldrin **CAS #** 309-00-2 (Lot 6869200) **Purity** 97%	2,010.8 µg/mL	+/- 11.8006 µg/mL +/- 91.5908 µg/mL +/- 132.2447 µg/mL	Gravimetric Unstressed Stressed
7	Heptachlor epoxide (isomer B) **CAS #** 1024-57-3 (Lot ER121511-01) **Purity** 99%	2,017.5 µg/mL	+/- 11.8398 µg/mL +/- 91.8956 µg/mL +/- 132.6847 µg/mL	Gravimetric Unstressed Stressed

8	trans-Chlordane		2,012.5	µg/mL	+/-	11.8105	µg/mL	Gravimetric
	CAS # 5103-74-2	(Lot ER061906-04)			+/-	91.6678	µg/mL	Unstressed
	Purity 99%				+/-	132.3559	µg/mL	Stressed
9	cis-Chlordane		2,014.0	µg/mL	+/-	11.8193	µg/mL	Gravimetric
	CAS # 5103-71-9	(Lot ER062410-01)			+/-	91.7361	µg/mL	Unstressed
	Purity 99%				+/-	132.4545	µg/mL	Stressed
10	Endosulfan I		2,010.0	µg/mL	+/-	11.7958	µg/mL	Gravimetric
	CAS # 959-98-8	(Lot ER012105-02)			+/-	91.5539	µg/mL	Unstressed
	Purity 99%				+/-	132.1915	µg/mL	Stressed
11	4,4'-DDE		2,011.0	µg/mL	+/-	11.8017	µg/mL	Gravimetric
	CAS # 72-55-9	(Lot ER011106-01)			+/-	91.5995	µg/mL	Unstressed
	Purity 99%				+/-	132.2572	µg/mL	Stressed
12	Dieldrin		2,011.0	µg/mL	+/-	11.8017	µg/mL	Gravimetric
	CAS # 60-57-1	(Lot 5416800)			+/-	91.5995	µg/mL	Unstressed
	Purity 99%				+/-	132.2572	µg/mL	Stressed
13	Endrin		2,016.4	µg/mL	+/-	11.8331	µg/mL	Gravimetric
	CAS # 72-20-8	(Lot 6898800)			+/-	91.8432	µg/mL	Unstressed
	Purity 98%				+/-	132.6091	µg/mL	Stressed
14	4,4'-DDD		2,010.5	µg/mL	+/-	11.7987	µg/mL	Gravimetric
	CAS # 72-54-8	(Lot HAN02-KNCK)			+/-	91.5767	µg/mL	Unstressed
	Purity 99%				+/-	132.2244	µg/mL	Stressed
15	Endosulfan II		2,009.5	µg/mL	+/-	11.7929	µg/mL	Gravimetric
	CAS # 33213-65-9	(Lot 6815600)			+/-	91.5312	µg/mL	Unstressed
	Purity 99%				+/-	132.1586	µg/mL	Stressed
16	Endrin aldehyde		2,007.5	µg/mL	+/-	11.7811	µg/mL	Gravimetric
	CAS # 7421-93-4	(Lot ER082306-01)			+/-	91.4401	µg/mL	Unstressed
	Purity 99%				+/-	132.0271	µg/mL	Stressed
17	4,4'-DDT		2,012.5	µg/mL	+/-	11.8105	µg/mL	Gravimetric
	CAS # 50-29-3	(Lot S37912V)			+/-	91.6678	µg/mL	Unstressed
	Purity 99%				+/-	132.3559	µg/mL	Stressed
18	Endosulfan sulfate		2,020.0	µg/mL	+/-	11.8545	µg/mL	Gravimetric
	CAS # 1031-07-8	(Lot BCBR9875V)			+/-	92.0094	µg/mL	Unstressed
	Purity 99%				+/-	132.8491	µg/mL	Stressed
19	Methoxychlor		2,018.5	µg/mL	+/-	11.8457	µg/mL	Gravimetric
	CAS # 72-43-5	(Lot 6736800)			+/-	91.9411	µg/mL	Unstressed
	Purity 99%				+/-	132.7505	µg/mL	Stressed
20	Endrin ketone		2,015.5	µg/mL	+/-	11.8281	µg/mL	Gravimetric
	CAS # 53494-70-5	(Lot 160405JLM)			+/-	91.8045	µg/mL	Unstressed
	Purity 99%				+/-	132.5532	µg/mL	Stressed
Solvent:	Hexane/Toluene (50:50)							
	CAS # 110-54-3/108-88-3							
	Purity 99%							

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

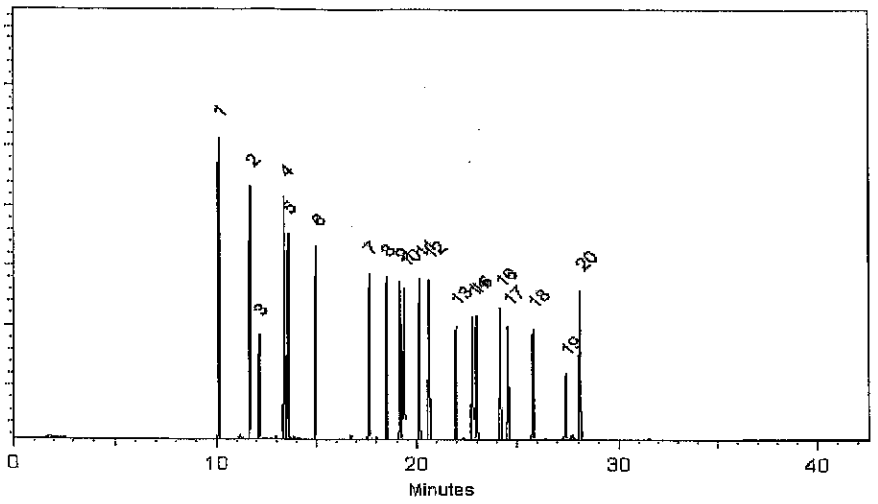
Carrier Gas:
hellum-constant pressure 20 psi.

Temp. Program:
150°C to 300°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 27-Dec-2017 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 02-Jan-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

8081ABResSS_00012

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32415.sec **Lot No.:** A0108854

Description : Organochlorine Pesticide Mix AB #3

Organochlorine Pesticide Mix AB #3 2,000 µg/mL, Hexane/Toluene (50:50), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2019 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	alpha-BHC **CAS #** 319-84-6.SEC (Lot 1623900) **Purity** 99%	2,009.5 µg/mL	+/- 11.7929 µg/mL +/- 78.6071 µg/mL +/- 124.7419 µg/mL	Gravimetric Unstressed Stressed
2	gamma-BHC (Lindane) **CAS #** 58-89-9.SEC (Lot LC00563V) **Purity** 99%	2,010.0 µg/mL	+/- 11.7958 µg/mL +/- 78.6267 µg/mL +/- 124.7729 µg/mL	Gravimetric Unstressed Stressed
3	beta-BHC **CAS #** 319-85-7.SEC (Lot 1808700) **Purity** 98%	2,003.1 µg/mL	+/- 11.7554 µg/mL +/- 78.3575 µg/mL +/- 124.3458 µg/mL	Gravimetric Unstressed Stressed
4	delta-BHC **CAS #** 319-86-8.SEC (Lot 1912200) **Purity** 99%	2,003.5 µg/mL	+/- 11.7577 µg/mL +/- 78.3724 µg/mL +/- 124.3694 µg/mL	Gravimetric Unstressed Stressed
5	Heptachlor **CAS #** 76-44-8.SEC (Lot 1745400) **Purity** 99%	2,000.5 µg/mL	+/- 11.7401 µg/mL +/- 78.2551 µg/mL +/- 124.1832 µg/mL	Gravimetric Unstressed Stressed
6	Aldrin **CAS #** 309-00-2.SEC (Lot ER062311-01) **Purity** 98%	2,004.1 µg/mL	+/- 11.7612 µg/mL +/- 78.3959 µg/mL +/- 124.4067 µg/mL	Gravimetric Unstressed Stressed

8	trans-Chlordane		2,006.0	µg/mL	+/-	11.7723	µg/mL	Gravimetric
	CAS # 5103-74-2.SEC	(Lot LC06193V)			+/-	78.4702	µg/mL	Unstressed
	Purity 99%				+/-	124.5246	µg/mL	Stressed
9	cis-Chlordane		2,009.0	µg/mL	+/-	11.7899	µg/mL	Gravimetric
	CAS # 5103-71-9.SEC	(Lot 24407)			+/-	78.5876	µg/mL	Unstressed
	Purity 99%				+/-	124.7108	µg/mL	Stressed
10	Endosulfan I		2,002.1	µg/mL	+/-	11.7497	µg/mL	Gravimetric
	CAS # 959-98-8.SEC	(Lot 1710200)			+/-	78.3192	µg/mL	Unstressed
	Purity 98%				+/-	124.2850	µg/mL	Stressed
11	4,4'-DDE		2,001.5	µg/mL	+/-	11.7459	µg/mL	Gravimetric
	CAS # 72-55-9.SEC	(Lot 1833500)			+/-	78.2942	µg/mL	Unstressed
	Purity 99%				+/-	124.2453	µg/mL	Stressed
12	Dieldrin		1,995.3	µg/mL	+/-	11.7094	µg/mL	Gravimetric
	CAS # 60-57-1.SEC	(Lot 1274700)			+/-	78.0509	µg/mL	Unstressed
	Purity 98%				+/-	123.8591	µg/mL	Stressed
13	Endrin		2,000.0	µg/mL	+/-	11.7371	µg/mL	Gravimetric
	CAS # 72-20-8 *	(Lot LC06045V)			+/-	78.2355	µg/mL	Unstressed
	Purity 99%				+/-	124.1521	µg/mL	Stressed
14	4,4'-DDD		2,009.0	µg/mL	+/-	11.7899	µg/mL	Gravimetric
	CAS # 72-54-8.SEC	(Lot 1141700)			+/-	78.5876	µg/mL	Unstressed
	Purity 98%				+/-	124.7108	µg/mL	Stressed
15	Endosulfan II		2,010.0	µg/mL	+/-	11.7958	µg/mL	Gravimetric
	CAS # 33213-65-9.SEC	(Lot 3437500)			+/-	78.6267	µg/mL	Unstressed
	Purity 99%				+/-	124.7729	µg/mL	Stressed
16	Endrin aldehyde		2,016.4	µg/mL	+/-	11.8331	µg/mL	Gravimetric
	CAS # 7421-93-4.SEC	(Lot 21752)			+/-	78.8751	µg/mL	Unstressed
	Purity 98%				+/-	125.1671	µg/mL	Stressed
17	4,4'-DDT		2,016.5	µg/mL	+/-	11.8340	µg/mL	Gravimetric
	CAS # 50-29-3.SEC	(Lot 3478000)			+/-	78.8809	µg/mL	Unstressed
	Purity 99%				+/-	125.1764	µg/mL	Stressed
18	Endosulfan sulfate		2,007.5	µg/mL	+/-	11.7813	µg/mL	Gravimetric
	CAS # 1031-07-8.SEC	(Lot 1888900)			+/-	78.5301	µg/mL	Unstressed
	Purity 98%				+/-	124.6196	µg/mL	Stressed
19	Methoxychlor		2,007.0	µg/mL	+/-	11.7782	µg/mL	Gravimetric
	CAS # 72-43-5.SEC	(Lot LC09014V)			+/-	78.5093	µg/mL	Unstressed
	Purity 99%				+/-	124.5867	µg/mL	Stressed
20	Endrin ketone		2,007.5	µg/mL	+/-	11.7813	µg/mL	Gravimetric
	CAS # 53494-70-5.SEC	(Lot 091307RD)			+/-	78.5301	µg/mL	Unstressed
	Purity 98%				+/-	124.6196	µg/mL	Stressed
Solvent:	Hexane/Toluene (50:50)							
	CAS # 110-54-3/108-88-3							
	Purity 99%							

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

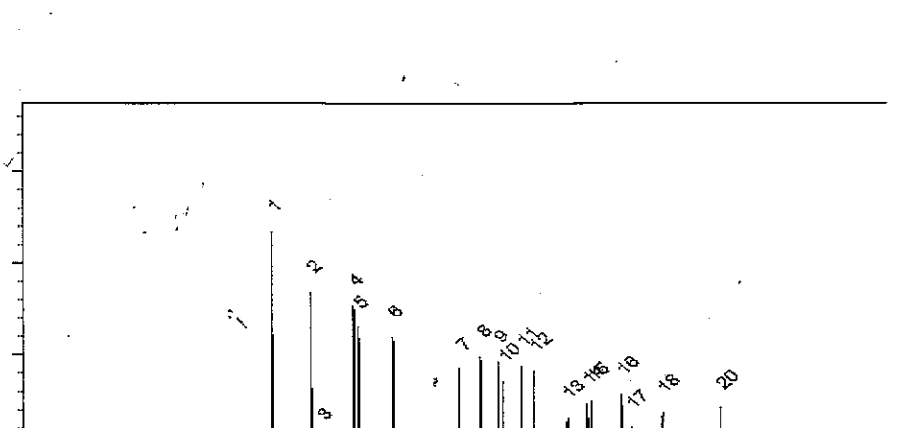
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
150°C to 300°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Lane Kibe - Mix Technician

Date Mixed: 04-Feb-2015 **Balance:** B345965662

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 12-Feb-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

This certificated has been updated on 31January2017 for the following reasons and supersedes any pre-existing certificate: Elution order corrected to have Endosulfan 1 as peak 10 (was listed as peak 11), 4,4'-DDE as peak 11 (was listed as peak 10), 4,4'-DDT as peak 17 (was listed as 16), Endrin aldehyde as peak 16 (was listed as 17).

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8081EvalBStk2_00020

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: M-8081-DS
Description: 4,4'-DDT & Endrin
Lot: 217101288
Solvent: Hexane
Hazards: *Refer to SDS for complete safety information*



Signal Word: Danger

Date Certified: Oct 30, 2017
Expiration: Nov 30, 2018
Sample Size: 1 mL
Components: 2
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
4,4'-DDT	50-29-3	98.2	200.6	197.0
Endrin	72-20-8	98.1	200.8	197.0

Received 03.28.18 KDK

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 4/17

Reagent

8081HCBStkPS_00021

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: APP-9-112
Description: Hexachlorobenzene
Lot: 216101286
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*



Signal Word: Danger

Date Certified: Oct 26, 2016
Expiration: Oct 26, 2026
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Hexachlorobenzene	118-74-1	99.2	100.4	99.6

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. This value is the expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: _____
Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 7/11

CERTIFICATION REPORT

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

2. **Quality Standards:**

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

   AR-1463

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

   AT-1339

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

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

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

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

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

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

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

9. **Uncertainty Statistics and Confidence Limits:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_m = \sqrt{(u(P))^2 + (u(m))^2 + (u(V))^2}$. The expanded uncertainty, U_{CRM} assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level. The U_{CRM} for organic products is ±5%, the U_{CRM} for inorganic products is ±2%.

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

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

Reagent

8081HCBStkSS_00036

Certificate of Analysis

Hexachlorobenzene Solution

Product Number: EPA-1125 **Page:** 1 of 1

Lot Number: CR-5129 **Lot Issue Date:** 08-Nov-2017 **Expiration Date:** 31-Dec-2021

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
hexachlorobenzene	000118-74-1	RM03125	1003 ± 5 µg/mL

Matrix: acetone

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ISO 9001
Registered
TUV USA, Inc.

250 SMITH STREET ▪ NORTH KINGSTOWN, RHODE ISLAND 02852 ▪ WWW.ULTRASCI.COM

Reagent

8081ToxPS_00034

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32071 **Lot No.:** A0123422

Description : Toxaphene Standard

Toxaphene Standard 5,000 µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Toxaphene	5,018.0 µg/mL	+/- 29.4484	µg/mL	Gravimetric
	CAS # 8001-35-2 (Lot NT054507)		+/- 159.0403	µg/mL	Unstressed
	Purity ---%		+/- 207.7596	µg/mL	Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

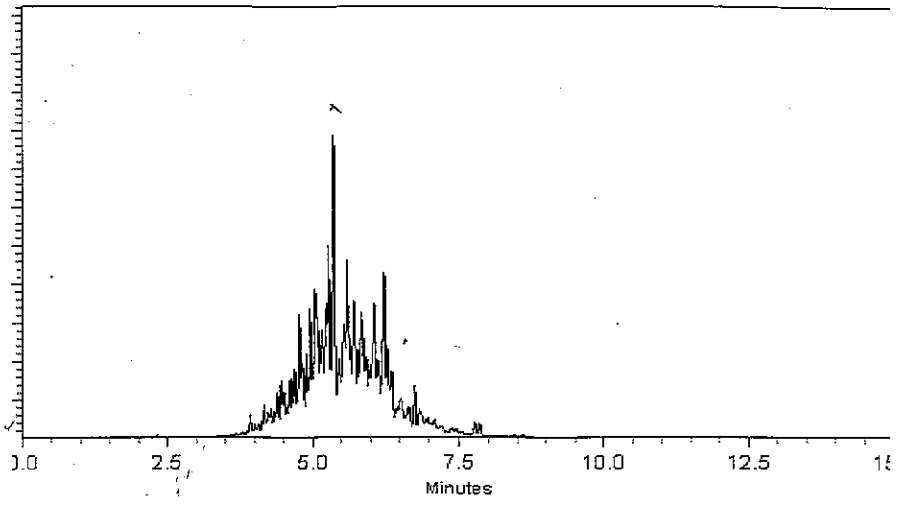
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis - Mix Technician

Date Mixed: 12-Dec-2016 **Balance:** B442140311

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 13-Dec-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\,stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\,stability} + U^2_{shipping\,stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8081ToxPS_00039

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32071 **Lot No.:** A0128388

Description : Toxaphene Standard

Toxaphene Standard 5,000 µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2021 **Storage:** 10°C or colder

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Toxaphene	5,034.0 µg/mL	+/- 29.5423 µg/mL	Gravimetric
	CAS # 8001-35-2 (Lot NT057448)		+/- 159.5474 µg/mL	Unstressed
	Purity ----%		+/- 208.4220 µg/mL	Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

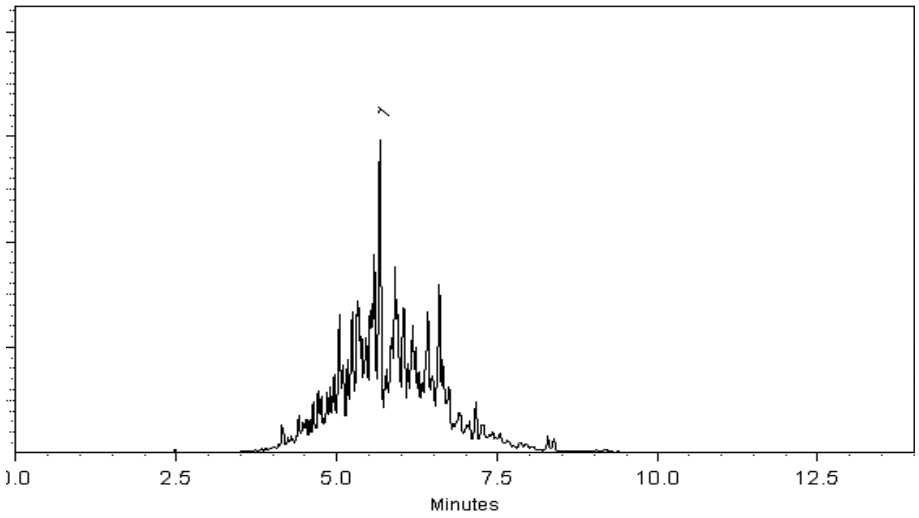
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Joseph Jaglowski - Mix Technician

Date Mixed: 12-Jun-2017 **Balance:** B707717271

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 03-Jul-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8081ToxSS_00020

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: P-093S-H-10X
Description: Toxaphene
Lot: 217071319
Solvent: Hexane
Hazards: *Refer to SDS for complete safety information*



Signal Word: Danger

Date Certified: Jul 20, 2017
Expiration: Jul 20, 2027
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Toxaphene	8001-35-2	Tech Mix	1002	1002

Received
03·28·18
KDK

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: _____
Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001:2015

Reagent

8082 LCS_00049

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8082 LCS _ 00049

Reagent ID: 8082 LCS_00049

		Expiration Date:	08/05/2018
Description:	2 ug/mL	Lab [illegible]:	TestAmerica Denver
No. of Bottles:	2	Prep [illegible]:	Sriphuthorn, Kittiyada
Storage Location:	North Prep	Solvent:	ACETONE
Reagent Volume:	500.000 mL	Solvent Lot:	Acetone_00221
Creation Date:	07/11/2018		
Open Date:			
Container(s):	5210229, 5210230		
Comment:	Take 1mL 8082LCSStock and dilute to 500mL in Ac[illegible]ne. 6 Month expiration date. Divide into 2 bottles.		

PASS 13-July 2018

Reagent Analyte Information

Analyte	%R	%D	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
PCB-1016	95	5.0	8082LCSSTOCK_[illegible]	04/[illegible]/2022	[illegible]	[illegible]	2.00000	ug/mL
PCB-1260	92	8.3	8082LCSSTOCK_00034	04/30/2022	1000.[illegible]	ug/mL	2.00000	ug/mL

Source Reagents

Reagent	Description	Type	Expiration	Vendor	Vendor Lot #	Vendor Cat Lot #	Volume Used	Volume Units
8082LCSSTOCK_00034	Aroclor 1016/1260 1000UG/ML	ASTD	04/30/22	RESTEK	A011[illegible]2	3[illegible]39	1.00000	mL

Preliminary Report

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20180713-71939.b\07131804.D
Lims ID: 8082 LCS_00049
Client ID:
Sample Type: Client
Inject. Date: 13-Jul-2018 09:32:10 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 10.0000
Sample Info: 8082 LCS_00049
Misc. Info.: 280-0071939-004
Operator ID: JAX Instrument ID: SGC_P3

Method: \\ChromNA\Denver\ChromData\SGC_P3\20180713-71939.b\PCB_P3.m
Limit Group: GCSV - 8082 - IS
Last Update: 13-Jul-2018 12:44:25 Calib Date: 20-May-2018 23:47:28
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P3\20180520-70135.b\05201835.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0304

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene						
1	1.832	1.834	-0.002	3364580530	1000.0	
2	1.755	1.754	0.001	914663468	1000.0	
					RPD = 0.00	
$ 14 Tetrachloro-m-xylene						U
1		2.750			ND	
2		2.781				
3 PCB-1221						U
1		2.967			ND	
1		3.110				
1		3.147				
2		3.097				
2		3.227				
2		3.280				
7 PCB-1232						U
1		3.145			ND	
1		3.492				
1		3.959				
1		4.099				
1		4.549				
2		3.279				
2		3.669				
2		4.126				
2		4.269				
2		4.796				

Preliminary Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20180713-71939.b\07131804.D

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
1 PCB-1016						
1	3.485	3.487	-0.002	203488343	184.8	
1	3.952	3.954	-0.002	484409114	193.2	
1	4.092	4.090	0.002	193370944	179.9	
1	4.302	4.304	-0.002	219686919	206.3	
1	4.538	4.537	0.001	208592567	186.9	
		Average of Peak Amounts =			190.2	
2	3.665	3.664	0.001	56306865	180.9	
2	4.122	4.121	0.001	130662122	182.6	
2	4.262	4.264	-0.002	49916935	174.4	
2	4.495	4.494	0.001	34467906	218.9	
2	4.785	4.787	-0.002	41291800	177.2	
		Average of Peak Amounts =			186.8	
					RPD = 1.79	
10 PCB-1242						U
1		3.492			ND	
1		3.962				
1		4.548				
1		5.038				
1		5.062				
2		3.669				
2		4.125				
2		4.269				
2		4.795				
2		4.932				
4 PCB-1248						U
1		3.952			ND	
1		4.308				
1		4.545				
1		5.295				
1		5.778				
2		4.125				
2		4.502				
2		4.792				
2		4.932				
2		6.105				

Preliminary Report

Data File: \\ChromNA\Denver\ChromData\SGC_P3\20180713-71939.b\07131804.D

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
9 PCB-1254						U
1		5.300			ND	
1		5.630				
1		5.783				
1		6.383				
1		6.750				
2		5.537				
2		5.960				
2		6.107				
2		6.657				
2		7.127				
12 PCB-1260						
1	6.005	6.007	-0.002	298207506	186.3	
1	6.732	6.730	0.002	587506377	189.6	
1	7.222	7.220	0.002	275021459	181.4	
1	7.652	7.654	-0.002	611908583	179.7	
1	8.035	8.037	-0.002	347624059	183.1	
		Average of Peak Amounts =			184.0	
2	6.645	6.647	-0.002	100659872	185.2	
2	7.115	7.114	0.001	156955927	189.0	
2	7.642	7.641	0.001	69492806	181.1	
2	8.009	8.011	-0.002	162573903	176.9	
2	8.512	8.514	-0.002	120717439	180.0	
		Average of Peak Amounts =			182.4	
					RPD = 0.87	
5 PCB-1262						U
1		6.385			ND	
1		6.909				
1		7.235				
1		7.669				
1		8.052				
2		6.656				
2		7.259				
2		7.652				
2		8.022				
2		8.526				

Reagent

8082LCSSTOCK_00034

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CERTIFIED REFERENCE MATERIAL

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Certificate #3222.01

ilac-MRA

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32039 **Lot No.:** A0116282

Description : Aroclor® 1016/1260 Mix

Aroclor® 1016/1260 Mix 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1016 **CAS #** 12674-11-2 (Lot W-125-01) **Purity** ----%	1,009.0 µg/mL	+/- 5.8800 µg/mL +/- 31.9716 µg/mL +/- 41.7696 µg/mL		Gravimetric Unstressed Stressed
2	Aroclor 1260 **CAS #** 11096-82-5 (Lot W-129-06) **Purity** ----%	1,004.6 µg/mL	+/- 5.8543 µg/mL +/- 31.8322 µg/mL +/- 41.5875 µg/mL		Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

34-35

Reagent

8270_LCS_Main_00055

TestAmerica
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Reagent ID: 8270_LCS_Main_00055

Description:	USE IN CONJUCTION WITH 8270_LCS_S	Expiration Date:	05/31/2019
No. of Bottles:	4	Laboratory:	TestAmerica Denver
Storage Location:	North Prep	Prepared By:	Matsumoto, Jordan T
Reagent Volume:	500.000 mL	Solvent:	P&T Methanol
Creation Date:	10/01/2018	Solvent Lot:	MethanolP&T_00214
Open Date:			
Container(s):	5335109, 5335110, 5335111, 5335112, 5335262, 5335263		
Comment:	Make full volume.Place all stocks in a sonication bath for 5 minutes before use. Dilute to 500mL in P&T MeOH 40mL of MS-570666 or 571995 "8270 List 1 Std 1 MegaMix" 20mL of MS-569731 "Benzoic Acid" 10mL of "OP-572556" HCP 1 year expiration Exchange /MeCl2 verification All Standards in fridge.		

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
1,1'-Biphenyl	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
1,2,4,5-Tetrachlorobenzene	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
1,2,4-Trichlorobenzene	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
1,2-Dichlorobenzene	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
1,2-Diphenylhydrazine	571995_00044	09/30/2019	1010.97500	ug/mL	80.87796	ug/mL
1,3-Dichlorobenzene	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
1,3-Dinitrobenzene	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
1,4-Dichlorobenzene	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
1,4-Dioxane	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
1-Methylnaphthalene	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
2,2'-oxybis[1-chloropropane]	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
2,3,4,6-Tetrachlorophenol	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
2,4,5-Trichlorophenol	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
2,4,6-Trichlorophenol	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
2,4-Dichlorophenol	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL
2,4-Dimethylphenol	571995_00044	09/30/2019	1000.00000	ug/mL	80.00000	ug/mL

Preliminary Report

TestAmerica Denver

LCS, Lab Control Sample Report

Sample Path: \\ChromNA\Denver\ChromData\SMS_D\20181003-74684.b\D29466.D
Lims ID: 8270_LCS_Main_00055 Inj. Date: 03-Oct-2018 16:53:30
Worklist ID: 280-0074684-028 Instrument: SMS_D
Method: SMSD_8270C

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3520C
16 1,4-Dioxane	80.0	61.0	76.3	40-110
17 N-Nitrosodimethylamine	80.0	61.8	77.2	48-121
18 Pyridine	160.0	117.7	73.6	34-112
28 Phenol	80.0	65.8	82.2	50-127
30 Aniline	80.0	64.3	80.4	34-106
32 Bis(2-chloroethyl)ether	80.0	62.8	78.5	53-132
35 n-Decane	80.0	60.1	75.2	14-120
36 2-Chlorophenol	80.0	64.3	80.4	54-124
37 1,3-Dichlorobenzene	80.0	62.6	78.2	31-124
38 1,4-Dichlorobenzene	80.0	61.9	77.4	34-123
39 Benzyl alcohol	80.0	66.1	82.6	54-124
40 1,2-Dichlorobenzene	80.0	62.2	77.8	36-123
41 2-Methylphenol	80.0	66.0	82.4	55-123
43 2,2'-oxybis[1-chloropro	80.0	63.4	79.2	44-132
44 Indene	80.0	66.2	82.7	49-111
45 3-Methylphenol	80.0	66.3	82.9	51-124
46 3 & 4 Methylphenol	80.0	66.3	82.9	51-124
47 4-Methylphenol	80.0	66.3	82.9	51-124
48 N-Nitrosodi-n-propylami	80.0	65.8	82.2	57-117
50 Acetophenone	80.0	66.3	82.9	46-127
53 Hexachloroethane	80.0	60.5	75.6	27-123
54 Nitrobenzene	80.0	64.6	80.8	59-117
57 Isophorone	80.0	70.7	88.4	58-111
59 2-Nitrophenol	80.0	67.6	84.5	61-121
60 2,4-Dimethylphenol	80.0	67.1	83.9	33-117
63 Bis(2-chloroethoxy)meth	80.0	67.2	84.0	62-114
64 Benzoic acid	80.0	69.1	86.4	41-111
68 2,4-Dichlorophenol	80.0	68.9	86.1	62-119
70 1,2,4-Trichlorobenzene	80.0	65.4	81.7	44-117
72 Naphthalene	80.0	65.9	82.4	50-119
73 4-Chloroaniline	80.0	67.4	84.3	30-99
74 2,6-Dichlorophenol	80.0	69.0	86.3	63-118
76 Hexachlorobutadiene	80.0	66.6	83.2	36-118
83 4-Chloro-3-methylphenol	80.0	69.7	87.2	65-121
87 2-Methylnaphthalene	80.0	68.9	86.1	53-119
89 1-Methylnaphthalene	80.0	68.8	86.0	54-116
90 Hexachlorocyclopentadie	160.0	148.3	92.7	10-106
91 1,2,4,5-Tetrachlorobenz	80.0	68.6	85.8	57-117
94 2,4,6-Trichlorophenol	80.0	72.8	91.1	60-137
96 2,4,5-Trichlorophenol	80.0	70.4	88.0	60-129
100 1,1'-Biphenyl	80.0	67.7	84.6	52-130

Preliminary Report

Sample Path: \\ChromNA\Denver\ChromData\SMS_D\20181003-74684.b\D29466.D

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3520C
102 2-Chloronaphthalene	80.0	67.4	84.2	51-128
105 2-Nitroaniline	80.0	69.2	86.4	57-133
111 Dimethyl phthalate	80.0	71.3	89.1	59-131
112 1,3-Dinitrobenzene	80.0	72.7	90.8	65-135
113 2,6-Dinitrotoluene	80.0	72.1	90.2	65-135
115 Acenaphthylene	80.0	72.5	90.6	55-123
117 3-Nitroaniline	80.0	68.1	85.1	27-111
119 Acenaphthene	80.0	69.0	86.2	54-129
120 2,4-Dinitrophenol	160.0	127.4	79.6	56-121
121 4-Nitrophenol	160.0	135.0	84.4	50-140
124 2,4-Dinitrotoluene	80.0	72.1	90.1	65-135
125 Dibenzofuran	80.0	70.4	88.1	56-128
129 2,3,4,6-Tetrachlorophen	80.0	71.8	89.8	64-128
131 Hexadecane	80.0	68.1	85.2	47-129
132 Diethyl phthalate	80.0	72.2	90.2	60-133
134 4-Chlorophenyl phenyl e	80.0	70.7	88.3	56-130
135 Fluorene	80.0	71.1	88.9	51-133
138 4-Nitroaniline	80.0	69.9	87.4	54-128
139 4,6-Dinitro-2-methylphe	160.0	147.8	92.4	63-122
140 Diphenylamine	68.0	60.1	88.4	60-124
141 N-Nitrosodiphenylamine	80.0	69.1	86.4	63-116
142 1,2-Diphenylhydrazine	80.9	72.1	89.2	55-128
143 Azobenzene	80.0	71.4	89.2	55-128
152 4-Bromophenyl phenyl et	80.0	69.4	86.8	65-115
153 Hexachlorobenzene	80.0	71.2	89.0	65-114
156 n-Octadecane	80.0	68.5	85.6	
157 Pentachlorophenol	160.0	127.2	79.5	56-115
163 Phenanthrene	80.0	68.7	85.9	63-119
164 Anthracene	80.0	69.5	86.9	65-116
165 Carbazole	80.0	68.7	85.9	68-116
169 Di-n-butyl phthalate	80.0	70.5	88.1	65-118
176 Fluoranthene	80.0	70.7	88.3	65-118
180 Pyrene	80.0	68.7	85.8	59-124
187 Butyl benzyl phthalate	80.0	66.1	82.6	64-121
192 Benzo[a]anthracene	80.0	63.9	79.9	63-120
193 Bis(2-ethylhexyl) phtha	80.0	68.0	85.0	61-123
194 Chrysene	80.0	69.0	86.3	65-122
197 Di-n-octyl phthalate	80.0	66.7	83.4	56-119
198 Benzo[b]fluoranthene	80.0	68.7	85.9	64-122
200 Benzo[k]fluoranthene	80.0	71.3	89.1	69-125
202 Benzo[a]pyrene	80.0	68.7	85.9	62-114
208 Indeno[1,2,3-cd]pyrene	80.0	67.7	84.6	53-116
209 Dibenz(a,h)anthracene	80.0	68.7	85.8	60-120
210 Benzo[g,h,i]perylene	80.0	68.4	85.5	60-122

Preliminary Report

Sample Path: \\ChromNA\Denver\ChromData\SMS_D\20181003-74684.b\D29466.D

Samples for Limit Group: 1, Lims Prep Method: 3520C
280-114613-C-3-A

Reagent

8270BO-SIMLCS_00031

Report Date: 17-Oct-2018 14:44:10 Chrom Revision: 2.3 12-Oct-2018 08:24:38

Preliminary Report

TestAmerica Denver

LCS, Lab Control Sample Report

Sample Path: \\ChromNA\Denver\ChromData\SMS_F\20181012-75020.b\F4024.D

Lims ID: 8270boSimlcs_00031 Inj. Date: 13-Oct-2018 03:44:30

Worklist ID: 280-0075020-025 Instrument: SMS_F

Method: SMSF_8270SIMX

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3546
8 1,4-Dioxane	900.0	*ND	0.0	
9 N-Nitrosodimethylamine	900.0	849.8	94.4	
10 Naphthalene	900.0	856.8	95.2	38-111
11 2-Methylnaphthalene	900.0	860.2	95.6	39-114
12 1-Methylnaphthalene	900.0	869.4	96.6	43-111
13 Dimethyl phthalate	900.0	*ND	0.0	
14 Acenaphthylene	900.0	768.8	85.4	39-116
15 Acenaphthene	900.0	806.4	89.6	44-111
16 Dibenzofuran	900.0	831.6	92.4	
17 Diethyl phthalate	900.0	*ND	0.0	
18 Fluorene	900.0	790.5	87.8	47-114
19 N-Nitrosodiphenylamine	900.0	772.8	85.9	
20 Phenanthrene	900.0	773.2	85.9	49-113
21 Anthracene	900.0	772.0	85.8	50-114
22 Di-n-butyl phthalate	900.0	756.7	84.1	
23 Fluoranthene	900.0	747.6	83.1	55-119
24 Pyrene	900.0	760.5	84.5	55-117
25 Butyl benzyl phthalate	900.0	760.1	84.5	
26 Benzo[a]anthracene	900.0	753.0	83.7	54-122
27 Chrysene	900.0	771.0	85.7	57-118
28 Bis(2-ethylhexyl) phtha	900.0	*ND	0.0	
29 Di-n-octyl phthalate	900.0	*ND	0.0	
30 Benzo[b]fluoranthene	900.0	798.5	88.7	53-128
31 Benzo[k]fluoranthene	900.0	804.9	89.4	56-123
32 Benzo[a]pyrene	900.0	789.2	87.7	50-125
33 Indeno[1,2,3-cd]pyrene	900.0	818.0	90.9	49-130
34 Dibenz(a,h)anthracene	900.0	812.6	90.3	50-129
35 Benzo[g,h,i]perylene	900.0	814.3	90.5	49-127

Samples for Limit Group: 1, Lims Prep Method: 3546

280-114910-A-16-P 280-114910-A-21-E 280-114910-A-22-E

280-114910-A-23-E 280-114859-A-2-A 280-114859-B-3-A

280-114859-B-4-A

Reagent

8270SIMSurStk_00001

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Date Received: _____

Certificate of Analysis

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
112220-01 -5PAK	334025	≤ -10 °C	Methylene Chloride	11-Feb-2019	Custom Surrogate Mix, 8-2220, 1000 mg/L, 5 x 1 ml

Compound	CAS No.	Purity (%)	Neat Material Lot No.	Concentration	
fluoranthene-d_{10}	93951-69-0	98.9	1458.12.2P	1002 +/- 4.54	mg/l
2-fluorobiphenyl	321-60-8	99.7	8.7.1P	1015 +/- 10.59	mg/l
2-fluorophenol	367-12-4	99.9	10.9.2P	1000 +/- 14.42	mg/L
2-methylnaphthalene-d_{10}	7297-45-2	98	1457.18.1P	1007 +/- 50.54	mg/l
nitrobenzene-d_5	4165-60-0	99.9	7.120.1P	1014 +/- 10.58	mg/l
phenol-d5	4165-62-2	99.6	11.12.3.2P	1004 +/- 10.48	mg/L
p-terphenyl-d_{14}	1718-51-0	100	9.12.8.1P	1008 +/- 10.52	mg/l
2,4,6-tribromophenol	118-79-6	99.8	12.1.5P	1001 +/- 14.43	mg/L

Certified By: Jarrett Howard

Jarrett Howard

Manufacture Date 22-Jan-2018

Follow all storage requirements, keep tightly closed when not in use, and use good laboratory practices when handling.
This Reference Material was manufactured, produced, and/or certified under a quality management system that is accredited to ISO 17034 and ISO/IEC 17025.

All weights are traceable through N. I. S. T. Test No. 822/264157-00.
Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.
The stated uncertainty is the expanded uncertainty with a coverage factor of two to give a 95% confidence level.

Reagent

8270Surrogate_00128

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8270Surrogate_00128

Reagent ID: 8270Surrogate_00128

Description:	8270 Surrogate 100ug/ml	Expiration Date:	07/09/2019
No. of Bottles:	4	Laboratory:	TestAmerica Denver
Storage Location:	North Prep	Prepared By:	McAleese, Maura A
Reagent Volume:	1000.000 mL	Solvent:	ACETONE
Creation Date:	10/17/2018	Solvent Lot:	Acetone_00232
Open Date:			
Container(s):	5367833, 5367834, 5367835, 5367836		
Comment:	Sonicate 8270SurrStkHL 5 mins before use. Take 20mL of 8270SurstkHL and dilute to 1000mL in acetone. One year expiration date. Split into 4x250mL bottles. Requires solvent exchange to MeCl2 prior to submission for verification.		

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
2,4,6 - Tribromophenol	8270SurStkHL_00282	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
2,4,6-Tribromophenol	8270SurStkHL_00282	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
2-Fluorobiphenyl	8270SurStkHL_00282	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
2-Fluorophenol	8270SurStkHL_00282	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
Nitrobenzene-d5	8270SurStkHL_00282	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
Phenol-d5	8270SurStkHL_00282	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
Phenol-d6	8270SurStkHL_00282	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
Terphenyl-d14	8270SurStkHL_00282	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
2,4,6 - Tribromophenol	8270SurStkHL_00283	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
2,4,6-Tribromophenol	8270SurStkHL_00283	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
2-Fluorobiphenyl	8270SurStkHL_00283	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
2-Fluorophenol	8270SurStkHL_00283	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
Nitrobenzene-d5	8270SurStkHL_00283	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
Phenol-d5	8270SurStkHL_00283	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
Phenol-d6	8270SurStkHL_00283	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
Terphenyl-d14	8270SurStkHL_00283	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL
2,4,6 - Tribromophenol	8270SurStkHL_00289	10/17/2019	5000.00000	ug/mL	100.00000	ug/mL

Preliminary Report

TestAmerica Denver

Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_G6\20181023-75392.b\G6_35963.D
Lims ID: 8270Surrogate_00128
Client ID:
Sample Type: Client
Inject. Date: 23-Oct-2018 16:04:30 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 8270Surrogate_00128
Operator ID: HOEFLERA Instrument ID: SMS_G6

Method: \\ChromNA\Denver\ChromData\SMS_G6\20181023-75392.b\SMSG6_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 23-Oct-2018 16:59:20 Calib Date: 27-Sep-2018 16:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_G6\20180927-74477.b\G6_35533.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0305

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	98.7	98.69
$ 8 Phenol-d5	100.0	96.3	96.28
$ 9 Nitrobenzene-d5	100.0	92.0	92.00
$ 11 2-Fluorobiphenyl	100.0	87.8	87.81
$ 12 2,4,6-Tribromophenol	100.0	81.9	81.91
$ 13 Terphenyl-d14	100.0	92.3	92.34

Reagent

8270SurStkHL_00282

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0133251

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol		5,038.1 µg/mL	+/- 29.2918 µg/mL		Gravimetric
	CAS # 367-12-4	(Lot STBD7945V)		+/- 147.0277 µg/mL		Unstressed
	Purity 99%			+/- 178.4124 µg/mL		Stressed
2	Phenol-d5		5,031.4 µg/mL	+/- 29.2530 µg/mL		Gravimetric
	CAS # 4165-62-2	(Lot X-479)		+/- 146.8331 µg/mL		Unstressed
	Purity 99%			+/- 178.1763 µg/mL		Stressed
3	Nitrobenzene-d5		5,017.5 µg/mL	+/- 29.1720 µg/mL		Gravimetric
	CAS # 4165-60-0	(Lot PR-25462)		+/- 146.4265 µg/mL		Unstressed
	Purity 99%			+/- 177.6829 µg/mL		Stressed
4	2-Fluorobiphenyl		5,017.5 µg/mL	+/- 29.1720 µg/mL		Gravimetric
	CAS # 321-60-8	(Lot Z20C043)		+/- 146.4265 µg/mL		Unstressed
	Purity 99%			+/- 177.6829 µg/mL		Stressed
5	2,4,6-Tribromophenol		5,043.2 µg/mL	+/- 29.3216 µg/mL		Gravimetric
	CAS # 118-79-6	(Lot 29699MJV)		+/- 147.1775 µg/mL		Unstressed
	Purity 99%			+/- 178.5942 µg/mL		Stressed
6	p-Terphenyl-d14		5,030.3 µg/mL	+/- 29.2464 µg/mL		Gravimetric
	CAS # 1718-51-0	(Lot PR-27278)		+/- 146.8000 µg/mL		Unstressed
	Purity 99%			+/- 178.1362 µg/mL		Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

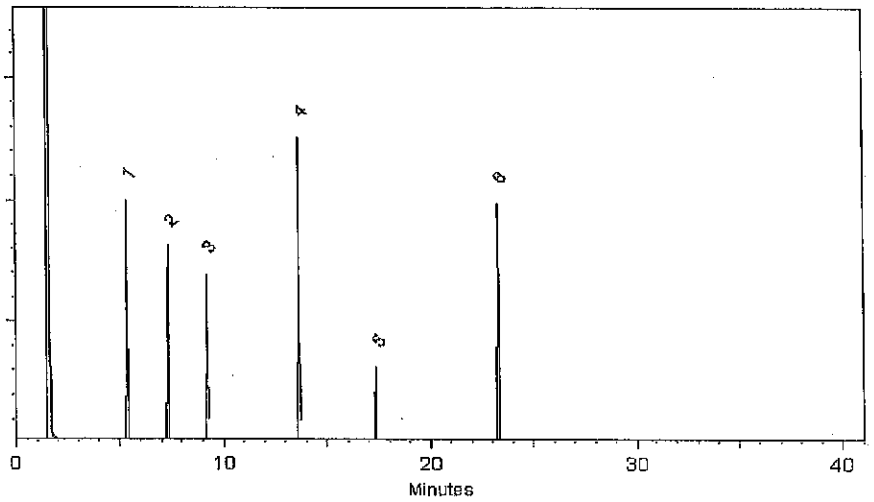
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 12-Dec-2017 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 14-Dec-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8270SurStkHL_00283

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0133251

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol		5,038.1 µg/mL	+/-	29.2918	µg/mL	Gravimetric
	CAS # 367-12-4	(Lot STBD7945V)		+/-	147.0277	µg/mL	Unstressed
	Purity 99%			+/-	178.4124	µg/mL	Stressed
2	Phenol-d5		5,031.4 µg/mL	+/-	29.2530	µg/mL	Gravimetric
	CAS # 4165-62-2	(Lot X-479)		+/-	146.8331	µg/mL	Unstressed
	Purity 99%			+/-	178.1763	µg/mL	Stressed
3	Nitrobenzene-d5		5,017.5 µg/mL	+/-	29.1720	µg/mL	Gravimetric
	CAS # 4165-60-0	(Lot PR-25462)		+/-	146.4265	µg/mL	Unstressed
	Purity 99%			+/-	177.6829	µg/mL	Stressed
4	2-Fluorobiphenyl		5,017.5 µg/mL	+/-	29.1720	µg/mL	Gravimetric
	CAS # 321-60-8	(Lot Z20C043)		+/-	146.4265	µg/mL	Unstressed
	Purity 99%			+/-	177.6829	µg/mL	Stressed
5	2,4,6-Tribromophenol		5,043.2 µg/mL	+/-	29.3216	µg/mL	Gravimetric
	CAS # 118-79-6	(Lot 29699MJV)		+/-	147.1775	µg/mL	Unstressed
	Purity 99%			+/-	178.5942	µg/mL	Stressed
6	p-Terphenyl-d14		5,030.3 µg/mL	+/-	29.2464	µg/mL	Gravimetric
	CAS # 1718-51-0	(Lot PR-27278)		+/-	146.8000	µg/mL	Unstressed
	Purity 99%			+/-	178.1362	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

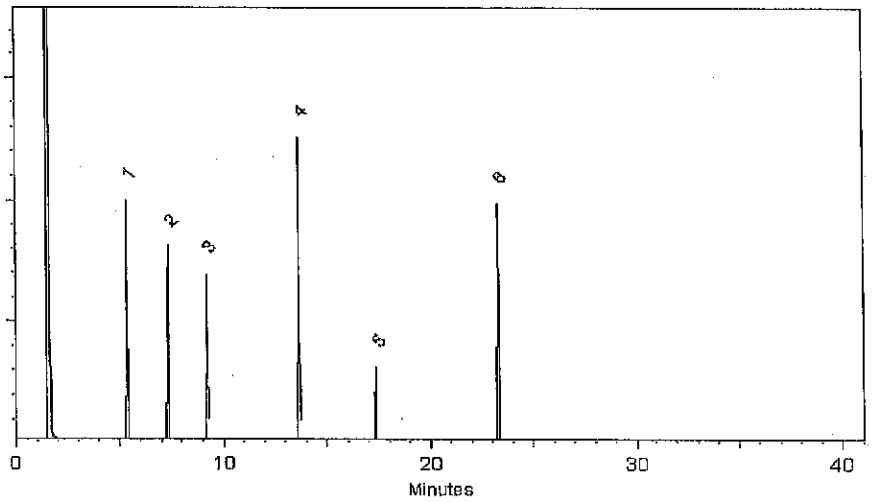
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 12-Dec-2017 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 14-Dec-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8270SurStkHL_00289

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0133251

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol		5,038.1 µg/mL	+/- 29.2918 µg/mL		Gravimetric
	CAS # 367-12-4	(Lot STBD7945V)		+/- 147.0277 µg/mL		Unstressed
	Purity 99%			+/- 178.4124 µg/mL		Stressed
2	Phenol-d5		5,031.4 µg/mL	+/- 29.2530 µg/mL		Gravimetric
	CAS # 4165-62-2	(Lot X-479)		+/- 146.8331 µg/mL		Unstressed
	Purity 99%			+/- 178.1763 µg/mL		Stressed
3	Nitrobenzene-d5		5,017.5 µg/mL	+/- 29.1720 µg/mL		Gravimetric
	CAS # 4165-60-0	(Lot PR-25462)		+/- 146.4265 µg/mL		Unstressed
	Purity 99%			+/- 177.6829 µg/mL		Stressed
4	2-Fluorobiphenyl		5,017.5 µg/mL	+/- 29.1720 µg/mL		Gravimetric
	CAS # 321-60-8	(Lot Z20C043)		+/- 146.4265 µg/mL		Unstressed
	Purity 99%			+/- 177.6829 µg/mL		Stressed
5	2,4,6-Tribromophenol		5,043.2 µg/mL	+/- 29.3216 µg/mL		Gravimetric
	CAS # 118-79-6	(Lot 29699MJV)		+/- 147.1775 µg/mL		Unstressed
	Purity 99%			+/- 178.5942 µg/mL		Stressed
6	p-Terphenyl-d14		5,030.3 µg/mL	+/- 29.2464 µg/mL		Gravimetric
	CAS # 1718-51-0	(Lot PR-27278)		+/- 146.8000 µg/mL		Unstressed
	Purity 99%			+/- 178.1362 µg/mL		Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

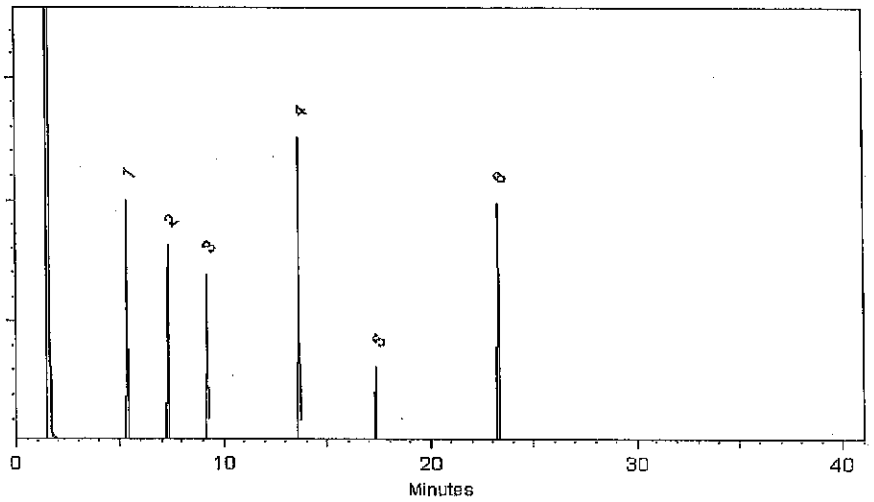
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 12-Dec-2017 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 14-Dec-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

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  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8270SurStkHL_00290

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0133251

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol		5,038.1 µg/mL	+/- 29.2918 µg/mL		Gravimetric
	CAS # 367-12-4	(Lot STBD7945V)		+/- 147.0277 µg/mL		Unstressed
	Purity 99%			+/- 178.4124 µg/mL		Stressed
2	Phenol-d5		5,031.4 µg/mL	+/- 29.2530 µg/mL		Gravimetric
	CAS # 4165-62-2	(Lot X-479)		+/- 146.8331 µg/mL		Unstressed
	Purity 99%			+/- 178.1763 µg/mL		Stressed
3	Nitrobenzene-d5		5,017.5 µg/mL	+/- 29.1720 µg/mL		Gravimetric
	CAS # 4165-60-0	(Lot PR-25462)		+/- 146.4265 µg/mL		Unstressed
	Purity 99%			+/- 177.6829 µg/mL		Stressed
4	2-Fluorobiphenyl		5,017.5 µg/mL	+/- 29.1720 µg/mL		Gravimetric
	CAS # 321-60-8	(Lot Z20C043)		+/- 146.4265 µg/mL		Unstressed
	Purity 99%			+/- 177.6829 µg/mL		Stressed
5	2,4,6-Tribromophenol		5,043.2 µg/mL	+/- 29.3216 µg/mL		Gravimetric
	CAS # 118-79-6	(Lot 29699MJV)		+/- 147.1775 µg/mL		Unstressed
	Purity 99%			+/- 178.5942 µg/mL		Stressed
6	p-Terphenyl-d14		5,030.3 µg/mL	+/- 29.2464 µg/mL		Gravimetric
	CAS # 1718-51-0	(Lot PR-27278)		+/- 146.8000 µg/mL		Unstressed
	Purity 99%			+/- 178.1362 µg/mL		Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

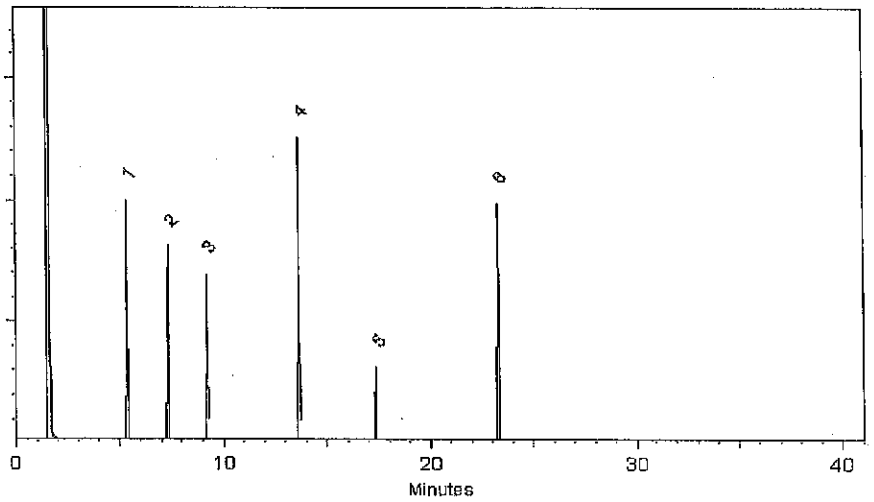
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 12-Dec-2017 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 14-Dec-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330 LCS_00078

*Standard is in the Explosives Room fridge *

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING



Reagent ID: 8330 LCS_00078

		Expiration Date:	04/30/2018
Description:	10+100 ug/mL KEEP IN FREEZER	Laboratory:	TestAmerica Denver
No. of Bottles:	2	Prepared By:	Cokley, Cheyana D
Storage Location:	Explosives Prep	Solvent:	Acetonitrile
Reagent Volume:	100.000 mL	Solvent Lot:	ACN_00209
Creation Date:	02/08/2018		
Open Date:			
Container(s):	4957477, 4957478		
Comment:	MNX has been added back 10.22.17; new expiration is 1 year after its creation date		

OK HKF 2 15 17

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
2,6-Dinitrotoluene	8330 LCSMix2_00102	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
2-Amino-4,6-dinitrotoluene	8330 LCSMix2_00102	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
4-Amino-2,6-dinitrotoluene	8330 LCSMix2_00102	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
m-Nitrotoluene	8330 LCSMix2_00102	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
o-Nitrotoluene	8330 LCSMix2_00102	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
p-Nitrotoluene	8330 LCSMix2_00102	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
Tetryl	8330 LCSMix2_00102	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
Nitroglycerin	8330_NG_Stk_00061	02/08/2019	5000.00000	ug/mL	100.00000	ug/mL
Nitroglycerin	8330_NG_Stk_00062	02/08/2019	5000.00000	ug/mL	100.00000	ug/mL
PETN	8330_PETN_Stk_00069	02/08/2019	5000.00000	ug/mL	100.00000	ug/mL
PETN	8330_PETN_Stk_00070	02/08/2019	5000.00000	ug/mL	100.00000	ug/mL
1,3,5-Trinitrobenzene	8330LCSMix1_00097	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
1,3-Dinitrobenzene	8330LCSMix1_00097	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
2,4,6-Trinitrotoluene	8330LCSMix1_00097	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
2,4-Dinitrotoluene	8330LCSMix1_00097	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
HMX	8330LCSMix1_00097	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
Nitrobenzene	8330LCSMix1_00097	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
RDX	8330LCSMix1_00097	02/08/2019	1000.00000	ug/mL	10.00000	ug/mL
MNX	8330MNX_00002	04/30/2018	1000.00000	ug/mL	10.00000	ug/mL

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8330 LCS _ 00078

Reagent ID: 8330 LCS_00078

		Expiration Date:	04/30/2018
Description:	10+100 ug/mL KEEP IN FREEZER	Laboratory:	TestAmerica Denver
No. of Bottles:	2	Prepared By:	Cokley, Cheyana D
Storage Location:	Explosives Prep	Solvent:	Acetonitrile
Reagent Volume:	100.000 mL	Solvent Lot:	ACN_00209
Creation Date:	02/08/2018		
Open Date:			
Container(s):	4957477, 4957478		
Comment:	MNX has been added back 10.22.17; new expiration is 1 year after its creation date		

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
2,4,6-Trinitrophenol	PicricARestek_00056	06/30/2018	1000.00000	ug/mL	10.00000	ug/mL

Source Reagents

Reagent	Description	Type	Expiration	Vendor	Vendor Lot #	Vendor Cat Lot #	Volume Used	Volume Units
8330 LCSMix2_00102	31451 1000ug/mL 8330 Calibration Mix#2	ASTD	02/08/19	Restek	A0122699	31451	1.00000	mL
8330_NG_Stk_00061	Cat#568871 5,000ug/mL	ASTD	02/08/19	Restek	A0128695	568871	1.00000	mL
8330_NG_Stk_00062	Cat#568871 5,000ug/mL	ASTD	02/08/19	Restek	A0128695	568871	1.00000	mL
8330_PETN_Stk_00069	Cat#568872 5,000ug/mL	ASTD	02/08/19	Restek	A0127970	568872	1.00000	mL
8330_PETN_Stk_00070	Cat#568872 5,000ug/mL	ASTD	02/08/19	Restek	A0127970	568872	1.00000	mL
8330LCSMix1_00097	Cat#31450, 1000ug/mL Restek	ASTD	02/08/19	Restek	A0122924	31450	1.00000	mL
8330MNX_00002	8330 MNX	ASTD	04/30/18	Ultra Scientific	CR-1036	CUS-23986	1.00000	mL
PicricARestek_00056	Cat# 31499	ASTD	06/30/18	Restek	A096192	31499	1.00000	mL

Preliminary Report

TestAmerica Denver

LCS, Lab Control Sample Report

Sample Path: \\ChromNA\Denver\ChromData\CHHPLC_X\20180214-67233.b\001-1801.D

Lims ID: lcs0078 Inj. Date: 14-Feb-2018 18:29:33

Worklist ID: 280-0067233-022 Instrument: CHHPLC_X3

Method: 8330_X3

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3535
2 HMX	0.2000	0.1621	81.0	76-120
4 MNX	0.2000	*ND	0.0	* 60-136
5 RDX	0.2000	0.1745	87.2	80-120
6 2,4,6-Trinitrophenol	0.2000	0.1657	82.9	80-120
8 1,3,5-Trinitrobenzene	0.2000	0.1754	87.7	73-120
9 1,3-Dinitrobenzene	0.2000	0.1825	91.3	75-120
11 Nitrobenzene	0.2000	0.1956	97.8	64-120
12 Tetryl	0.2000	0.1897	94.9	10-120
13 Nitroglycerin	2.00	1.83	91.3	77-120
14 2,4,6-Trinitrotoluene	0.2000	0.1636	81.8	73-120
15 4-Amino-2,6-dinitrotolu	0.2000	0.1816	90.8	63-123
16 2-Amino-4,6-dinitrotolu	0.2000	0.1734	86.7	56-120
17 2,6-Dinitrotoluene	0.2000	0.1825	91.2	69-120
18 2,4-Dinitrotoluene	0.2000	0.1829	91.4	71-120
19 o-Nitrotoluene	0.2000	0.1976	98.8	52-120
20 p-Nitrotoluene	0.2000	0.1986	99.3	56-120
21 m-Nitrotoluene	0.2000	0.1924	96.2	61-124
22 PETN	2.00	1.80	90.2	77-123

Samples for Limit Group: 1, Lims Prep Method: 3535

600-160894-C-1-A 550-97259-C-14-A 550-97315-A-6-A

550-97324-A-12-A

Reagent

8330 LCS_00081

Report Date: 15-Jun-2018 07:35:24 Chrom Revision: 2.2 11-May-2018 08:54:46

Preliminary Report

TestAmerica Denver

LCS, Lab Control Sample Report

Sample Path: \\ChromNA\Denver\ChromData\CHHPLC_X\20180614-71018.b\06140009.D

Lims ID: 8330 LCS%O00081 Inj. Date: 14-Jun-2018 18:11:46

Worklist ID: 280-0071018-009 Instrument: CHHPLC_X3

Method: 8330_X3

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 0B_Sonc
1 2,6-diamino-4-nitrotolu	0	*ND	0.0	
2 HMX	0.2000	0.1930	96.5	66-115
3 2,4-diamino-6-nitrotolu	0	*ND	0.0	
4 MNX	0	*ND	0.0	50-150
5 RDX	0.2000	0.1983	99.1	69-122
6 2,4,6-Trinitrophenol	0	0.1765	0.0	* 63-135
$ 7 1,2-Dinitrobenzene	0	*ND	0.0	78-119
8 1,3,5-Trinitrobenzene	0.2000	0.2075	103.7	62-127
9 1,3-Dinitrobenzene	0.2000	0.1986	99.3	59-131
11 Nitrobenzene	0.2000	0.1962	98.1	46-144
10 3,5-Dinitroaniline	0	*ND	0.0	86-118
12 Tetryl	0.2000	0.2027	101.3	56-131
13 Nitroglycerin	2.00	2.03	101.3	70-125
14 2,4,6-Trinitrotoluene	0.2000	0.1803	90.1	46-139
15 4-Amino-2,6-dinitrotolu	0.2000	0.1881	94.1	43-120
16 2-Amino-4,6-dinitrotolu	0.2000	0.1906	95.3	46-124
17 2,6-Dinitrotoluene	0.2000	0.1825	91.2	51-130
18 2,4-Dinitrotoluene	0.2000	0.1910	95.5	53-127
19 o-Nitrotoluene	0.2000	0.1874	93.7	37-138
20 p-Nitrotoluene	0.2000	0.1955	97.7	41-137
21 m-Nitrotoluene	0.2000	0.1858	92.9	31-140
22 PETN	2.00	1.91	95.4	67-127

OK (LH) 6/15/18

Samples for Limit Group: 1, Lims Prep Method: 8330B_Sonc_10g

280-110156-A-1-A 280-110156-A-2-A 280-110156-A-3-A

280-110156-A-5-A 280-110156-A-4-A

Reagent

8330 LCS_00083

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8330 LCS _ 00082

OK HKF 9/12/18

Reagent ID: 8330 LCS_00082

Description:	10+100 ug/mL KEEP IN FREEZER	Expiration Date:	06/28/2019
No. of Bottles:	2	Laboratory:	TestAmerica Denver
Storage Location:	Explosives Prep	Prepared By:	Carroll, Randall P
Reagent Volume:	100.000 mL	Solvent:	Acetonitrile
Creation Date:	09/07/2018	Solvent Lot:	ACN_00204
Open Date:			
Container(s):	5297539, 5297540		
Comment:			

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
2,6-Dinitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
2-Amino-4,6-dinitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
4-Amino-2,6-dinitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
m-Nitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
o-Nitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
p-Nitrotoluene	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
Tetryl	8330 LCSMix2_00103	11/30/2021	1000.00000	ug/mL	10.00000	ug/mL
Nitroglycerin	8330_NG_Stk_00057	07/31/2019	5000.00000	ug/mL	100.00000	ug/mL
Nitroglycerin	8330_NG_Stk_00063	07/31/2019	5000.00000	ug/mL	100.00000	ug/mL
PETN	8330_PETN_Stk_00049	06/30/2019	5000.00000	ug/mL	100.00000	ug/mL
PETN	8330_PETN_Stk_00066	05/31/2020	5000.00000	ug/mL	100.00000	ug/mL
1,3,5-Trinitrobenzene	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
1,3-Dinitrobenzene	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
2,4,6-Trinitrotoluene	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
2,4-Dinitrotoluene	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
HMX	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
Nitrobenzene	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
RDX	8330LCSMix1_00102	06/20/2022	1000.00000	ug/mL	10.00000	ug/mL
2,4,6-Trinitrophenol	PicricARestek_00078	09/30/2020	1000.00000	ug/mL	10.00000	ug/mL

Preliminary Report

TestAmerica Denver

LCS, Lab Control Sample Report

Sample Path: \\ChromNA\Denver\ChromData\CHHPLC_X\20180911-73899.b\09110010.D

Lims ID: 8330 LCS%O00082 Inj. Date: 11-Sep-2018 20:36:26

Worklist ID: 280-0073899-010 Instrument: CHHPLC_X3

Method: 8330_X3

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3535	Limits 2 3535
1 2,6-diamino-4-nitrotolu	0	*ND	0.0	80-150	
25 TNX	0	*ND	0.0	50-150	
2 HMX	0.4000	0.3899	97.5	66-115	65-135
3 2,4-diamino-6-nitrotolu	0	*ND	0.0	70-150	
24 DNX	0	*ND	0.0	50-150	
4 MNX	0	*ND	0.0	68-123	50-150
5 RDX	0.4000	0.3916	97.9	69-122	68-130
6 2,4,6-Trinitrophenol	0.4000	0.3998	100.0	63-135	80-120
$ 7 1,2-Dinitrobenzene	0	*ND	0.0	63-127	83-119
8 1,3,5-Trinitrobenzene	0.4000	0.4096	102.4	62-127	73-125
9 1,3-Dinitrobenzene	0.4000	0.4033	100.8	59-131	78-120
11 Nitrobenzene	0.4000	0.4045	101.1	46-144	65-134
10 3,5-Dinitroaniline	0	*ND	0.0	55-119	71-117
12 Tetryl	0.4000	0.4274	106.9	56-131	64-128
13 Nitroglycerin	4.00	3.97	99.4	70-125	74-127
14 2,4,6-Trinitrotoluene	0.4000	0.3842	96.1	46-139	71-123
15 4-Amino-2,6-dinitrotolu	0.4000	0.3737	93.4	43-120	76-125
16 2-Amino-4,6-dinitrotolu	0.4000	0.3998	100.0	46-124	79-120
17 2,6-Dinitrotoluene	0.4000	0.3828	95.7	51-130	77-127
18 2,4-Dinitrotoluene	0.4000	0.3881	97.0	53-127	78-120
19 o-Nitrotoluene	0.4000	0.3903	97.6	37-138	70-127
20 p-Nitrotoluene	0.4000	0.4065	101.6	41-137	71-127
21 m-Nitrotoluene	0.4000	0.3886	97.1	31-140	73-125
22 PETN	4.00	3.95	98.7	67-127	73-127

Samples for Limit Group: 1, Lims Prep Method: 3535

680-157496-D-1-B	680-157496-D-2-B	680-157496-D-3-B
680-157496-D-4-B	680-157496-D-5-B	680-157496-D-6-B
680-157496-D-7-B	680-157496-D-8-B	680-157496-D-9-B
490-158536-D-1-B	490-158590-A-1-B	490-158590-A-2-B
600-171866-C-1-B	280-113921-A-1-B	

Samples for Limit Group: 2, Lims Prep Method: 3535

160-30545-A-1-B	160-30545-A-6-B	160-30545-A-7-B

Reagent

8330 LCSMix2_00102

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ilac-MRA

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31451 **Lot No.:** A0122699

Description : 8330 Calibration Mix #2

8330 Calibration Std #2 1000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Tetryl		1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 479-45-8	(Lot 091120JLM)		+/- 54.7830	µg/mL	Unstressed
	Purity 99%			+/- 63.8824	µg/mL	Stressed
2	4-Amino-2,6-dinitrotoluene		1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 19406-51-0	(Lot ER070908-01)		+/- 54.8926	µg/mL	Unstressed
	Purity 99%			+/- 64.0101	µg/mL	Stressed
3	2-Amino-4,6-dinitrotoluene		1,001.0 µg/mL	+/- 5.9456	µg/mL	Gravimetric
	CAS # 35572-78-2	(Lot 29550-55)		+/- 54.8378	µg/mL	Unstressed
	Purity 99%			+/- 63.9463	µg/mL	Stressed
4	2,6-Dinitrotoluene		1,001.0 µg/mL	+/- 5.9456	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)		+/- 54.8378	µg/mL	Unstressed
	Purity 99%			+/- 63.9463	µg/mL	Stressed
5	2-Nitrotoluene		1,001.0 µg/mL	+/- 5.9456	µg/mL	Gravimetric
	CAS # 88-72-2	(Lot GA01)		+/- 54.8378	µg/mL	Unstressed
	Purity 99%			+/- 63.9463	µg/mL	Stressed
6	4-Nitrotoluene		1,001.0 µg/mL	+/- 5.9459	µg/mL	Gravimetric
	CAS # 99-99-0	(Lot FAU01)		+/- 54.8400	µg/mL	Unstressed
	Purity 97%			+/- 63.9488	µg/mL	Stressed
7	3-Nitrotoluene		1,001.0 µg/mL	+/- 5.9456	µg/mL	Gravimetric
	CAS # 99-08-1	(Lot 07329LG)		+/- 54.8378	µg/mL	Unstressed
	Purity 99%			+/- 63.9463	µg/mL	Stressed

Reagent

8330 LCSMix2_00103

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31451 **Lot No.:** A0122699

Description : 8330 Calibration Mix #2

8330 Calibration Std #2 1000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Tetryl **CAS #** 479-45-8 (Lot 091120JLM) **Purity** 99%	1,000.0 µg/mL	+/- 5.9397 µg/mL +/- 54.7830 µg/mL +/- 63.8824 µg/mL	Gravimetric Unstressed Stressed
2	4-Amino-2,6-dinitrotoluene **CAS #** 19406-51-0 (Lot ER070908-01) **Purity** 99%	1,002.0 µg/mL	+/- 5.9516 µg/mL +/- 54.8926 µg/mL +/- 64.0101 µg/mL	Gravimetric Unstressed Stressed
3	2-Amino-4,6-dinitrotoluene **CAS #** 35572-78-2 (Lot 29550-55) **Purity** 99%	1,001.0 µg/mL	+/- 5.9456 µg/mL +/- 54.8378 µg/mL +/- 63.9463 µg/mL	Gravimetric Unstressed Stressed
4	2,6-Dinitrotoluene **CAS #** 606-20-2 (Lot 1437483V) **Purity** 99%	1,001.0 µg/mL	+/- 5.9456 µg/mL +/- 54.8378 µg/mL +/- 63.9463 µg/mL	Gravimetric Unstressed Stressed
5	2-Nitrotoluene **CAS #** 88-72-2 (Lot GA01) **Purity** 99%	1,001.0 µg/mL	+/- 5.9456 µg/mL +/- 54.8378 µg/mL +/- 63.9463 µg/mL	Gravimetric Unstressed Stressed
6	4-Nitrotoluene **CAS #** 99-99-0 (Lot FAU01) **Purity** 97%	1,001.0 µg/mL	+/- 5.9459 µg/mL +/- 54.8400 µg/mL +/- 63.9488 µg/mL	Gravimetric Unstressed Stressed
7	3-Nitrotoluene **CAS #** 99-08-1 (Lot 07329LG) **Purity** 99%	1,001.0 µg/mL	+/- 5.9456 µg/mL +/- 54.8378 µg/mL +/- 63.9463 µg/mL	Gravimetric Unstressed Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

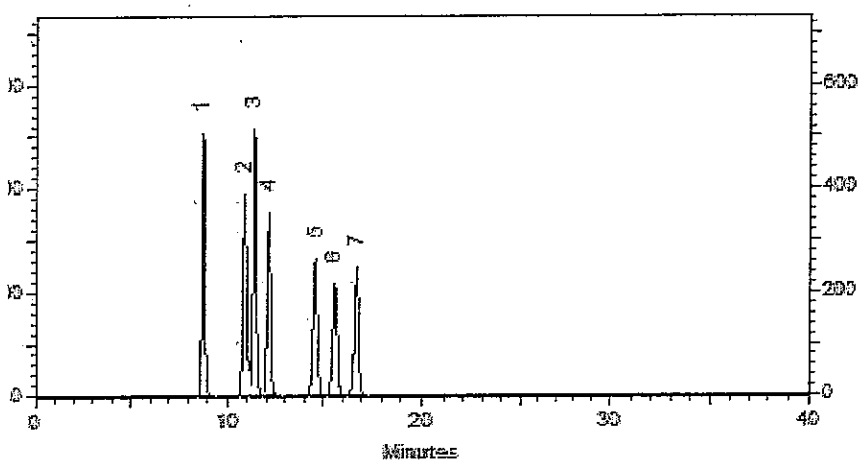
Flow Rate:
1.0 ml/min.

Mobile Phase A:
-

Mobile Phase B:
water:methanol (44:56 V/V)

Mobile Phase Composition:
100%B

Det. Type:
Wavelength: 210 nm



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis
Cathleen Soltis - Mix Technician

Date Mixed: 06-Nov-2016 **Balance:** B442140311

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 15-Nov-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

8330 LCSMix2_00104

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

X2
500 8754/55

Catalog No. : 31451 **Lot No.:** A0122699

Description : 8330 Calibration Mix #2

8330 Calibration Std #2 1000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Tetryl **CAS #** 479-45-8 **Purity** 99%	(Lot 091120JLM)	1,000.0 µg/mL	+/- 5.9397 +/- 54.7830 +/- 63.8824	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	4-Amino-2,6-dinitrotoluene **CAS #** 19406-51-0 **Purity** 99%	(Lot ER070908-01)	1,002.0 µg/mL	+/- 5.9516 +/- 54.8926 +/- 64.0101	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	2-Amino-4,6-dinitrotoluene **CAS #** 35572-78-2 **Purity** 99%	(Lot 29550-55)	1,001.0 µg/mL	+/- 5.9456 +/- 54.8378 +/- 63.9463	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	2,6-Dinitrotoluene **CAS #** 606-20-2 **Purity** 99%	(Lot 1437483V)	1,001.0 µg/mL	+/- 5.9456 +/- 54.8378 +/- 63.9463	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	2-Nitrotoluene **CAS #** 88-72-2 **Purity** 99%	(Lot GA01)	1,001.0 µg/mL	+/- 5.9456 +/- 54.8378 +/- 63.9463	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	4-Nitrotoluene **CAS #** 99-99-0 **Purity** 97%	(Lot FAU01)	1,001.0 µg/mL	+/- 5.9459 +/- 54.8400 +/- 63.9488	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	3-Nitrotoluene **CAS #** 99-08-1 **Purity** 99%	(Lot 07329LG)	1,001.0 µg/mL	+/- 5.9456 +/- 54.8378 +/- 63.9463	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
250mm x 4.6mm
Ultra C18 (cat.# 9174575)

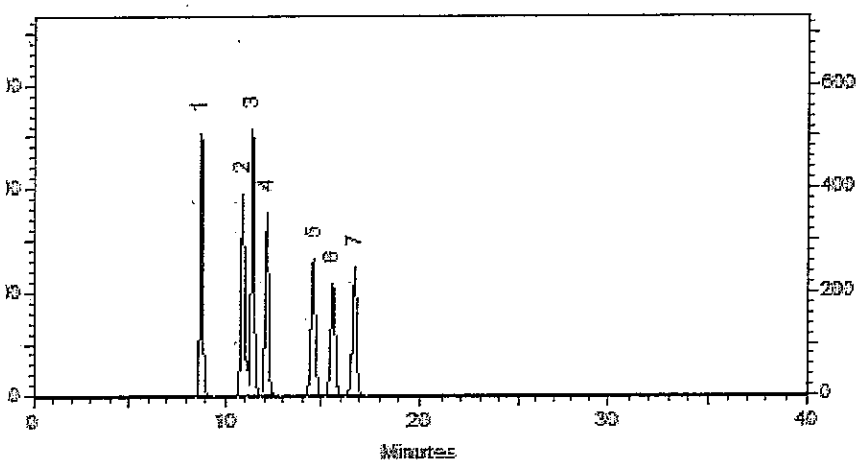
Flow Rate:
1.0 ml/min.

Mobile Phase A:
-

Mobile Phase B:
water:methanol (44:56 V/V)

Mobile Phase Composition:
100%B

Det. Type:
Wavelength: 210 nm



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis - Mix Technician

Date Mixed: 06-Nov-2016 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 15-Nov-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

8330 Stock_TS_00009

Certificate of Analysis

Combined Stock Solution

Product Number: NAIM-833E **Page:** 1 of 1

Lot Number: CR-1002 **Lot Issue Date:** 10-Mar-2017 **Expiration Date:** 30-Apr-2020

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
HMX	002691-41-0	RM06237	1000 ± 5 µg/mL
RDX	000121-82-4	RM10915	1000 ± 5 µg/mL
1,3,5-trinitrobenzene	000099-35-4	RM06608	1000 ± 5 µg/mL
m-dinitrobenzene	000099-65-0	RM04448	1001 ± 5 µg/mL
nitrobenzene	000098-95-3	RM11472	1002 ± 5 µg/mL
2,4,6-trinitrotoluene (TNT)	000118-96-7	RM11972	1004 ± 5 µg/mL
2,4-dinitrotoluene	000121-14-2	RM01209	1002 ± 5 µg/mL
tetryl	000479-45-8	RM12295	1000 ± 5 µg/mL
2,6-dinitrotoluene	000606-20-2	RM10763	1003 ± 5 µg/mL
2-nitrotoluene	000088-72-2	NT01996	1003 ± 5 µg/mL
3-nitrotoluene	000099-08-1	NT02212	1004 ± 5 µg/mL
4-nitrotoluene	000099-99-0	NT02096	1004 ± 5 µg/mL
2-amino-4,6-dinitrotoluene	035572-78-2	RM04229	1003 ± 5 µg/mL
4-amino-2,6-dinitrotoluene	019406-51-0	RM04226	1003 ± 5 µg/mL

Matrix: acetonitrile

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ISO 9001
Registered
TUV USA, Inc.

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Reagent

8330_NG_Stk_00057

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568871 **Lot No.:** A0128695

Description : Custom Nitroglycerin Standard

Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Nitroglycerin	5,012.0 µg/mL	+/- 46.6089	µg/mL	Gravimetric
	CAS # 55-63-0 (Lot 170616JLM)		+/- 276.9046	µg/mL	Unstressed
	Purity 99%		+/- 322.1807	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_NG_Stk_00061

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Catalog No. : 568871 **Lot No.:** A0128695

Description : Custom Nitroglycerin Standard

Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Nitroglycerin	5,012.0 µg/mL	+/- 46.6089	µg/mL	Gravimetric
	CAS # 55-63-0 (Lot 170616JLM)		+/- 276.9046	µg/mL	Unstressed
	Purity 99%		+/- 322.1807	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_NG_Stk_00062

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568871 **Lot No.:** A0128695

Description : Custom Nitroglycerin Standard

Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Nitroglycerin	5,012.0 µg/mL	+/- 46.6089	µg/mL	Gravimetric
	CAS # 55-63-0 (Lot 170616JLM)		+/- 276.9046	µg/mL	Unstressed
	Purity 99%		+/- 322.1807	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_NG_Stk_00063

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Catalog No. : 568871 **Lot No.:** A0128695

Description : Custom Nitroglycerin Standard

Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Nitroglycerin	5,012.0 µg/mL	+/- 46.6089	µg/mL	Gravimetric
	CAS # 55-63-0 (Lot 170616JLM)		+/- 276.9046	µg/mL	Unstressed
	Purity 99%		+/- 322.1807	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_NG_Stk_00067

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568871 **Lot No.:** A0129124

Description : Custom Nitroglycerin Standard

Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Nitroglycerin	5,008.0 µg/mL	+/- 46.5717	µg/mL	Gravimetric
	CAS # 55-63-0 (Lot 170616JLM)		+/- 276.6836	µg/mL	Unstressed
	Purity 99%		+/- 321.9236	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_NG_Stk_00068

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Catalog No. : 568871 **Lot No.:** A0129124

Description : Custom Nitroglycerin Standard

Custom Nitroglycerin Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Nitroglycerin	5,008.0 µg/mL	+/- 46.5717	µg/mL	Gravimetric
	CAS # 55-63-0 (Lot 170616JLM)		+/- 276.6836	µg/mL	Unstressed
	Purity 99%		+/- 321.9236	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_PETN_Stk_00049

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568872 **Lot No.:** A0120082

Description : Custom PETN Standard

Custom PETN Standard 5,000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2019 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	PETN	5,044.0 µg/mL	+/- 46.9065	µg/mL	Gravimetric
	CAS # 78-11-5 (Lot 051108JLM)		+/- 278.6726	µg/mL	Unstressed
	Purity 99%		+/- 324.2377	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

7-6-16
YJC

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

8330_PETN_Stk_00066

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568872 **Lot No.:** A0127970

Description : Custom PETN Standard

Custom PETN Standard 5000 µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	PETN	5,028.0 µg/mL	+/- 46.7577	µg/mL	Gravimetric
	CAS # 78-11-5 (Lot 051108JLM)		+/- 277.7886	µg/mL	Unstressed
	Purity 99%		+/- 323.2092	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_PETN_Stk_00067

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Catalog No. : 568872 **Lot No.:** A0127970

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Expiration Date : May 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	PETN	5,028.0 µg/mL	+/- 46.7577 µg/mL	Gravimetric
	CAS # 78-11-5 (Lot 051108JLM)		+/- 277.7886 µg/mL	Unstressed
	Purity 99%		+/- 323.2092 µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_PETN_Stk_00068

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Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	PETN	5,028.0 µg/mL	+/- 46.7577	µg/mL	Gravimetric
	CAS # 78-11-5 (Lot 051108JLM)		+/- 277.7886	µg/mL	Unstressed
	Purity 99%		+/- 323.2092	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_PETN_Stk_00069

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Catalog No. : 568872 **Lot No.:** A0127970

Description : Custom PETN Standard

Custom PETN Standard 5000 µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	PETN	5,028.0 µg/mL	+/- 46.7577	µg/mL	Gravimetric
	CAS # 78-11-5 (Lot 051108JLM)		+/- 277.7886	µg/mL	Unstressed
	Purity 99%		+/- 323.2092	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330_PETN_Stk_00070

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Catalog No. : 568872 **Lot No.:** A0127970

Description : Custom PETN Standard

Custom PETN Standard 5000 µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	PETN	5,028.0 µg/mL	+/- 46.7577	µg/mL	Gravimetric
	CAS # 78-11-5 (Lot 051108JLM)		+/- 277.7886	µg/mL	Unstressed
	Purity 99%		+/- 323.2092	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Reagent

8330LCSMix1_00097

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31450 **Lot No.:** A0122924

Description : 8330 Calibration Mix #1

8330 Calibration Std #1 1000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 10°C or colder

5

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	HMX **CAS #** 2691-41-0 **Purity** 98%	(Lot 111005JLM)	999.6 µg/mL	+/- 5.9373 +/- 54.7611 +/- 63.8568	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	RDX **CAS #** 121-82-4 **Purity** 99%	(Lot 080220JLM)	1,001.0 µg/mL	+/- 5.9456 +/- 54.8378 +/- 63.9463	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	1,3,5-Trinitrobenzene **CAS #** 99-35-4 **Purity** 99%	(Lot UNVVB)	1,000.0 µg/mL	+/- 5.9397 +/- 54.7830 +/- 63.8824	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	1,3-Dinitrobenzene **CAS #** 99-65-0 **Purity** 99%	(Lot BCBB1436V)	1,000.0 µg/mL	+/- 5.9397 +/- 54.7830 +/- 63.8824	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Nitrobenzene **CAS #** 98-95-3 **Purity** 99%	(Lot SHBF2348V)	1,001.0 µg/mL	+/- 5.9456 +/- 54.8378 +/- 63.9463	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	2,4,6-Trinitrotoluene **CAS #** 118-96-7 **Purity** 99%	(Lot 2554100)	1,001.0 µg/mL	+/- 5.9456 +/- 54.8378 +/- 63.9463	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,000.0 µg/mL	+/- 5.9397 +/- 54.7830 +/- 63.8824	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Reagent

8330LCSMix1_00102

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31450 **Lot No.:** A0128688

Description : 8330 Calibration Mix #1

8330 Calibration Std #1 1000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	HMX		1,002.5	µg/mL	+/- 5.9548	µg/mL	Gravimetric
	CAS # 2691-41-0	(Lot 111005JLM)			+/- 54.9222	µg/mL	Unstressed
	Purity 98%				+/- 64.0446	µg/mL	Stressed
2	RDX		1,008.0	µg/mL	+/- 5.9872	µg/mL	Gravimetric
	CAS # 121-82-4	(Lot 080220JLM)			+/- 55.2213	µg/mL	Unstressed
	Purity 99%				+/- 64.3934	µg/mL	Stressed
3	1,3,5-Trinitrobenzene		1,004.9	µg/mL	+/- 5.9689	µg/mL	Gravimetric
	CAS # 99-35-4	(Lot DJ5QO)			+/- 55.0525	µg/mL	Unstressed
	Purity 97%				+/- 64.1967	µg/mL	Stressed
4	1,3-Dinitrobenzene		1,007.0	µg/mL	+/- 5.9813	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBN4329V)			+/- 55.1665	µg/mL	Unstressed
	Purity 99%				+/- 64.3295	µg/mL	Stressed
5	Nitrobenzene		1,007.0	µg/mL	+/- 5.9813	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBG5577V)			+/- 55.1665	µg/mL	Unstressed
	Purity 99%				+/- 64.3295	µg/mL	Stressed
6	2,4,6-Trinitrotoluene		1,004.0	µg/mL	+/- 5.9635	µg/mL	Gravimetric
	CAS # 118-96-7	(Lot 2554100)			+/- 55.0021	µg/mL	Unstressed
	Purity 99%				+/- 64.1379	µg/mL	Stressed
7	2,4-Dinitrotoluene		1,007.0	µg/mL	+/- 5.9813	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/- 55.1665	µg/mL	Unstressed
	Purity 99%				+/- 64.3295	µg/mL	Stressed

Reagent

8330LCSMix1_00105

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31450 **Lot No.:** A0128688

Description : 8330 Calibration Mix #1

8330 Calibration Std #1 1000µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	HMX CAS # 2691-41-0 Purity 98%	(Lot 111005JLM)	1,002.5 µg/mL	+/- 5.9548 µg/mL +/- 54.9222 µg/mL +/- 64.0446 µg/mL	Gravimetric Unstressed Stressed
2	RDX CAS # 121-82-4 Purity 99%	(Lot 080220JLM)	1,008.0 µg/mL	+/- 5.9872 µg/mL +/- 55.2213 µg/mL +/- 64.3934 µg/mL	Gravimetric Unstressed Stressed
3	1,3,5-Trinitrobenzene CAS # 99-35-4 Purity 97%	(Lot DJ5QO)	1,004.9 µg/mL	+/- 5.9689 µg/mL +/- 55.0525 µg/mL +/- 64.1967 µg/mL	Gravimetric Unstressed Stressed
4	1,3-Dinitrobenzene CAS # 99-65-0 Purity 99%	(Lot BCBN4329V)	1,007.0 µg/mL	+/- 5.9813 µg/mL +/- 55.1665 µg/mL +/- 64.3295 µg/mL	Gravimetric Unstressed Stressed
5	Nitrobenzene CAS # 98-95-3 Purity 99%	(Lot SHBG5577V)	1,007.0 µg/mL	+/- 5.9813 µg/mL +/- 55.1665 µg/mL +/- 64.3295 µg/mL	Gravimetric Unstressed Stressed
6	2,4,6-Trinitrotoluene CAS # 118-96-7 Purity 99%	(Lot 2554100)	1,004.0 µg/mL	+/- 5.9635 µg/mL +/- 55.0021 µg/mL +/- 64.1379 µg/mL	Gravimetric Unstressed Stressed
7	2,4-Dinitrotoluene CAS # 121-14-2 Purity 99%	(Lot MKAA0690V)	1,007.0 µg/mL	+/- 5.9813 µg/mL +/- 55.1665 µg/mL +/- 64.3295 µg/mL	Gravimetric Unstressed Stressed

Reagent

8330PAStkPS_00054

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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CERTIFICATE OF ANALYSIS

Catalog No: M-8330-ADD-3
Description: Picric acid
Lot: 216061376-01
Solvent: Acetonitrile (50%)
Methanol (50%)
Hazards: *Refer to SDS for complete safety information*



Signal Word: Danger

Date Certified: Jun 19, 2017
Expiration: Jul 19, 2019
Sample Size: 1 mL
Components: 1

Storage Condition: Ambient (>5 °C)
Included on ISO/IEC 17025 Scope of Accreditation: Yes
Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (HPLC)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Picric acid	88-89-1	99.1	100.1	99.2

Superseded

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. This value is the expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
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Page 538 of 3101

Reagent

8330PAStkPS_00056

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USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: M-8330-ADD-3
Description: Picric acid
Lot: 218031154
Solvent: Acetonitrile (50%)
Methanol (50%)
Hazards: *Refer to SDS for complete safety information*



Signal Word: Danger

Date Certified: Mar 12, 2018
Expiration: Apr 12, 2020
Sample Size: 1 mL
Components: 1

Storage Condition: Ambient (>5 °C)
Included on ISO/IEC 17025 Scope of Accreditation: Yes
Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (HPLC)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Picric acid	88-89-1	99.1	100.1	99.2

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A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

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Certified By: _____
Larry Decker, Organic QC Manager

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Rev. 4/17

Reagent

8330Surrogate_00098

IN Explosives (Prep) Fridge ☺ Thx

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8330Surrogate_00098

Reagent ID: 8330Surrogate_00098

Description:	10ug/mL 1,2-Dinitrobenzene	Expiration Date:	03/01/2019
No. of Bottles:	4	Laboratory:	TestAmerica Denver
Storage Location:	Explosives Prep	Prepared By:	Cokley, Cheyana D
Reagent Volume:	500.000 mL	Solvent:	Acetonitrile
Creation Date:	03/01/2018	Solvent Lot:	ACN_00210
Open Date:			
Container(s):	4983902, 4983903, 4983904, 4983905		
Comment:	Stored Frozen. 6 month expiration date. Take 1mL of 1,2 Dinitrobenzene (8330SurrStock) and Dilute to 100 mL in ACN. Mulitply recipe as needed.		

HKF
OC 3/7/18

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
1,2-Dinitrobenzene (Surr)	8330SurrStkSS_00123	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene (Surr)	8330SurrStkSS_00124	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene (Surr)	8330SurrStkSS_00125	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene (Surr)	8330SurrStkSS_00126	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene (Surr)	8330SurrStkSS_00127	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL

Source Reagents

Reagent	Description	Type	Expiration	Vendor	Vendor Lot #	Vendor Cat Lot #	Volume Used	Volume Units
8330SurrStkSS_0013	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL
8330SurrStkSS_0014	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL
8330SurrStkSS_0015	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL
8330SurrStkSS_0016	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL
8330SurrStkSS_0017	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL

Preliminary Report

TestAmerica Denver
ICV, ICal Verification Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180306-67760.b\03060015.D
Lims ID: ICV MAIN
Client ID:
Sample Type: ICV
Inject. Date: 06-Mar-2018 13:40:54 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: ICV MAIN
Misc. Info.: 280-0067760-015
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist:

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180306-67760.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 07-Mar-2018 14:58:37 Calib Date: 06-Mar-2018 13:17:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180306-67760.b\03060014.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK013

Start Cal Date: 06-Mar-2018 10:37:17
End Cal Date: 06-Mar-2018 13:17:57

Compound	Amount Added	Amount Detected	%Drift	Max. %Drift	%Rec	%Rec Limits	
2 HMX	0.4000	0.3593	-10.2	20.0	89.8		
4 MNX	0.4000	4.09	*923.6	20.0	1023.6		
5 RDX	0.4000	0.3939	-1.5	20.0	98.5		
6 2,4,6-Trinitrophen	0.4000	0.3960	-1.0	20.0	99.0		
$ 7 1,2-Dinitrobenzene	0.4000	0.3986	-0.4	20.0	99.6	———	8330 Surr_0097 used
8 1,3,5-Trinitrobenz	0.4000	0.4025	0.6	20.0	100.6		
9 1,3-Dinitrobenzene	0.4000	0.4001	0.0	20.0	100.0		
11 Nitrobenzene	0.4000	0.3982	-0.5	20.0	99.5		
12 Tetryl	0.4000	0.3934	-1.7	20.0	98.3		
14 2,4,6-Trinitrotolu	0.4000	0.3669	-8.3	20.0	91.7		
15 4-Amino-2,6-dinitr	0.4000	0.3788	-5.3	20.0	94.7		
16 2-Amino-4,6-dinitr	0.4000	0.3896	-2.6	20.0	97.4		
17 2,6-Dinitrotoluene	0.4000	0.3828	-4.3	20.0	95.7		
18 2,4-Dinitrotoluene	0.4000	0.3932	-1.7	20.0	98.3		
19 o-Nitrotoluene	0.4000	0.3947	-1.3	20.0	98.7		
20 p-Nitrotoluene	0.4000	0.4066	1.6	20.0	101.6		
21 m-Nitrotoluene	0.4000	0.3880	-3.0	20.0	97.0		

Reagent

8330Surrogate_00100

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8330Surrogate_00100

Reagent ID: 8330Surrogate_00100

		Expiration Date:	03/01/2019
Description:	10ug/mL 1,2-Dinitrobenzene	Laboratory:	TestAmerica Denver
No. of Bottles:	4	Prepared By:	Carroll, Randall P
Storage Location:	Explosives Prep	Solvent:	Acetonitrile
Reagent Volume:	500.000 mL	Solvent Lot:	ACN_00210
Creation Date:	09/07/2018		
Open Date:			
Container(s):	5297535, 5297536, 5297537, 5297538		
Comment:	Stored Frozen. 6 month expiration date. Take 1mL of 1,2 Dinitrobenzene (8330SurrStock) and Dilute to 10(mL in ACN. Mulitply recipe as needed.		

OK HKF 9/12/18

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
1,2-Dinitrobenzene	8330SurrStkSS_00123	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene	8330SurrStkSS_00124	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene	8330SurrStkSS_00125	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene	8330SurrStkSS_00126	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL
1,2-Dinitrobenzene	8330SurrStkSS_00127	03/01/2019	1000.00000	ug/mL	10.00000	ug/mL

Source Reagents

Reagent	Description	Type	Expiration	Vendor	Vendor Lot #	Vendor Cat Lot #	Volume Used	Volume Units
8330SurrStkSS_00123	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL
8330SurrStkSS_00124	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL
8330SurrStkSS_00125	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL
8330SurrStkSS_00126	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL
8330SurrStkSS_00127	31453, 1000ug/mL Restek 1,2-DNB SS	ASTD	03/01/19	Restek	A0124792	31453	1.00000	mL

In EXP freezer

in O prep

Preliminary Report

TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180911-73899.b\09110009.D				
Lims ID:	8330S+U+R+R+O+G+A+T+E%O00100				
Client ID:					
Sample Type:	Client				
Inject. Date:	11-Sep-2018 20:13:27	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	8330S+U+R+R+O+G+				
Misc. Info.:	280-0073899-009				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180911-73899.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	12-Sep-2018 10:03:24	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	XAWRK011				

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.4000	0.4053	101.33

Reagent

8330SurrStkSS_00123

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00124

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Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00125

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00126

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00127

RESTEK®
110 Benner Circle
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Tel: (800)356-1688
Fax: (814)353-1309

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Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00130

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Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00131

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Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00132

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Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00133

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0124792

Description : 8330 Surrogate Mix

8330 Surrogate Std 1, 2-Dinitrobenzene 1000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dinitrobenzene	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.4187	µg/mL	Unstressed
	Purity 99%		+/- 57.7382	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStkSS_00141

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31453 **Lot No.:** A0131413

Description : 8330 Surrogate Mix

8330 Surrogate Mix 1000 µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)		
1	1,2-Dinitrobenzene	1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 528-29-0 (Lot MKBW2921V)		+/- 56.1943	µg/mL	Unstressed
	Purity 99%		+/- 57.5086	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

8330SurrStock_00161

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: M-8330-SS
Description: 1,2-Dinitrobenzene Standard
Lot: 214081391
Solvent: Methanol
Hazards: HIGHLY FLAMMABLE - *Refer to SDS for safety info*



Danger 2

Date Certified: Aug 15, 2014
Expiration: Aug 15, 2024
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

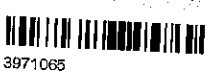
Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
1,2-Dinitrobenzene	528-29-0	100.0	1002	1002



3971066
ID: 8330SurrStock_00162
Exp: 08/15/24 Prpd: ACF
M-8330-SS 1000ug/ml AccuS



3971065
ID: 8330SurrStock_00161
Exp: 08/15/24 Prpd: ACF
M-8330-SS 1000ug/ml AccuS

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values:
A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: _____
Larry Decker, Organic QC Manager

Page 1 of 1 - Rev. 1

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 7/11

Reagent

8330SurrStock_00162

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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

CERTIFICATE OF ANALYSIS

Catalog No: M-8330-SS
Description: 1,2-Dinitrobenzene Standard
Lot: 214081391
Solvent: Methanol
Hazards: HIGHLY FLAMMABLE - *Refer to SDS for safety info*



Danger 2

Date Certified: Aug 15, 2014
Expiration: Aug 15, 2024
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes
Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
1,2-Dinitrobenzene	528-29-0	100.0	1002	1002

3971066
ID: 8330SurrStock_00162
Exp: 08/15/24 Prpd: ACF
M-8330-SS 1000ug/ml AccuS

3971065
ID: 8330SurrStock_00161
Exp: 08/15/24 Prpd: ACF
M-8330-SS 1000ug/ml AccuS

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values:
A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: _____
Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 7/11

Reagent

ANALYTES B_00014

Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: INT-B1 **Lot No.** 5-177MKBY

Description: Analytes B

Matrix: 5% HNO_3

This **ASSURANCE®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for analytical instrumentation such as ICP-OES, DCP, AA, ICP-MS, and XRF. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

The CRM is prepared from high purity single element concentrates of individual elements using Class A laboratory ware to give precise concentrations. See side 2 for details of certification.

Instrumental Analysis by ICP Spectrometer:

Analyte	Labeled	Certified	Uncertainty	SRM	Analyte	Labeled	Certified	Uncertainty	SRM
Ag	100 µg/mL	99.1 µg/mL	±0.5 µg/mL	3151*	Be	50 µg/mL	49.6 µg/mL	±0.3 µg/mL	3105a*
Cd	100 µg/mL	98.9 µg/mL	±0.5 µg/mL	3108*	Co	50 µg/mL	49.4 µg/mL	±0.3 µg/mL	3113*
Ni	100 µg/mL	98.9 µg/mL	±0.5 µg/mL	3136*	Cr	50 µg/mL	49.6 µg/mL	±0.3 µg/mL	3112a*
Pb	100 µg/mL	99.1 µg/mL	±0.5 µg/mL	3128*	Cu	50 µg/mL	49.8 µg/mL	±0.3 µg/mL	3114*
Zn	100 µg/mL	98.9 µg/mL	±0.5 µg/mL	3168a*	Mn	50 µg/mL	49.3 µg/mL	±0.3 µg/mL	3132*
Ba	50 µg/mL	49.3 µg/mL	±0.3 µg/mL	3104a*	V	50 µg/mL	49.8 µg/mL	±0.3 µg/mL	3165*

* - indicates NIST SRM

† - indicates SPEX CertiPrep CRM (when NIST SRM is not available)

SPEX CertiPrep Reference Multi: Lot# 9-164YP, 12-03YP

5078581
ID: ANALYTES B_00014
Exp: 04/01/18 Prpd: SJS
ICP ANALYTES B SPEX

Balances are calibrated regularly with weight sets traceable to NIST#s 32856, 32867 and others. This CRM is guaranteed stable and accurate to ±0.5% of the certified (measured) value. This includes uncertainty components due to preparation, measurement, homogeneity, and short-term and long-term stability. No measured concentration of any individual component exceeds ±2% of the labeled value. This guarantee is valid for a period of one year from the date of certification only when the material is unopened and stored under ambient laboratory conditions.

Date of Certification: APR · 2018 Certifying Officer: Kathleen Cullen

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Report of Certification

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001:2008, ISO 17025:2005, and ISO Guide 34:2009 quality system consistent with the following guides:

- ISO 9001: Quality management systems – Requirements – certified by UL-DQS
- ISO 17025: General requirements for the competence of testing and calibration laboratories – accredited by A2LA
- ISO Guide 34: General requirements for the competence of reference material producers – accredited by A2LA
- ISO Guide 31: Reference Materials – Contents of certificates and labels
- ISO Guide 35: Reference Materials – General & Statistical Principals for Certification
- Guide To The Expression Of Uncertainty In Measurement 1997
- EURACHEM/CITAC Guide: Quantifying Uncertainty in Analytical Measurement – Second Edition
- ASTM Guide D6362-98
- NIST Technical Note 1297
- ILAC-G12-2000: Guidelines for the requirements for the competence of reference materials producers
- ISO/REMCO N280

Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO 9001:2008, ISO 17025:2005, and ISO Guide 34:2009 guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For further assistance, please contact the Sales Support Department at crmsales@spexcsp.com.

Instructions for Use:

Primary usage of this CRM is in neat form or diluted serially with matrix of a purity at or greater than the purity of the original matrix solution. If dilution is required the diluent must be compatible with all certified analytes and contain stabilizers appropriate for the period of intended use. The CRM can also be used as a spike or with a spike, again with appropriate compatibility considerations. All solutions should be thoroughly mixed, by shaking, prior to use and never pipetted directly from the bottle. All surfaces that come in contact with the solution must be thoroughly cleaned and leached prior to use. Dilutions should be performed only with Class A volumetric glassware.

Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, analytical instrumentation and personnel have been qualified prior to use. The highest purity acids applicable, 18 megohm, double deionized water, acid-leached triple-rinsed bottles (where appropriate), and Class A/calibrated volumetrics have been used in all preparations.

Homogeneity:

The homogeneity of the CRM has been confirmed by procedures consistent with ISO 17025:2005, ISO Guide 34:2009, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure 4600-HOMOGEN-1A. Since the product is highly homogeneous, any sample size taken for analysis would be within the uncertainty budget. This is consistent with the intended use of the CRM.

Statistical Estimator and Confidence Limits:

The certified value 'X' listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X = certified value, U = expanded uncertainty, x = property value
- $U = ku_c$ where $k = 2$ is the coverage factor at the 95% confidence level
- u_c is obtained by combining the individual element standard uncertainty components u_i, and $u_c = \sqrt{\sum u_i^2}$

Certification Traveler Report:

All certified values reported were derived from the Traveler Report (SPEX CertiPrep's traceability documentation) identified by the lot number of this CRM. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further assistance, please contact the Sales Support Department at crmsales@spexcsp.com.

Legal Notice:

SPEX CertiPrep reference materials are not for any cosmetic, drug or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep, LLC of any kind whatsoever, whether based on breach of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep, LLC be liable for any loss of profits or any incidental, special, or consequential damages.

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www.spexcertiprep.com • E-mail: crmsales@spexcsp.com
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Reagent

AR_1221_RESss_00010

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32007.sec **Lot No.:** A0117382

Description : Aroclor® 1221 Standard

Aroclor® 1221 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1221	1,000.0 µg/mL	+/- 10.0737	µg/mL	Gravimetric
	CAS # 11104-28-2.SEC (Lot W-126-07)		+/- 32.7345	µg/mL	Unstressed
	Purity ----%		+/- 42.2047	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1232_RESss_00010

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32008.sec **Lot No.:** A095877

Description : Aroclor® 1232 Standard

Aroclor® 1232 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2019 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1232	1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 11141-16-5.SEC (Lot 130604JLM)		+/- 20.8959	µg/mL	Unstressed
	Purity ----%		+/- 34.3792	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1242_RESss_00010

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32009.SEC **Lot No.:** A0105175

Description : Aroclor® 1242 Standard

Aroclor® 1242 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2020 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1242	1,000.0 µg/mL	+/- 10.0737	µg/mL	Gravimetric
	CAS # 53469-21-9.SEC (Lot NTO1020)		+/- 32.1814	µg/mL	Unstressed
	Purity ----%		+/- 42.2011	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1248_RES_00012

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32010 **Lot No.:** A0130978

Description : Aroclor® 1248 Standard

Aroclor® 1248 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2023 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1248	1,001.6 µg/mL	+/- 5.8779	µg/mL	Gravimetric
	CAS # 12672-29-6 (Lot W-108-07)		+/- 31.7447	µg/mL	Unstressed
	Purity ----%		+/- 41.4691	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1248_RESss_00010

RESTEK®
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Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32010.SEC **Lot No.:** A0124143

Description : Aroclor® 1248 Standard

Aroclor® 1248 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2023 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1248	1,008.0 µg/mL	+/- 5.9872	µg/mL	Gravimetric
	CAS # 12672-29-6.SEC (Lot 106-248)		+/- 31.9609	µg/mL	Unstressed
	Purity ----%		+/- 41.7443	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1254_RESss_00010

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32011.SEC **Lot No.:** A0105373

Description : Aroclor® 1254 Standard

Aroclor® 1254 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2020 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1254	1,004.0 µg/mL	+/- 10.1140	µg/mL	Gravimetric
	CAS # 11097-69-1.SEC (Lot RM00922)		+/- 32.3101	µg/mL	Unstressed
	Purity ----%		+/- 42.3699	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1660_RES_00001

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32039 **Lot No.:** A0134815

Description : Aroclor® 1016/1260 Mix

Aroclor® 1016/1260 Mix 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2024 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1016	1,001.3 µg/mL	+/- 5.8348	µg/mL	Gravimetric
	CAS # 12674-11-2 (Lot 164887)		+/- 31.7260	µg/mL	Unstressed
	Purity ----%		+/- 41.4488	µg/mL	Stressed
2	Aroclor 1260	1,000.0 µg/mL	+/- 5.8275	µg/mL	Gravimetric
	CAS # 11096-82-5 (Lot 155463)		+/- 31.6864	µg/mL	Unstressed
	Purity ----%		+/- 41.3971	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_1660_RESss_00010

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32039.SEC **Lot No.:** A0114674

Description : Aroclor® 1016/1260 Mix

Aroclor® 1016/1260 Mix 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2022 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1016		1,000.7 µg/mL	+/- 5.9437	µg/mL	Gravimetric
	CAS # 12674-11-2.SEC	(Lot 129)		+/- 31.7284	µg/mL	Unstressed
	Purity ----%			+/- 41.4406	µg/mL	Stressed
2	Aroclor 1260		1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 11096-82-5.SEC	(Lot NTO1023)		+/- 31.7072	µg/mL	Unstressed
	Purity ----%			+/- 41.4130	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_2154_RES_00001

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569745 **Lot No.:** A0131802

Description : PCB-1221/1254 Standard

PCB-1221/1254 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2024 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1221	1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 11104-28-2 (Lot 2781200)		+/- 31.8975	µg/mL	Unstressed
	Purity ----%		+/- 41.6615	µg/mL	Stressed
2	Aroclor 1254	1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 11097-69-1 (Lot 124-191-B)		+/- 31.7706	µg/mL	Unstressed
	Purity ----%		+/- 41.4958	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_3262_RES_00001

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569746 **Lot No.:** A0132023

Description : PCB-1232/1262 Standard

PCB-1232/1262 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2024 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1232	1,004.0 µg/mL	+/- 5.9635	µg/mL	Gravimetric
	CAS # 11141-16-5 (Lot W-107-05)		+/- 31.8340	µg/mL	Unstressed
	Purity ----%		+/- 41.5787	µg/mL	Stressed
2	Aroclor 1262	1,002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 37324-23-5 (Lot 3067100)		+/- 31.7706	µg/mL	Unstressed
	Purity ----%		+/- 41.4958	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_4268_RES_00001

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569747 **Lot No.:** A0133093

Description : PCB-1242/1268 Standard

PCB-1242/1268 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2024 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1242	1,008.0 µg/mL	+/- 5.9872	µg/mL	Gravimetric
	CAS # 53469-21-9 (Lot 01141-A)		+/- 31.9609	µg/mL	Unstressed
	Purity ----%		+/- 41.7443	µg/mL	Stressed
2	Aroclor 1268	1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 11100-14-4 (Lot 2743900)		+/- 31.7072	µg/mL	Unstressed
	Purity ----%		+/- 41.4130	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

AR_SURR_RES_00073

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0121594

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2022 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2,4,5,6-Tetrachloro-m-xylene **CAS #** 877-09-8 (Lot 0052481) **Purity** 98%	200.0 µg/mL	+/- 1.1656 +/- 6.3378 +/- 8.2802	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Decachlorobiphenyl (BZ# 209) **CAS #** 2051-24-3 (Lot ER071509-01) **Purity** 99%	201.2 µg/mL	+/- 1.1725 +/- 6.3753 +/- 8.3291	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Reagent

AR_SURR_RES_00084

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0130424

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2023 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2,4,5,6-Tetrachloro-m-xylene		201.2 µg/mL	+/- 1.1725	µg/mL	Gravimetric
	CAS # 877-09-8	(Lot 0052481)		+/- 6.3751	µg/mL	Unstressed
	Purity 98%			+/- 8.3288	µg/mL	Stressed
2	Decachlorobiphenyl (BZ# 209)		201.5 µg/mL	+/- 1.1742	µg/mL	Gravimetric
	CAS # 2051-24-3	(Lot ER071509-01)		+/- 6.3848	µg/mL	Unstressed
	Purity 99%			+/- 8.3415	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

1-19-18

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0130424

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2023 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2,4,5,6-Tetrachloro-m-xylene	201.2 µg/mL	+/- 1.1725 µg/mL	Gravimetric
	CAS # 877-09-8 (Lot 0052481)		+/- 6.3751 µg/mL	Unstressed
	Purity 98%		+/- 8.3288 µg/mL	Stressed
2	Decachlorobiphenyl (BZ# 209)	201.5 µg/mL	+/- 1.1742 µg/mL	Gravimetric
	CAS # 2051-24-3 (Lot ER071509-01)		+/- 6.3848 µg/mL	Unstressed
	Purity 99%		+/- 8.3415 µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

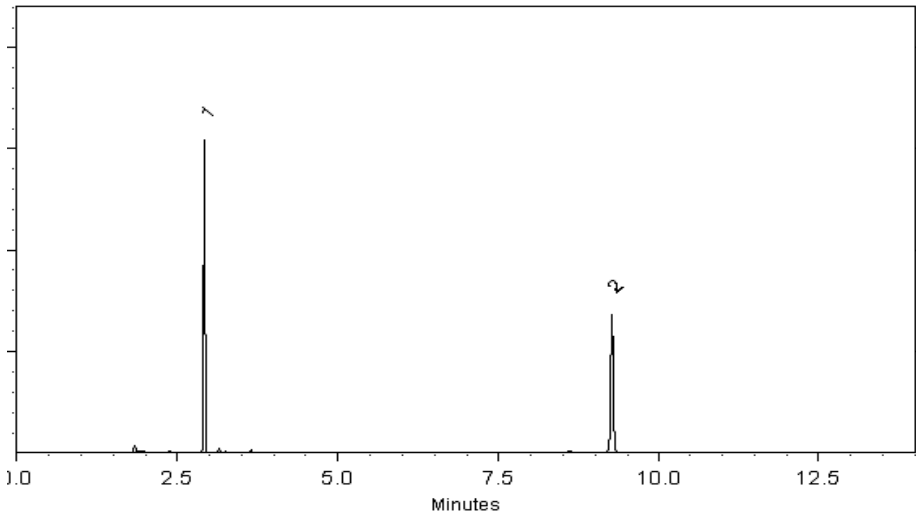
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 31-Aug-2017 **Balance:** B345965662

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 07-Sep-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0136320

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2024 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2,4,5,6-Tetrachloro-m-xylene	200.3 µg/mL	+/- 1.1673 µg/mL	Gravimetric
	CAS # 877-09-8 (Lot 0052481)		+/- 6.3472 µg/mL	Unstressed
	Purity 98%		+/- 8.2923 µg/mL	Stressed
2	Decachlorobiphenyl (BZ# 209)	200.2 µg/mL	+/- 1.1667 µg/mL	Gravimetric
	CAS # 2051-24-3 (Lot ER071509-01)		+/- 6.3436 µg/mL	Unstressed
	Purity 99%		+/- 8.2877 µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

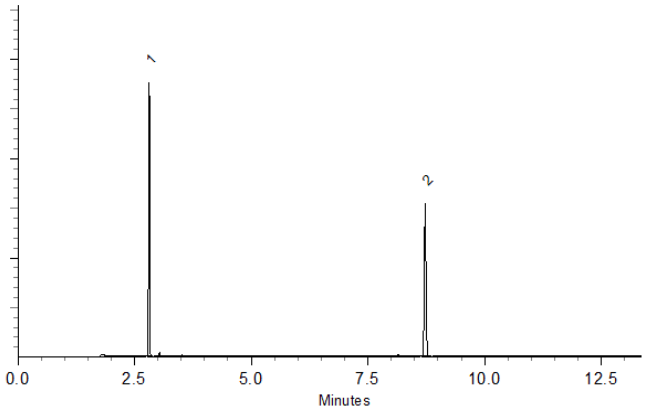
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J Lidgett
Dustin Lidgett - Mix Technician

Date Mixed: 20-Mar-2018 **Balance:** B345965662

Justine Albertson - Operations Tech-ARM QC

Date Passed: 23-Mar-2018

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

BNB stock_00014

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32279 **Lot No.:** A0127264

Description : 1-Bromo-2-nitrobenzene Standard

1-Bromo-2-nitrobenzene Standard 1000 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1-Bromo-2-nitrobenzene	1,004.0 µg/mL	+/- 5.9635	µg/mL	Gravimetric
	CAS # 577-19-5 (Lot 643872/1)		+/- 56.3065	µg/mL	Unstressed
	Purity 99%		+/- 57.6234	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

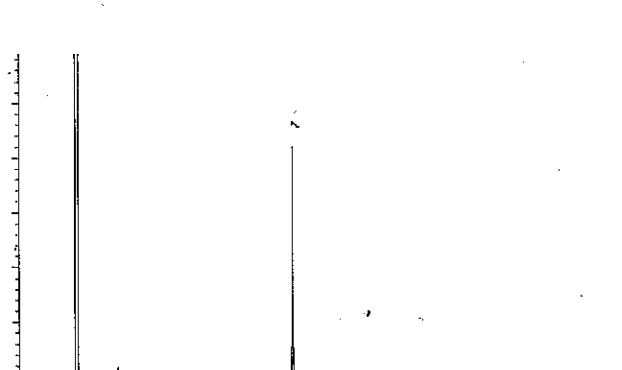
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 03-May-2017 **Balance:** B345965662

Justine Albertson - Operations Tech-ARM QC

Date Passed: 05-May-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

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Purity Notes:

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Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
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Reagent

BNB stock_00015

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

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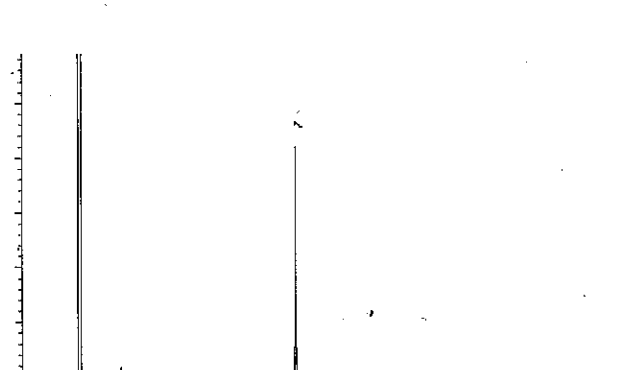

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 03-May-2017 **Balance:** B345965662

Justine Albertson - Operations Tech-ARM QC

Date Passed: 05-May-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

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Handling Notes:

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Reagent

CN ICV Std_00051

Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: RSCN9-2X **Lot No.** 13-66YPX

Description: 1000 µg/mL Simple Cyanide

Matrix: 2% KOH

This Cyanide Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for titrimetric method. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Value: 1000 µg/mL ±50 µg/mL

The CRM is prepared gravimetrically using high purity Potassium Cyanide, Lot# K48260367702. See side 2 for details of certification.

Certified By:

Titration with $AgNO_3$ using Rhodanine as indicator. $AgNO_3$ standardized against NaCl NIST SRM #919b.

Uncertified Properties:

Trace Impurities in the Solution (derived from starting material):

Ion	µg/mL	Ion	µg/mL
Cl^-	<0.5	SCN^-	<0.3
$PO4^{-3}$	<0.1	$SO4^{-2}$	<0.3
S^{-2}	<0.01		

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to ±5% of certified concentration for a period of three months from the date of certification. This includes uncertainty components associated with measurements, homogeneity by the most precise method, and short-term and long-term stability. For these solutions, we use high purity reagents, 18 megohm double deionized water, and triple rinsed bottles. All glassware used is Class A. This guarantee is valid only when the material is kept tightly capped and stored under ambient laboratory conditions.

Date of Certification: JUL - - 2018

Certifying Officer: Katherine Cullinan

Katherine Cullinan, QC Manager

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Reagent

CN ICV Std_00052

Standard Verification Form

Standard Information			
Vendor Standard Name	5 ANION STANDARD 1000 ug/mL SIMPLE CYANIDE		
Vendor	SPEX		
Lot number	13-66YPX		
Initial Verification	☑ RK/11/11/18	Re-Verification	☑

TALS "Reagent" Information	
TALS Standard ID	CN ICV std-00052
COA Reviewed against what is in TALS	☑

Verification Information and Data			
Verified by	RK	Instrument ID	Alp-1
Verification Date	11/05/18	Method Reference	Total Cyanide
ID of Standard Used for Verification	CN ICV std-00052	Batch # / Chrom Work List #	

Attach to this form: formulary report , COA and data used for verification
Attach to standard in TALS: this form and all supporting documentation including the original CoA

See Acceptance Criteria Below:			
Approved for Use	☑	Not Approved for Use	☐

New expiration date can be no greater than ½ the designated standards shelf life from the date of re-verification. Standards can only be re-verified one time.

New Expiration Date:	11/30/18

1st Level Review RK Date: 11/05/18

2nd Level Review _____ Date: _____

QA Review (Re-verification only)		Date:

Acceptance Criteria		
Department	**Standard Analytes**	**Poor Performers* and Esterified Analytes**
GC/HPLC	≤ 15 %D	≤ 35 %D or ≤ 50 %D for dinoseb
GCMS/LCMS	≤ 35 %D	≤ 55 %D
MSVOA	≤ 25 %D	≤ 55 %D
Metals	≤ 8 %D	NA
Wet Chemistry	≤ 5 %D	NA

*See analytical SOP for details on poor performing analytes.

Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: RSCN9-2X **Lot No.** 13-66YPX

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Ion	µg/mL	Ion	µg/mL
Cl^-	<0.5	SCN^-	<0.3
$PO4^{-3}$	<0.1	$SO4^{-2}$	<0.3
S^{-2}	<0.01		

Balances are calibrated regularly with weight sets traceable to NIST #32856, #32867 and others. This CRM is guaranteed stable and accurate to ±5% of certified concentration for a period of three months from the date of certification. This includes uncertainty components associated with measurements, homogeneity by the most precise method, and short-term and long-term stability. For these solutions, we use high purity reagents, 18 megohm double deionized water, and triple rinsed bottles. All glassware used is Class A. This guarantee is valid only when the material is kept tightly capped and stored under ambient laboratory conditions.

Date of Certification: JUL - - 2018

Certifying Officer: Katherine Cullinan

Katherine Cullinan, QC Manager

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Reagent

DOD_ADD_SURR_00002

o2si
smart solutions®

Quality System Audited & Registered
by NSF-ISR to ISO 9001:2008

2030 Savage Road
Charleston, South Carolina 29407
Phone: 866.272.0932
Fax: 866.509.5146
www.o2si.com

ACCREDITED

ISO 17025 Accredited Chemical Testing Lab
Cert. No. 3031.01

Date Received: _____

Certificate of Analysis

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
116210-03	334026	≤ -10 °C	Methylene Chloride	22-Jan-2020	2-Methylnaphthalene-d10 and Fluoranthene-d10 Solution, 1,000 mg/L, 1 mL

Compound	CAS No.	Purity (%)	Neat Material Lot No.	Concentration	
fluoranthene-d_{10}	93951-69-0	98	1458.12.1P	994.7 +/- 11.26	mg/L
2-methylnaphthalene-d_{10}	7297-45-2	98	1457.18.1P	994.7 +/- 50.01	mg/L

Certified By: Jarrett Howard

Jarrett Howard

Manufacture Date 22-Jan-2018

Follow all storage requirements, keep tightly closed when not in use, and use good laboratory practices when handling.
This Reference Material was manufactured, produced, and/or certified under a quality management system that is accredited to ISO 17034 and ISO/IEC 17025.

All weights are traceable through N. I. S. T. Test No. 822/264157-00.
Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.
The stated uncertainty is the expanded uncertainty with a coverage factor of two to give a 95% confidence level.

Reagent

Hg ICV Stock_00010

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

tel: 800.669.6799 - 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Mass Spec Solution
Catalog Number:	MSHG-100PPM
Lot Number:	M2-HG659091
Matrix:	10% (v/v) HCl
Value / Analyte(s):	100 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	05214TX, R307HGA1, 1780
Starting Material Purity:	99.9994%

4964959
ID: Hg ICV Stock_00010
Exp: 06/19/21 Prpd: CDH
Hg ICV Stock Inorganic Ve

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 100.10 ± 0.43 µg/mL

Density: 1.021 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	061204
Hg	EDTA	928	928

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

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	0.000171	M	Eu	< 0.000203	O	Na	0.000076	M	Se	< 0.013813	O	Zn	0.000012			
O	Al	0.000016	O	Fe	0.000014	M	Nb	< 0.000203	O	Si	0.000044	M	Zr	< 0.001218			
M	As	< 0.002844	M	Ga	< 0.000203	M	Nd	< 0.000203	M	Sm	< 0.000203						
O	Au	< 0.003219	M	Gd	< 0.000203	O	Ni	< 0.001812	M	Sn	< 0.000203						
O	B	< 0.002478	M	Ge	< 0.000609	M	Os	< 0.000201	O	Sr	< 0.000152						
M	Ba	< 0.000203	M	Hf	< 0.000203	O	P	< 0.010730	M	Ta	< 0.000203						
O	Be	< 0.000321	s	Hg	<	M	Pb	< 0.000203	M	Tb	< 0.000203						
M	Bi	< 0.013001	M	Ho	< 0.000203	M	Pd	< 0.000403	M	Te	< 0.001422						
O	Ca	0.000177	M	In	< 0.004062	M	Pr	< 0.000203	M	Th	< 0.000203						
M	Cd	0.000007	M	Ir	< 0.000201	M	Pt	< 0.000203	O	Ti	< 0.000530						
M	Ce	< 0.000203	M	K	0.000043	M	Rb	< 0.001218	O	Tl	< 0.002787						
M	Co	< 0.000406	M	La	< 0.000203	M	Re	< 0.001015	M	Tm	< 0.000203						
O	Cr	0.000016	O	Li	< 0.000180	M	Rh	< 0.000203	M	U	< 0.000812						
M	Cs	< 0.000203	M	Lu	< 0.000203	M	Ru	< 0.000201	M	V	< 0.000406						
M	Cu	< 0.000406	O	Mg	0.000037	O	S	< 0.023508	M	W	< 0.000609						
M	Dy	< 0.000203	M	Mn	< 0.000203	O	Sb	< 0.009657	M	Y	< 0.000203						
M	Er	< 0.000203	O	Mo	< 0.002152	M	Sc	< 0.000406	M	Yb	< 0.000203						

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+
Chemical Compatibility - Stable in HNO3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.
Stability - 2-100 ppb levels not stable in 1% HNO3 / LDPE container, stable in 10% HNO3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO3 / LDPE container.
Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxide (Soluble in HNO3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 • USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

Tel: 800.669.6779 • 540.585.3030
Fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Mass Spec Solution
Catalog Number:	MSHG-100PPM
Lot Number:	M2-HG659091
Matrix:	10% (v/v) HCl
Value / Analyte(s):	100 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	05214TX, R307HGA1, 1780
Starting Material Purity:	99.9994%

4964959
ID: Hg ICV Stock_00010
Exp: 06/19/21 Prpd: CDH
Hg ICV Stock Inorganic Ve

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 100.10 ± 0.43 µg/mL

Density: 1.021 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	061204
Hg	EDTA	928	928

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

Reagent

Hg Ultra Prim_00012

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: ICP-080
Lot Number: CR-3231

Lot Issue Date: 14-Jul 2017
Expiration Date: 31-Aug 2024

Product Name: Mercury ICP Standard

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	StartingMaterial	Lot Number	Purity (%)	Calculated Value	Traceability & Method
mercury	*mercuric nitrate	RM11214	99.999%	1002 ± 2 µg/mL	NIST SRM 3133; ICP-OES

*light sensitive

Solvent: 2% nitric acid in low TOC water (< 50 ppb)

Non-Certified Values:

Density: 1.0101 g/mL @ 20.00 ± 0.05°C

Trace Metallic Impurities in Solution Standard in µg/mL

*	Al	<0.005 ND	*	Ga	<0.005 ND	n	Nb		n	S				
*	Sb	<0.005 ND	n	Ge		n	Os		n	Ta				
*	As	<0.005 ND	n	Au		*	Pd	<0.005 ND	n	Te				
*	Ba	<0.005 ND	n	Hf		*	P	<0.005 ND	n	Tb				
*	Be	<0.005 ND	n	Ho		*	Pt	<0.005 ND	n	Tl				
*	Bi	<0.005 ND	*	In	<0.005 ND	*	K	<0.005 ND	*	Th	<0.005 ND			
*	B	<0.005 ND	n	Ir		n	Pr		n	Tm				
*	Cd	<0.005 ND	*	Fe	<0.005 ND	n	Re		*	Sn	<0.005 ND			
*	Cs	<0.005 ND	*	La	<0.005 ND	n	Rh		*	Ti	<0.005 ND			
*	Ca	<0.005 ND	*	Pb	<0.005 ND	n	Rb		n	W				
n	Ce		*	Li	<0.005 ND	n	Ru		n	U				
*	Cr	<0.005 ND	n	Lu		n	Sm		*	V	<0.005 ND			
*	Co	<0.005 ND	*	Mg	<0.005 ND	n	Sc		n	Yb				
*	Cu	<0.005 ND	*	Mn	<0.005 ND	*	Se	<0.005 ND	n	Y				
n	Dy		s	Hg		*	Si	<0.005 ND	*	Zn	<0.005 ND			
*	Er	<0.005 ND	*	Mo	<0.005 ND	*	Ag	<0.005 ND	n	Zr				
*	Eu	<0.005 ND	n	Nd		*	Na	<0.005 ND						
*	Gd	<0.005 ND	*	Ni	<0.005 ND	*	Sr	<0.005 ND						

* - element checked; i - spectral interference; n – element not checked; D – element detected; ND – element not detected; s - standard element

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER
ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO 9001 Registered Quality System – TUV USA

250 SMITH STREET • NORTH KINGSTOWN, RHODE ISLAND 02852 • WWW.ULTRASCI.COM

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: ICP-080
Lot Number: CR-3231

Lot Issue Date: 14-Jul 2017
Expiration Date: 31-Aug 2024

Storage: Store at Room Temperature (15° to 30°C).

Traceability:
Traceability has been established through an unbroken chain of comparisons, each having stated uncertainties. Comparisons are based on appropriate physical or chemical measurements, including gravimetric or volumetric dilution, where the mass or volume of a solution before and after dilution is measured. The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1, ISO 9001, ISO 17025, and ISO Guide 34. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 819.

Estimation of Uncertainties:
The true value is reported, with its uncertainty value calculated at the 95% confidence level.

Homogeneity:
This RM was formulated and unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening and should be processed without delay for the true value to be valid within the stated uncertainties. Do not pipet from the bottle. Do not return any material removed for pipetting to the bottle. Tightly cap the bottle after removing any material and store according to the instructions noted above.

Hazards:
Refer to the Safety Data Sheet for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid, within the measurement uncertainty specified, until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
The real-time, long term stability of the RM may be monitored over the lifetime of the certification. If substantive changes occur that affect the certification before the expiration of this certificate, ULTRA Scientific will notify the purchaser.

John Russo
President

Monica Bourgeois
Director of QA/RA

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER
ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO 9001 Registered Quality System – TUV USA

250 SMITH STREET • NORTH KINGSTOWN, RHODE ISLAND 02852 • WWW.ULTRASCI.COM

Reagent

Icp cal std 3_00018

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

[illegible]
Christiansburg, VA 24073 - USA
[illegible]
[illegible]
[illegible]

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	STLDEN-STD-3B
Lot Number:	M2-MEB663620
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Potassium,
	4 000 µg/mL ea: Magnesium,
	1 000 µg/mL ea: Calcium, Sodium,
	500 µg/mL ea: Iron,
	200 µg/mL ea: Lithium, Phosphorus,
	100 µg/mL ea: Strontium, Vanadium, Zinc, Manganese, Cadmium, Cobalt, Chromium, Copper, Silver, Aluminum, Boron, Barium, Beryllium, Nickel

4888666
ID: icp cal std 3_00016
Exp: 12/05/20 Prpd: SJS
ICP CAL STD 3B IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	100.0 ± 0.5 µg/mL	Barium, Ba	100.0 ± 0.5 µg/mL
Beryllium, Be	100.0 ± 0.7 µg/mL	Boron, B	100.0 ± 0.6 µg/mL
Cadmium, Cd	100.0 ± 0.5 µg/mL	Calcium, Ca	1 000 ± 4 µg/mL
Chromium, Cr	100.0 ± 0.6 µg/mL	Cobalt, Co	100.0 ± 0.5 µg/mL
Copper, Cu	100.0 ± 0.4 µg/mL	Iron, Fe	500.0 ± 2.0 µg/mL
Lithium, Li	200.0 ± 0.7 µg/mL	Magnesium, Mg	4 000 ± 16 µg/mL
Manganese, Mn	100.0 ± 0.4 µg/mL	Nickel, Ni	100.0 ± 0.4 µg/mL
Phosphorus, P	200.0 ± 0.9 µg/mL	Potassium, K	10 000.0 ± 40.0 µg/mL
Silver, Ag	100.0 ± 0.4 µg/mL	Sodium, Na	1 000 ± 4 µg/mL
Strontium, Sr	100.0 ± 0.4 µg/mL	Vanadium, V	100.0 ± 0.4 µg/mL
Zinc, Zn	100.0 ± 0.4 µg/mL		

Density: 1.074 g/mL (measured at 20 ± 4 °C)

Assay Information:

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2\ (u_{char\ a})^2 + (w_b)^2\ (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 05, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 05, 2020**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
B	ICP Assay	3107	110830
Ba	ICP Assay	3104a	070222
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730Cr3
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Reagent

Icp ICVH_00746

HIGH-PURITY STANDARDS
www.high-purity-standards.com
P.O. Box 41727
Charleston, SC 29423
Phone: (843) 767-7900
Fax: (843) 767-7906

5300282
ID: Icp ICVH_00746
Exp: 09/30/19 Prpd: SJS
ICP ICVH HP

Certificate of Analysis

Certified Reference Material

ISO Guide 34:2009 (RMP) Accreditation
Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Product Description:

Name:	ICVH
Part Number:	**SM-606-125**
Lot Number:	**1824227**
Matrix:	5% HNO_3
Purity:	99.96% - 99.9995%

Certified Values:

Element	(µg/mL)	SRM ID	SRM Lot#	Element	(µg/mL)	SRM ID	SRM Lot#
Al	4000 ± 24	3101a	140903	Th	300 ± 3	*	
Fe	8000 ± 48	3126a	140812	U	500 ± 3	3164	080521
Na	4000 ± 24	3152a	120715				

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: **September 2018**
Certificate Issue Date: August 31, 2018

Moven Mututuvari
Moven Mututuvari PhD., Laboratory Manager

Preparation Information:

The Certified Reference Material (CRM) is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials and manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product. If during the period of validity, a recall is instituted due to substantial changes in the stability of this product, the purchaser will be notified.

Homogeneity:

This product is determined to be homogeneous following in-house procedures developed in accordance with the requirements of ISO Guide 34 and ISO Guide 35.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods. The standard is confirmed homogeneous; therefore, the minimum sample size should be consistent with the end user's measurement capabilities.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibrations of volumetric vessels are verified using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If a SRM is not available, a second source standard or independent lot is used.

Refer to Safety Datasheet (SDS) for hazardous information.

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

Reagent

Icp ICVL A_00014

HIGH PURITY STANDARDS
www.highpuritystandards.com
P.O. Box 41727
Charleston, SC 29423
Phone (843) 767-7900
Fax (843) 767-7906

Certificate of Analysis

Certified Reference Material

ISO Guide 34:2009 (RMP) Accreditation Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Product Description:

Name:	Intrepid ICVL
Part Number:	**SM-606-062 Solution A**
Lot Number:	**1810602**
Matrix:	5% HNO_3
Purity:	99.5% - 99.9999%

5078624
ID: Icp ICVL A_00014
Exp: 04/17/18 Prpd: SJS
ICP ICVL SOLUTION A H

Certified Values:

Element	(mg/L)	SRM ID	SRM Lot#	Element	(mg/L)	SRM ID	SRM Lot#
Al	25.0 ± 0.1	3101a	140903	Li	25.0 ± 0.2	3129a	100714
As	25.0 ± 0.3	3103a	100818	Mg	1000 ± 5	3131a	140110
Ba	25.0 ± 0.2	3104a	140909	Mn	25.0 ± 0.3	3132	050429
Be	25.0 ± 0.3	3105a	090514	Ni	25.0 ± 0.1	3136	120619
B	25.0 ± 0.1	3107	110830	K	2000 ± 10	3141a	140813
Cd	25.0 ± 0.1	3108	130116	Se	50.0 ± 0.5	3149	100901
Ca	200 ± 1	3109a	130213	Na	200 ± 1	3152a	120715
Cr	25.0 ± 0.1	3112a	030730	Sr	25.0 ± 0.1	*	
Co	25.0 ± 0.1	3113	000630	Tl	50.0 ± 0.3	*	
Cu	25.0 ± 0.1	3114	121207	V	25.0 ± 0.2	3165	160906
Fe	25.0 ± 0.1	3126a	140812	Zn	25.0 ± 0.1	3168a	120629
Pb	25.0 ± 0.2	3128	101026				

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: **April 2018**

Certificate Issue Date: April 17, 2018

Moven Mutuvari

Moven Mutuvari PhD., Laboratory Manager

Preparation Information:

The Certified Reference Material (CRM) is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials and manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product. If during the period of validity, a recall is instituted due to substantial changes in the stability of this product, the purchaser will be notified.

Homogeneity:

This product is determined to be homogeneous following in-house procedures developed in accordance with the requirements of ISO Guide 34 and ISO Guide 35.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods. The standard is confirmed homogeneous; therefore, the minimum sample size should be consistent with the end user's measurement capabilities.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibrations of volumetric vessels are verified using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If a SRM is not available, a second source standard or independent lot is used.

Refer to Safety Datasheet (SDS) for hazardous information.

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

Reagent

Icp ICVL B_00016

HIGH PURITY STANDARDS
www.highpuritystandards.com
P.O. Box 41727
Charleston, SC 29423
Phone: (843) 767-7900
Fax: (843) 767-7906

Certificate of Analysis

Certified Reference Material

Product Description:

Name:	Intrepid ICVL
Part Number:	**SM-606-062 Solution B**
Lot Number:	**1810603**
Matrix:	2% HNO_3 + Tr HF
Purity:	99.92% - 99.999%

5078631
ID: Icp ICVL B_00016
Exp: 04/17/18 Prpd: SJS
ICP ICVL SOLUTION B HP

ISO Guide 34:2009 (RMP) Accreditation Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Certified Values:

Element	(mg/L)	SRM ID	SRM Lot#	Element	(mg/L)	SRM ID	SRM Lot#
Sb	25.0 ± 0.2	3102a	140911	Ag	25.0 ± 0.2	3151	160729
Mo	25.0 ± 0.2	3134	130418	Sn	50.0 ± 0.3	3161a	140917
P	200 ± 1	3139a	060717	Ti	25.0 ± 0.2	3162a	130925
Si	200 ± 2	3150	130912	Zr	25.0 ± 0.2	3169	130920

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: **April 2018**

Certificate Issue Date: April 17, 2018

Moven Mututuvari

Moven Mututuvari PhD., Laboratory Manager

Preparation Information:

The Certified Reference Material (CRM) is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials and manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product. If during the period of validity, a recall is instituted due to substantial changes in the stability of this product, the purchaser will be notified.

Homogeneity:

This product is determined to be homogeneous following in-house procedures developed in accordance with the requirements of ISO Guide 34 and ISO Guide 35.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods. The standard is confirmed homogeneous; therefore, the minimum sample size should be consistent with the end user's measurement capabilities.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

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b. **Volumetric Device**
The calibrations of volumetric vessels are verified using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If a SRM is not available, a second source standard or independent lot is used.

Refer to Safety Datasheet (SDS) for hazardous information.

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Reagent

ICP ISAB 1B_00011

HIGH-PURITY STANDARDS
www.highpuritystandards.com

P.O. Box 41727
Charleston, SC 29423
Phone (843) 767-7900
Fax (843) 767-7906

Certificate of Analysis

Certified Reference Material

ISO Guide 34:2009 (RMP) Accreditation
Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Product Description:

Name:	ICS-AB STD #1
Part Number:	**SM-606-037** Solution B
Lot Number:	**1734922**
Matrix:	2% HNO_3
Purity:	99.99%

4902379
ID: ICP ISAB 1B_00011
Exp: 12/01/18 Prpd: SJS
ICP ICSAB STD 1 SOL B H

Certified Values:

Element	(mg/L)	SRM ID	SRM Lot#
Tl	1000 ± 6	*	

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date:	**December 2017**
Expiration Date:	**December 2018**
Certificate Issue Date:	December 15, 2017

Moven Mutuvari

Moven Mutuvari PhD., Laboratory Manager

Preparation Information:

The standard is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials and manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water. If during the period of validity, a recall is instituted due to substantial changes in the stability of this product, the purchaser will be notified.

Homogeneity:

This product is determined to be homogeneous following in-house procedures developed in accordance with the requirements of ISO Guide 34 and ISO Guide 35.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods.

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The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If a SRM is not available, a second source standard or independent lot is used.

Refer to Safety Datasheet (SDS) for hazardous information.

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Reagent

ICP ISAB STD1_00010

HIGH-PURITY STANDARDS
www.highpuritystandards.com

P.O. Box 41727
Charleston, SC 29423
Phone (843) 767-7900
Fax (843) 767-7906

Certificate of Analysis

Certified Reference Material

Product Description:

Name:	ICS-AB STD#1
Part Number:	**SM-606-037**
	Solution A
Lot Number:	**1734921**
Matrix:	20% HCl
Purity:	99.999% - 99.9999%

4902371
ID: ICP ISAB STD1_00010
Exp: 12/01/18 Prpd: SJS
ICAP ICSAB STD 1 SOL A

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER
ide 34:2009 (RMP) Accreditation
ertificate Number AR-1436

ilac-MRA

ANAB ACCREDITED TESTING LABORATORY
ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Certified Values:

Element	(mg/L)	SRM ID	SRM Lot#	Element	(mg/L)	SRM ID	SRM Lot#
Sb	100.0 ± 0.6	3102a	140911	P	200.0 ± 1.2	3139a	060717
As	200 ± 2	3103a	100818	K	5000 ± 25	3141a	140813
B	200.0 ± 1.2	3107	110830	Se	500 ± 5	3149	100901
Li	100.0 ± 0.6	3129a	100714	Na	5000 ± 25	3152a	120715
Mo	100.0 ± 0.6	3134	130418	Sr	100.0 ± 0.5	*	

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.

* Refer to Traceability Information, Section d

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Expiration Information:

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Shipped Date:	**December 2017**
Expiration Date:	**December 2018**
Certificate Issue Date:	December 15, 2017

Moven Mutuvari

Moven Mutuvari PhD., Laboratory Manager

Preparation Information:

The standard is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials and manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water. If during the period of validity, a recall is instituted due to substantial changes in the stability of this product, the purchaser will be notified.

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c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

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The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If a SRM is not available, a second source standard or independent lot is used.

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Reagent

ICP ISAB STD2_00013

Sample Name: ICP ISAB STD2_00011 Acquired: 7/3/2018 7:25:22 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: Standard recertification (8%) 20x

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00006**	**-.00690**	**-.00583**	**-.00005**	**.00046**	**-.00003**	**.00889**	**.04235**	**.00044**
Stddev	.00020	.00053	.00126	.00130	.00003	.00012	.00399	.00007	.00003
%RSD	321.04	7.6209	21.545	2405.4	6.1016	392.14	44.929	.16754	6.0746
#1	.00008	-.00727	-.00494	.00086	.00048	.00005	.01172	.04230	.00042
#2	-.00021	-.00653	-.00672	-.00097	.00044	-.00011	.00607	.04240	.00046
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00044**	**.00034**	**.00216**	**.01862**	**-.04392**	**-.00198**	**.00334**	**.00042**	**.00066**
Stddev	.00037	.00042	.00041	.00103	.03980	.00234	.00617	.00010	.00004
%RSD	85.544	124.10	19.108	5.5287	90.616	117.88	184.52	23.313	6.6074
#1	.00017	.00064	.00187	.01935	-.01578	-.00363	.00770	.00049	.00063
#2	.00070	.00004	.00245	.01789	-.07206	-.00033	-.00102	.00035	.00070
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.02159**	**.00057**	**-.00434**	F **-.00317**	**-.04238**	**-.00080**	**-.00166**	**.00671**	**.01436**
Stddev	.00014	.00044	.00114	.00110	.00159	.00456	.00058	.02387	.05109
%RSD	.64346	76.481	26.343	34.690	3.7552	568.46	34.810	355.63	355.63
#1	-.02149	.00026	-.00514	-.00239	-.04125	-.00403	-.00207	.02359	.05049
#2	-.02169	.00088	-.00353	-.00395	-.04351	.00242	-.00126	-.01017	-.02176
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit				.00900					
Low Limit				-.00300					

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **49.229**	**.00004**	**-.00191**	F **4.9283**	**-.00214**	**.00870**	**-.00054**	**.00342**	**-.00298**
Stddev	.046	.00006	.00139	.0140	.00067	.04390	.00027	.00029	.00057
%RSD	.09407	174.51	73.200	.28319	31.237	504.79	50.451	8.6155	19.050
#1	49.197	-.00001	-.00289	4.9382	-.00166	.03974	-.00074	.00321	-.00258
#2	49.262	.00008	-.00092	4.9185	-.00261	-.02235	-.00035	.00362	-.00338
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	.10000			.01000					
Low Limit	-.10000			-.01000					

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**2971.1**	**55500.**	**4143.0**
Stddev	4.3	184.	14.9
%RSD	.14605	.33103	.36040
#1	2968.0	55630.	4132.5
#2	2974.2	55370.	4153.6

Sample Name: ICP ISAB STD2_00011 Acquired: 7/2/2018 19:23:25 Type: Unk
Method: 6500_025 Mode: CONC Corr. Factor: 1.000000
User: rhoadesc Prep Date: Custom ID2: Custom ID3:
Comment: Standard recertification (8%)

Elem	Ag3280	Al1670	As1890	B_2089	Ba4554	Be3130	Bi2230	Ca3179	Cd2288
Line	328.068 {103}	167.079 {502}	189.042 {478}	208.959 {461}	455.403 { 74}	313.042 {108}	223.061 {451}	317.933 {106}	228.802 {447}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00061**	**-.01595**	**-.02613**	**.00451**	**.00011**	**-.00048**	**.21371**	**.01037**	**.00138**
Stddev	.00113	.00143	.00031	.00000	.00001	.00002	.00145	.00962	.00042
%RSD	186.17	8.9974	1.1694	.04020	11.626	3.3907	.67814	92.772	30.675
#1	-.00141	-.01493	-.02592	.00451	.00011	-.00046	.21269	.00357	.00108
#2	.00019	-.01696	-.02635	.00451	.00010	-.00049	.21474	.01717	.00168
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co2286	Cr2055	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Line	228.616 {447}	205.560 {464}	324.754 {104}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2	257.610 {131}	202.030 {467}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00296**	**.00228**	**.05492**	**.01936**	**.08715**	F **-.02178**	**.00687**	**.00106**	**.00035**
Stddev	.00111	.00004	.00101	.00051	.00382	.00388	.00211	.00012	.00007
%RSD	37.565	1.6037	1.8430	2.6171	4.3864	17.824	30.758	11.120	19.271
#1	-.00217	.00225	.05564	.01900	.08986	-.01904	.00538	.00098	.00040
#2	-.00375	.00230	.05421	.01972	.08445	-.02453	.00836	.00114	.00031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						25.000			
Low Limit						-.02000			

Elem	Na5895	Ni2316	P_1782	Pb2203	S_1820	Sb2068	Se1960	Si2881	SiO2
Line	589.592 { 57}	231.604 {446}	178.284 {489}	220.353 {453}	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}	288.158 {117}2
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.02917**	**-.00052**	**-.01876**	**.00406**	**-.10075**	**.07719**	**.00456**	**.02709**	**.05798**
Stddev	.00696	.00044	.00243	.00121	.00935	.00444	.00209	.00419	.00897
%RSD	23.859	83.080	12.962	29.867	9.2760	5.7520	45.870	15.478	15.478
#1	.03409	-.00022	-.01704	.00320	-.09414	.08033	.00308	.02413	.05163
#2	.02425	-.00083	-.02048	.00491	-.10735	.07405	.00604	.03006	.06433
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sn1899	Sr4077	Th2837	Ti3349	Tl1908	U_3701	V_2924	Zn2062	Zr3391
Line	189.989 {477}	407.771 { 83}	283.730 {119}	334.904 {101}	190.856 {477}	370.152 { 91}	292.402 {115}	206.200 {163}	339.198 { 99}
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **619.55**	**.00010**	**.00732**	F **96.343**	**-.01120**	**-.10281**	**-.01118**	**.00211**	**-.00184**
Stddev	4.12	.00010	.00115	.638	.00088	.02135	.00080	.00006	.00099
%RSD	.66567	101.87	15.727	.66246	7.8719	20.768	7.1813	2.6625	53.824
#1	622.47	.00017	.00651	96.794	-.01182	-.08772	-.01175	.00207	-.00114
#2	616.64	.00003	.00814	95.892	-.01057	-.11791	-.01061	.00215	-.00254
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	50.000			10.000					
Low Limit	-.20000			-.02000					

Int. Std.	Y_2243	Y_3600	Y_3774
Line	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S
Avg	**2883.4**	**51409.**	**4166.8**
Stddev	1.2	118.	2.3
%RSD	.04117	.22890	.05610
#1	2882.6	51326.	4168.5
#2	2884.3	51492.	4165.2

HIGH-PURITY STANDARDS
www.highpuritystandards.com

P.O. Box 41727
Charleston, SC 29423
Phone: (843) 767-7900
Fax: (843) 767-7906

Certificate of Analysis

Certified Reference Material

ISO Guide 34:2009 (RMP) Accreditation
Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Product Description:

Name:	ICS-AB STD #2
Part Number:	**SM-606-038**
Lot Number:	**1721944**
Matrix:	20% HCl
Purity:	99.98% - 99.999%

Certified Values:

Element	(mg/L)	SRM ID	SRM Lot#		Element	(mg/L)	SRM ID	SRM Lot#
Sn	1000 ± 10	3161a	140917		Ti	100 ± 1	3162a	130925

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: **August 2017**
Expiration Date: **August 2018**
Certificate Issue Date: August 8, 2017

Moven Mutuvari

Moven Mutuvari PhD., Laboratory Manager

P.O. Box 41727
Charleston, SC 29423
Phone: (843) 767-7900
Fax: (843) 767-7906

Preparation Information:

The Certified Reference Material (CRM) is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials and manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product. If during the period of validity, a recall is instituted due to substantial changes in the stability of this product, the purchaser will be notified.

Homogeneity:

This product is determined to be homogeneous following in-house procedures developed in accordance with the requirements of ISO Guide 34 and ISO Guide 35.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If a SRM is not available, a second source standard or independent lot is used.

Refer to Safety Datasheet (SDS) for hazardous information.

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

Reagent

ICP LLCCV-2a_00008

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.7 ± 0.1
Uranium 235U	0.28 ± 0.05

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 14, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- August 14, 2022

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Ba	Calculated		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Bi	ICP Assay	3106	991212
Bi	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Co	Calculated		See Sec. 4.2
Cr	ICP Assay	3112a	030730Cr3
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	000505
Li	Calculated		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	Calculated		See Sec. 4.2
S	Potentiometric	84L	84L
S	ICP Assay	3154	892205
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Tl	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 - 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICP-LLCCV-4
Lot Number:	N2-MEB670719
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	300 mg/L ea: Potassium, 100 mg/L ea: Sodium, 20 mg/L ea: Magnesium, Calcium, 10 mg/L ea: Bismuth, Aluminum, Iron, Sulfur, 6 mg/L ea: Uranium, 4 mg/L ea: Nickel, 2 mg/L ea: Selenium, Zinc, Lithium, 1.5 mg/L ea: Copper, Arsenic, Thorium, Thallium, 1 mg/L ea: Vanadium, Strontium, Barium, Silver, Cobalt, Chromium, Manganese, 0.9 mg/L ea: Lead, 0.5 mg/L ea: Cadmium, 0.1 mg/L ea: Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	10.00 ± 0.05 mg/L	Arsenic, As	1.500 ± 0.011 mg/L
Barium, Ba	1.000 ± 0.006 mg/L	Beryllium, Be	0.1000 ± 0.0006 mg/L
Bismuth, Bi	10.00 ± 0.07 mg/L	Cadmium, Cd	0.5000 ± 0.0037 mg/L
Calcium, Ca	20.00 ± 0.08 mg/L	Chromium, Cr	1.000 ± 0.007 mg/L
Cobalt, Co	1.000 ± 0.006 mg/L	Copper, Cu	1.500 ± 0.007 mg/L
Iron, Fe	10.00 ± 0.05 mg/L	Lead, Pb	0.900 ± 0.004 mg/L
Lithium, Li	2.001 ± 0.012 mg/L	Magnesium, Mg	19.99 ± 0.12 mg/L
Manganese, Mn	1.000 ± 0.005 mg/L	Nickel, Ni	4.000 ± 0.024 mg/L
Potassium, K	300.1 ± 1.1 mg/L	Selenium, Se	2.000 ± 0.015 mg/L
Silver, Ag	1.000 ± 0.008 mg/L	Sodium, Na	100.0 ± 0.4 mg/L
Strontium, Sr	1.000 ± 0.006 mg/L	Sulfur, S	10.00 ± 0.05 mg/L
Thallium, Tl	1.500 ± 0.012 mg/L	Thorium, Th	1.500 ± 0.009 mg/L
Uranium, U	6.000 ± 0.031 mg/L	Vanadium, V	1.000 ± 0.006 mg/L
Zinc, Zn	2.000 ± 0.012 mg/L		

Density: 1.013 g/mL (measured at 20 ± 4 °C)

Assay Information:

Reagent

ICP LLCCV-4_00008

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.7 ± 0.1
Uranium 235U	0.28 ± 0.05

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 14, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- August 14, 2022

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Ba	Calculated		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Bi	ICP Assay	3106	991212
Bi	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Co	Calculated		See Sec. 4.2
Cr	ICP Assay	3112a	030730Cr3
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	000505
Li	Calculated		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	Calculated		See Sec. 4.2
S	Potentiometric	84L	84L
S	ICP Assay	3154	892205
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Tl	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

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fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICP-LLCCV-4
Lot Number:	N2-MEB670719
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	300 mg/L ea: Potassium, Calcium, 100 mg/L ea: Sodium, Aluminum, Iron, 20 mg/L ea: Magnesium, 10 mg/L ea: Bismuth, Sulfur, 6 mg/L ea: Uranium, 4 mg/L ea: Nickel, 2 mg/L ea: Selenium, Zinc, Lithium, 1.5 mg/L ea: Copper, Arsenic, Thorium, Thallium, 1 mg/L ea: Vanadium, Strontium, Barium, Silver, Cobalt, Chromium, Manganese, 0.9 mg/L ea: Lead, 0.5 mg/L ea: Cadmium, 0.1 mg/L ea: Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	10.00 ± 0.05 mg/L	Arsenic, As	1.500 ± 0.011 mg/L
Barium, Ba	1.000 ± 0.006 mg/L	Beryllium, Be	0.1000 ± 0.0006 mg/L
Bismuth, Bi	10.00 ± 0.07 mg/L	Cadmium, Cd	0.5000 ± 0.0037 mg/L
Calcium, Ca	20.00 ± 0.08 mg/L	Chromium, Cr	1.000 ± 0.007 mg/L
Cobalt, Co	1.000 ± 0.006 mg/L	Copper, Cu	1.500 ± 0.007 mg/L
Iron, Fe	10.00 ± 0.05 mg/L	Lead, Pb	0.900 ± 0.004 mg/L
Lithium, Li	2.001 ± 0.012 mg/L	Magnesium, Mg	19.99 ± 0.12 mg/L
Manganese, Mn	1.000 ± 0.005 mg/L	Nickel, Ni	4.000 ± 0.024 mg/L
Potassium, K	300.1 ± 1.1 mg/L	Selenium, Se	2.000 ± 0.015 mg/L
Silver, Ag	1.000 ± 0.008 mg/L	Sodium, Na	100.0 ± 0.4 mg/L
Strontium, Sr	1.000 ± 0.006 mg/L	Sulfur, S	10.00 ± 0.05 mg/L
Thallium, Tl	1.500 ± 0.012 mg/L	Thorium, Th	1.500 ± 0.009 mg/L
Uranium, U	6.000 ± 0.031 mg/L	Vanadium, V	1.000 ± 0.006 mg/L
Zinc, Zn	2.000 ± 0.012 mg/L		

Density: 1.013 g/mL (measured at 20 ± 4 °C)

Assay Information:

Reagent

ICP SPK 2B_00080

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

5268406
ID: ICP SPK 2B_00080
Exp:08/16/19 Prpd:MRJ Opn:08/16/18
ICP PREP SPIKE 2B

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TA-ICP-SPK-2B
Lot Number:	N2-MEB665203
Matrix:	5% (v/v) HNO3 0.5% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Silicon, 200 µg/mL ea: Tin, Sulfur, 100 µg/mL ea: Boron, Molybdenum, Titanium, 50 µg/mL ea: Zirconium, Antimony

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	50.00 ± 0.30 µg/mL	Boron, B	100.0 ± 0.6 µg/mL
Molybdenum, Mo	100.0 ± 0.5 µg/mL	Silicon, Si	1 000 ± 6 µg/mL
Sulfur, S	200.0 ± 1.0 µg/mL	Tin, Sn	200.0 ± 0.8 µg/mL
Titanium, Ti	100.0 ± 0.6 µg/mL	Zirconium, Zr	50.00 ± 0.35 µg/mL

Density: 1.028 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
Mo	ICP Assay	3134	130418
S	ICP Assay	3154	892205
S	Acidimetric		traceable to 84L
Sb	ICP Assay	3102a	140911
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	070330
Sn	Calculated		See Sec. 4.2
Ti	ICP Assay	3162a	130925
Zr	ICP Assay	3169	130920

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 06, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 06, 2021

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Reagent

Icp stk ICSA_00024

11.1 Certification Issue Date

July 01, 2016

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 01, 2020**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

11.4 Revision Status

- Revision 1 - Wednesday, Apr 26, 2017. Added TMI data

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Joseph Burns
Technical Support Technician

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

5108867
ID: icp stk ICSA_00024
Exp: 07/01/20 Prpd: SJS
ICP stock ICSA solution

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-ICS-A
Lot Number:	K2-MEB643109
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Aluminum, Calcium, Magnesium, 2 000 µg/mL ea: Iron

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**5 000 ± 22 µg/mL**	**Calcium, Ca**	**5 000 ± 20 µg/mL**
Iron, Fe	**2 000 ± 8 µg/mL**	**Magnesium, Mg**	**5 000 ± 20 µg/mL**

Certified Density: 1.085 g/mL (measured at 20 ± 1 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Fe	ICP Assay	3126a	051031
Fe	EDTA	928	928
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000400	M	Eu	<	0.000100	O	Na		0.027559	M	Se	<	0.002091	M	Zn		0.008219
s	Al	<		s	Fe	<		M	Nb	<	0.000100	O	Si		0.217000	M	Zr	<	0.001002
M	As	<	0.005613	M	Ga	<	0.000100	M	Nd	<	0.000601	M	Sm	<	0.000100				
M	Au	<	0.000199	M	Gd	<	0.000100	M	Ni	<	0.005613	M	Sn	<	0.000200				
M	B	<	0.008420	M	Ge	<	0.000400	M	Os	<	0.000099	M	Sr		0.043302				
M	Ba	<	0.001603	M	Hf	<	0.000100	O	P	<	0.108500	M	Ta	<	0.000100				
O	Be	<	0.000217	M	Hg	<	0.000597	M	Pb		0.003408	M	Tb	<	0.000100				
M	Bi	<	0.000400	M	Ho	<	0.000100	M	Pd	<	0.000100	M	Te	<	0.003107				
s	Ca	<		M	In	<	0.000400	M	Pr	<	0.000200	M	Th	<	0.000100				
M	Cd	<	0.000100	M	Ir	<	0.000099	M	Pt	<	0.000100	M	Ti	<	0.000801				
M	Ce	<	0.002004	O	K		0.011718	M	Rb	<	0.000100	M	Tl	<	0.000100				
M	Co	<	0.003207	M	La	<	0.000801	M	Re	<	0.000100	M	Tm	<	0.000100				
M	Cr		0.024658	O	Li		0.005425	M	Rh	<	0.000100	M	U	<	0.000100				
M	Cs	<	0.000601	M	Lu	<	0.000100	M	Ru	<	0.000099	M	V	<	0.000400				
M	Cu	<	0.004610	s	Mg	<		O	S		0.422173	M	W	<	0.000100				
M	Dy	<	0.000100	M	Mn		0.002606	M	Sb	<	0.000200	M	Y	<	0.000100				
M	Er	<	0.000100	M	Mo	<	0.000400	M	Sc	<	0.001403	M	Yb	<	0.000100				

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION, PERIOD OF VALIDITY AND REVISION HISTORY

Reagent

MS CALSTD-1_00125

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Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01 — ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICPMS-CALSTD-1
Lot Number:	M2-MEB660182
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	20 µg/mL ea:

Silver, Arsenic, Barium,
Beryllium, Cadmium, Cobalt,
Chromium, Copper, Manganese,
Nickel, Lead, Selenium,
Thorium, Thallium, Uranium,
Vanadium, Zinc

4902218
ID: MS CALSTD-1_00125
Exp: 07/21/20 Prpd: LMT
ICP-MS Cal Std 1 IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

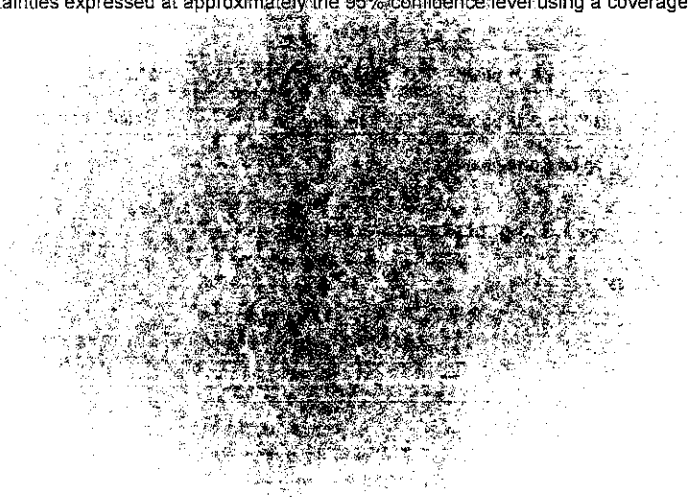
ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	20.00 ± 0.18 µg/mL	Barium, Ba	20.02 ± 0.09 µg/mL
Beryllium, Be	20.01 ± 0.09 µg/mL	Cadmium, Cd	20.01 ± 0.09 µg/mL
Chromium, Cr	20.00 ± 0.13 µg/mL	Cobalt, Co	20.00 ± 0.11 µg/mL
Copper, Cu	20.00 ± 0.10 µg/mL	Lead, Pb	20.00 ± 0.11 µg/mL
Manganese, Mn	20.00 ± 0.10 µg/mL	Nickel, Ni	20.00 ± 0.10 µg/mL
Selenium, Se	20.00 ± 0.13 µg/mL	Silver, Ag	20.01 ± 0.09 µg/mL
Thallium, Tl	20.01 ± 0.11 µg/mL	Thorium, Th	20.01 ± 0.10 µg/mL
Uranium, U	20.00 ± 0.10 µg/mL	Vanadium, V	20.00 ± 0.10 µg/mL
Zinc, Zn	20.00 ± 0.10 µg/mL		

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999c	999c
As	ICP Assay	3103a	100818
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730Cr3
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	993012
Tl	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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



Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.6 ± 0.1
Uranium 235U	0.37 ± 0.05

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 21, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 21, 2020

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: See TACS

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

MS CALSTD-1_00129

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

5216342

ID: MS CALSTD-1_00129

Exp:07/14/19 Prpd:MRJ Opn:07/14/18

ICP-MS Cal Std 1 IV prep

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICPMS-CALSTD-1
Lot Number:	M2-MEB660182
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	20 µg/mL ea:

Silver,	Arsenic,	Barium,
Beryllium,	Cadmium,	Cobalt,
Chromium,	Copper,	Manganese,
Nickel,	Lead,	Selenium,
Thorium,	Thallium,	Uranium,
Vanadium,	Zinc	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	20.00 ± 0.18 µg/mL	Barium, Ba	20.02 ± 0.09 µg/mL
Beryllium, Be	20.01 ± 0.09 µg/mL	Cadmium, Cd	20.01 ± 0.09 µg/mL
Chromium, Cr	20.00 ± 0.13 µg/mL	Cobalt, Co	20.00 ± 0.11 µg/mL
Copper, Cu	20.00 ± 0.10 µg/mL	Lead, Pb	20.00 ± 0.11 µg/mL
Manganese, Mn	20.00 ± 0.10 µg/mL	Nickel, Ni	20.00 ± 0.10 µg/mL
Selenium, Se	20.00 ± 0.13 µg/mL	Silver, Ag	20.01 ± 0.09 µg/mL
Thallium, Tl	20.01 ± 0.11 µg/mL	Thorium, Th	20.01 ± 0.10 µg/mL
Uranium, U	20.00 ± 0.10 µg/mL	Vanadium, V	20.00 ± 0.10 µg/mL
Zinc, Zn	20.00 ± 0.10 µg/mL		

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999c	999c
As	ICP Assay	3103a	100818
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730Cr3
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	993012
Tl	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2\,(u_{char\ a})^2 + (w_b)^2\,(u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.6 ± 0.1
Uranium 235U	0.37 ± 0.05

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 21, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 21, 2020

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

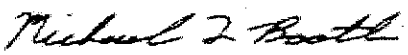
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

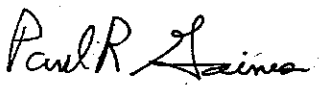
Certificate Approved By:

Michael Booth
Supervisor, Quality Control



Certifying Officer:

Paul Gaines
CEO, Senior Technical Director



Reagent

MS CALSTD-2_00094

INORGANIC VENTURES
CERTIFICATE OF ANALYSIS
[illegible]
Christiansburg, VA 24073 USA
[illegible]
tel: 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICPMS-CALSTD-2
Lot Number:	M2-MEB664004
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	20 µg/mL ea: Molybdenum, Antimony, Tin

5106413
ID: MS CALSTD-2_00094
Exp: 12/14/20 Prpd: LMT
ICP-MS Cal Std 2 IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	**20.00 ± 0.14 µg/mL**	**Molybdenum, Mo**	**20.00 ± 0.12 µg/mL**
Tin, Sn	**20.00 ± 0.15 µg/mL**		

Density: 1.027 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
Sb	Calculated		See Sec. 4.2
Sn	ICP Assay	3161a	140917

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

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- QSR Certificate Number QSR-1034

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- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 14, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- December 14, 2020

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: See TAG

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MS ICSA STOCK_00030

INORGANIC VENTURES
[illegible]
[illegible]
[illegible]

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	6020ICS-0A
Lot Number:	M2-MEB662772
Matrix:	1% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Chloride, 2 000 µg/mL ea: Carbon, 1 000 µg/mL ea: Calcium, Aluminum, Iron, Potassium, Magnesium, Sodium, Phosphorus, Sulfur, 20 µg/mL ea: Titanium, Molybdenum

5103134
ID: MS ICSA STOCK_00030
Exp: 11/01/21 Prpd: LMT
ICP-MS ICS-0A STOCK SOLUT

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	1 001 ± 3 µg/mL	Calcium, Ca	1 001 ± 4 µg/mL
Carbon, C	2 002 ± 4 µg/mL	Chloride, Cl	10 010.0 ± 60.0 µg/mL
Iron, Fe	1 001 ± 4 µg/mL	Magnesium, Mg	1 001 ± 4 µg/mL
Molybdenum, Mo	20.02 ± 0.10 µg/mL	Phosphorus, P	1 001 ± 4 µg/mL
Potassium, K	1 001 ± 4 µg/mL	Sodium, Na	1 001 ± 4 µg/mL
Sulfur, S	1 001 ± 4 µg/mL	Titanium, Ti	20.03 ± 0.12 µg/mL

Density: 1.034 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	060502
Al	EDTA	928	928
C	Acidimetric	84L	84L
Ca	ICP Assay	3109a	050825
Ca	EDTA	928	928
Cl	Calculated		See Sec. 4.2
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mo	ICP Assay	3134	130418
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric		traceable to 84L
S	Acidimetric	84L	84L
S	ICP Assay	3154	892205
Ti	ICP Assay	3162a	130925

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

Characterization of CRM by two independent methods Characterization of CRM by one method

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag	<	0.000400	M	Eu	<	0.000100	s	Na	<		M	Se	<	0.003000	M	Zn	0.004001
s	Al	<		s	Fe	<		M	Nb	<	0.000100	n	Si	<		M	Zr	< 0.000800
M	As	<	0.030009	M	Ga	<	0.000100	M	Nd	<	0.000100	M	Sm	<	0.000100			
M	Au	<	0.000100	M	Gd	<	0.000100	M	Ni	<	0.006402	M	Sn	<	0.000600			
M	B	<	0.005901	M	Ge	<	0.003000	M	Os	<	0.001000	M	Sr		0.006802			
M	Ba		0.000800	M	Hf	<	0.000100	s	P	<		M	Ta	<	0.000200			
M	Be	<	0.000100	M	Hg	<	0.000100	M	Pb		0.001300	M	Tb	<	0.000100			
M	Bi	<	0.000100	M	Ho	<	0.000100	M	Pd	<	0.000100	M	Te	<	0.006402			
s	Ca	<		M	In	<	0.008802	M	Pr	<	0.000100	M	Th	<	0.000100			
O	Cd	<	0.003102	M	Ir	<	0.000100	M	Pt	<	0.000100	s	Ti	<				
M	Ce	<	0.000400	s	K	<		M	Rb		0.015304	M	Tl	<	0.000100			
O	Co	<	0.007238	M	La	<	0.000100	M	Re	<	0.000400	M	Tm	<	0.000100			
M	Cr		0.002200	O	Li		0.001137	M	Rh	<	0.000100	M	U	<	0.000100			
M	Cs	<	0.000100	M	Lu	<	0.000100	M	Ru	<	0.000100	M	V	<	0.003401			
M	Cu		0.004701	s	Mg	<		s	S	<		M	W		0.001800			
M	Dy	<	0.000100	O	Mn	<	0.010340	M	Sb	<	0.002400	M	Y	<	0.000100			
M	Er	<	0.000100	s	Mo	<		M	Sc	<	0.000800	M	Yb	<	0.000100			

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

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 01, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- November 01, 2021

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

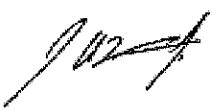
- Sealed TCT Bag Open Date: See TAGS

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

James King Jr
Chemist, Technical Manager



Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MS ICV StockA_00008

HIGH-PURITY STANDARDS
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P.O. Box 41727
Charleston, SC 29423
Phone: (843) 767-7900
Fax: (843) 767-7906

Certificate of Analysis

Certified Reference Material

ISO Guide 34:2009 (RMP) Accreditation
Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

4851656
ID: MS ICV StockA_00007
Exp:11/30/18 Prpd:LMT Opn:11/20/17
ICP-MS ICV STOCK A HP

Product Description:

Name:	MS ICV Stock
Part Number:	**SM-606-134**
	Solution A
Lot Number:	**1731407**
Matrix:	2% HNO_3
Purity:	99.97% - 99.9999%

Certified Values:

Element	(µg/mL)	SRM ID	SRM Lot#	Element	(µg/mL)	SRM ID	SRM Lot#
Al	2000 ± 12	3101a	140903	Pb	20.0 ± 0.2	3128	101026
As	20.0 ± 0.2	3103a	100818	Mn	20.0 ± 0.3	3132	050429
Ba	20.00 ± 0.12	3104a	140909	Ni	20.00 ± 0.12	3136	120619
Be	20.0 ± 0.2	3105a	090514	Se	20.0 ± 0.2	3149	100901
Cd	20.00 ± 0.12	3108	130116	Tl	20.00 ± 0.12	*	
Cr	20.00 ± 0.12	3112a	030730	Th	20.0 ± 0.2	*	
Co	20.00 ± 0.12	3113	000630	U	20.00 ± 0.12	3164	080521
Cu	20.00 ± 0.12	3114	121207	V	20.0 ± 0.2	*	
Fe	2000 ± 12	3126a	140812	Zn	20.00 ± 0.12	3168a	120629

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: **November 2017**
Expiration Date: **November 2018**
Certificate Issue Date: November 10, 2017

Moven Mutuvari

Moven Mutuvari PhD., Laboratory Manager

Preparation Information:

The Certified Reference Material (CRM) is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials and manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product. If during the period of validity, a recall is instituted due to substantial changes in the stability of this product, the purchaser will be notified.

Homogeneity:

This product is determined to be homogeneous following in-house procedures developed in accordance with the requirements of ISO Guide 34 and ISO Guide 35.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If a SRM is not available, a second source standard or independent lot is used.

Refer to Safety Datasheet (SDS) for hazardous information.

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

Reagent

MS ICV StockB_00008

HIGH-PURITY STANDARDS
www.high-purity-standards.com
P.O. Box 41727
Charleston, SC 29423
Phone: (843) 767-7900
Fax: (843) 767-7906

4851657
ID: MS ICV StockB_00008
Exp:11/30/18 Prpd:LMT Opn:11/20/17
ICP-MS ICV STOCK B HP

Certificate of Analysis

Certified Reference Material

ISO Guide 34:2009 (RMP) Accreditation
Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Product Description:

Name:	MS ICV Stock
Part Number:	**SM-606-134**
	Solution B
Lot Number:	**1731408**
Matrix:	2% HNO_3 + Tr HF
Purity:	99.95% - 99.999%

Certified Values:

Element	(µg/mL)	SRM ID	SRM Lot#	Element	(µg/mL)	SRM ID	SRM Lot#
Sb	20.0 ± 0.2	3102a	140911	Sn	20.0 ± 0.2	3161a	140917
Mo	20.0 ± 0.2	3134	130418	W	20.0 ± 0.3	3163	140606
Ag	20.00 ± 0.12	3151	160729				

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: **November 2017**
Expiration Date: **November 2018**
Certificate Issue Date: November 10, 2017

Moven Mutuvari
Moven Mutuvari PhD., Laboratory Manager

Preparation Information:

The Certified Reference Material (CRM) is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials and manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product. If during the period of validity, a recall is instituted due to substantial changes in the stability of this product, the purchaser will be notified.

Homogeneity:

This product is determined to be homogeneous following in-house procedures developed in accordance with the requirements of ISO Guide 34 and ISO Guide 35.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If a SRM is not available, a second source standard or independent lot is used.

Refer to Safety Datasheet (SDS) for hazardous information.

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

Reagent

MS LLCCV 2A_00006

INORGANIC VENTURES
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Investigate with Inorganic Ventures
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Fax: 540.585.3012
Info@InorganicVentures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICPMS-LLCCV-2A
Lot Number:	M2-MEB664006
Matrix:	2% (v/v) HNO3 tr. HF
Value / Analyte(s):	1 µg/mL ea: Tin, 0.5 µg/mL ea: Tungsten, 0.2 µg/mL ea: Molybdenum, Antimony

5232242
ID: MS LLCCV 2A_00006
Exp: 12/14/20 Prpd: LMT
LOW LEVEL CCV 2A IV

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	0.2000 ± 0.0015 µg/mL	Molybdenum, Mo	0.2000 ± 0.0012 µg/mL
Tin, Sn	1.000 ± 0.006 µg/mL	Tungsten, W	0.5000 ± 0.0046 µg/mL

Density: 1.009 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	061229 Sb
Sb	Calculated		See Sec. 4.2
Sn	ICP Assay	3161a	070330
Sn	Calculated		See Sec. 4.2
W	ICP Assay	3163	080331
W	Calculated		See Sec. 4.2

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 14, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 14, 2020**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: See TMS

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

MS LLCCV1_00020

INORGANIC VENTURES
CERTIFICATE OF ANALYSIS
300 Technology Drive
Christiansburg, VA 24073 - USA
Fax: 540.382.3012

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

5232240
ID: MS LLCCV1_00020
Exp: 12/15/20 Prpd: LMT
LOW LEVEL CCV1 IV

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	ICPMS-LLCCV-1
Lot Number:	M2-MEB664005
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 µg/mL ea: Potassium,
	5 µg/mL ea: Magnesium, Sodium, Iron, Calcium,
	3 µg/mL ea: Aluminum,
	1 µg/mL ea: Zinc,
	0.5 µg/mL ea: Vanadium, Selenium, Arsenic, Silver,
	0.2 µg/mL ea: Thorium, Nickel, Chromium, Copper,
	0.1 µg/mL ea: Lead, Barium, Uranium, Cadmium, Beryllium, Manganese, Cobalt, Thallium,

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	3.000 ± 0.015 µg/mL	Arsenic, As	0.5000 ± 0.0037 µg/mL
Barium, Ba	0.1000 ± 0.0006 µg/mL	Beryllium, Be	0.1000 ± 0.0007 µg/mL
Cadmium, Cd	0.1000 ± 0.0007 µg/mL	Calcium, Ca	4.999 ± 0.019 µg/mL
Chromium, Cr	0.1999 ± 0.0012 µg/mL	Cobalt, Co	0.1000 ± 0.0007 µg/mL
Copper, Cu	0.2000 ± 0.0012 µg/mL	Iron, Fe	5.000 ± 0.025 µg/mL
Lead, Pb	0.1000 ± 0.0007 µg/mL	Magnesium, Mg	4.999 ± 0.030 µg/mL
Manganese, Mn	0.1000 ± 0.0007 µg/mL	Nickel, Ni	0.2000 ± 0.0015 µg/mL
Potassium, K	10.00 ± 0.05 µg/mL	Selenium, Se	0.5000 ± 0.0037 µg/mL
Silver, Ag	0.5001 ± 0.0040 µg/mL	Sodium, Na	4.999 ± 0.025 µg/mL
Thallium, Tl	0.1000 ± 0.0008 µg/mL	Thorium, Th	0.2000 ± 0.0012 µg/mL
Uranium, U	0.1000 ± 0.0009 µg/mL	Vanadium, V	0.4999 ± 0.0028 µg/mL
Zinc, Zn	1.000 ± 0.006 µg/mL		

Density: 1.022 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Ba	ICP Assay	3104a	070222
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Th	EDTA	928	928
Tl	ICP Assay	3158	993012
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.21 ± 0.05

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 15, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 15, 2020**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: See TAC's

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

MS PDS IV_00008

INORGANIC VENTURES
[illegible]
Christiansburg, VA 24 [illegible]
[illegible]
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info@inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

4813061
ID: MS PDS IV_00008
Exp: 06/27/20 Prpd: LMT
ICP-MS PDS -A STOCK IV

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TA-ICPMS-SPK-A
Lot Number:	M2-MEB659495
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	20 µg/mL ea: Arsenic, Barium, Beryllium, Cadmium, Cobalt, Chromium, Copper, Manganese, Nickel, Lead, Selenium, Thallium, Uranium, Vanadium, Zinc, 5 µg/mL ea: Silver

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	20.00 ± 0.14 µg/mL	Barium, Ba	20.00 ± 0.10 µg/mL
Beryllium, Be	20.00 ± 0.12 µg/mL	Cadmium, Cd	19.99 ± 0.12 µg/mL
Chromium, Cr	20.01 ± 0.10 µg/mL	Cobalt, Co	20.00 ± 0.10 µg/mL
Copper, Cu	19.99 ± 0.12 µg/mL	Lead, Pb	20.00 ± 0.09 µg/mL
Manganese, Mn	20.00 ± 0.10 µg/mL	Nickel, Ni	20.00 ± 0.12 µg/mL
Selenium, Se	20.00 ± 0.10 µg/mL	Silver, Ag	5.000 ± 0.034 µg/mL
Thallium, Tl	20.00 ± 0.12 µg/mL	Uranium, U	20.00 ± 0.10 µg/mL
Vanadium, V	20.00 ± 0.12 µg/mL	Zinc, Zn	20.00 ± 0.12 µg/mL

Density: 1.028 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999c	999c
As	ICP Assay	3103a	100818
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730Cr3
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	993012
Tl	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM by two independent methods Characterization of CRM by one method

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.21 ± 0.05

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 27, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- June 27, 2020

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: See JALS

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

MS PDS 2A_00005

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CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

5106430
ID: MS PDS 2A_00005
Exp: 04/06/21 Prpd: LMT
ICP-MS PDS 2A IV

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TA-ICPMS-PDS-2A
Lot Number:	N2-MEB667103
Matrix:	5% (v/v) HNO3 1.2% (v/v) HF
Value / Analyte(s):	200 µg/mL ea: Aluminum, Iron, 20 µg/mL ea: Molybdenum, Antimony, Tin, Tungsten, Zirconium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**200.0 ± 0.7 µg/mL**	**Antimony, Sb**	**20.00 ± 0.14 µg/mL**
Iron, Fe	**200.0 ± 0.8 µg/mL**	**Molybdenum, Mo**	**20.00 ± 0.14 µg/mL**
Tin, Sn	**20.00 ± 0.15 µg/mL**	**Tungsten, W**	**20.00 ± 0.14 µg/mL**
Zirconium, Zr	**20.00 ± 0.12 µg/mL**		

Density: 1.027 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
Sb	Calculated		See Sec. 4.2
Sn	ICP Assay	3161a	140917
W	ICP Assay	3163	140606
W	Calculated		See Sec. 4.2
Zr	ICP Assay	3169	130920

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

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

$u_{char\ a\&b} = [(w_a)^2\ (u_{char\ a})^2 + (w_b)^2\ (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 06, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- April 06, 2021

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: See TALS

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

MS-31010_00011

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31010 **Lot No.:** A0116027

Description : SV Calibration Mix #4

SV Calibration Mix #4 2000 µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2019 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Hexachloroethane	2,002.0 µg/mL	+/- 11.8913 µg/mL	Gravimetric
	CAS # 67-72-1 (Lot 4H3SF)		+/- 60.6057 µg/mL	Unstressed
	Purity 99%		+/- 60.6057 µg/mL	Stressed
2	Nitrobenzene	2,014.0 µg/mL	+/- 11.9625 µg/mL	Gravimetric
	CAS # 98-95-3 (Lot 65096APV)		+/- 60.9690 µg/mL	Unstressed
	Purity 99%		+/- 60.9690 µg/mL	Stressed
3	Isophorone	2,002.0 µg/mL	+/- 11.8913 µg/mL	Gravimetric
	CAS # 78-59-1 (Lot MKBG2442V)		+/- 60.6057 µg/mL	Unstressed
	Purity 99%		+/- 60.6057 µg/mL	Stressed
4	1,2,4-Trichlorobenzene	2,014.0 µg/mL	+/- 11.9625 µg/mL	Gravimetric
	CAS # 120-82-1 (Lot 26896BM)		+/- 60.9690 µg/mL	Unstressed
	Purity 99%		+/- 60.9690 µg/mL	Stressed
5	Hexachlorobutadiene	2,007.0 µg/mL	+/- 11.9212 µg/mL	Gravimetric
	CAS # 87-68-3 (Lot J31X013)		+/- 60.7583 µg/mL	Unstressed
	Purity 98%		+/- 60.7583 µg/mL	Stressed
6	2-Methylnaphthalene	2,000.0 µg/mL	+/- 11.8794 µg/mL	Gravimetric
	CAS # 91-57-6 (Lot 19399MJV)		+/- 60.5452 µg/mL	Unstressed
	Purity 99%		+/- 60.5452 µg/mL	Stressed
7	Hexachlorocyclopentadiene	2,007.9 µg/mL	+/- 11.9263 µg/mL	Gravimetric
	CAS # 77-47-4 (Lot 150909)		+/- 60.7843 µg/mL	Unstressed
	Purity 97%		+/- 60.7843 µg/mL	Stressed

8	2,6-Dinitrotoluene		2,010.0	µg/mL	+/-	11.9388	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)			+/-	60.8479	µg/mL	Unstressed
	Purity 99%				+/-	60.8479	µg/mL	Stressed
9	Dibenzofuran		2,002.0	µg/mL	+/-	11.8913	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBH8392V)			+/-	60.6057	µg/mL	Unstressed
	Purity 99%				+/-	60.6057	µg/mL	Stressed
10	2,4-Dinitrotoluene		2,000.0	µg/mL	+/-	11.8794	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/-	60.5452	µg/mL	Unstressed
	Purity 99%				+/-	60.5452	µg/mL	Stressed
11	Diethylphthalate		2,016.0	µg/mL	+/-	11.9744	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBJ3578V)			+/-	61.0295	µg/mL	Unstressed
	Purity 99%				+/-	61.0295	µg/mL	Stressed
12	Hexachlorobenzene		2,018.0	µg/mL	+/-	11.9863	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LB98981V)			+/-	61.0901	µg/mL	Unstressed
	Purity 99%				+/-	61.0901	µg/mL	Stressed
13	Carbazole		1,999.2	µg/mL	+/-	11.8746	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 3715800)			+/-	60.5210	µg/mL	Unstressed
	Purity 98%				+/-	60.5210	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

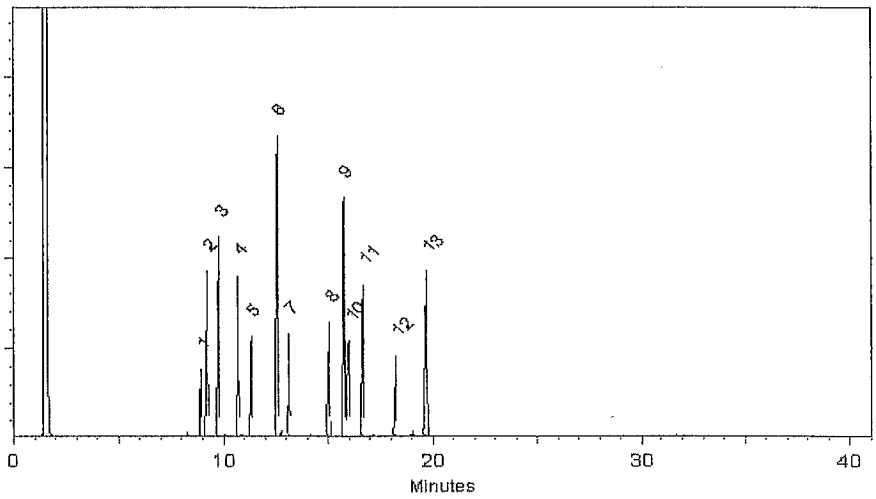
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Mix Technician

Date Mixed: 17-Dec-2015 **Balance:** B345965662

Jennifer L. Pollino - QC Analyst

Date Passed: 21-Dec-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MS-47548-U_00015

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Certificate of Analysis

Description: EPA 8270 GC/MS Tuning Solution II, 1x1ml, 1000µg/ml in methylene chloride

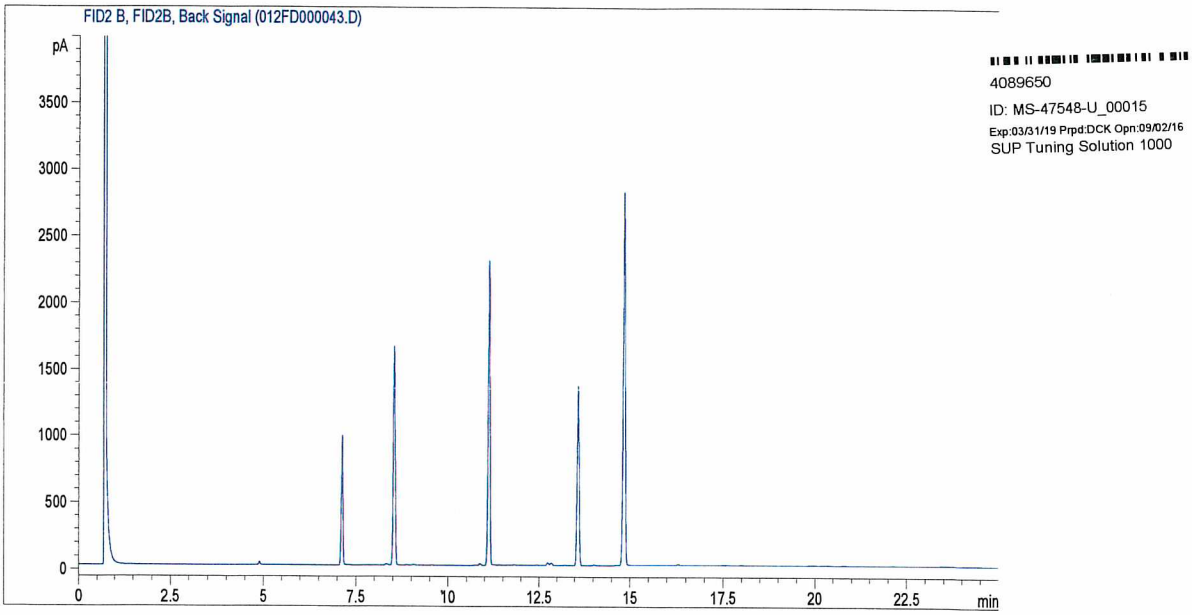
Part Number: 47548-U

Lot Number: XA19099V

Expiration Date: March 2019

Storage: Refrigerate

Analytical Method Parameters:
Column: Equity-5; 30 m x 0.53 mm, 1.5 µm df
150 °C to 280 °C (8.75 min) at 8 °C/min
Detector: FID; 310 °C
Injection Volume: 1µL



Elution	Analyte	Lot Number	CAS Number	Chromatographic Purity %	Certified Gravimetric Conc. µg/mL	Expanded Uncertainty µg/mL	Analytical Conc. µg/mL
1.	Pentachlorophenol	LC17897	87-86-5	97.5	1000.0	±38	945.6
2.	Decafluorotriphenylphosphine	LC14010	5074-71-5	98.6	986.0	±44	961.5
3.	Benzidine	LB83682	92-87-5	99.9	999.0	±38	1009.6
4.	4,4'-DDT	LA83013	50-29-3	98.0	980.8	±36	961.0
	Internal Standard	N/A	N/A	N/A	N/A	N/A	N/A

Reagent

MS-567684_00019

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

4101728
ID: MS-567684_00019
Exp: 07/31/20 Prpd: DCK
RES 8270 Internal Std Mix

Catalog No. : 567684 **Lot No.:** A0112833

Description : 8270 Internal Standard

8270 Internal Standard 2,000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : July 31, 2020 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 **Purity** 99%	(Lot PR-18488)	2,014.8 µg/mL	+/- 11.7142 +/- 89.5186 +/- 98.3528	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Naphthalene-d8 **CAS #** 1146-65-2 **Purity** 99%	(Lot M-1452)	2,015.8 µg/mL	+/- 11.7202 +/- 89.5645 +/- 98.4032	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	Acenaphthene-d10 **CAS #** 15067-26-2 **Purity** 97%	(Lot PR-21070)	2,002.0 µg/mL	+/- 11.6397 +/- 88.9491 +/- 97.7271	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	Phenanthrene-d10 **CAS #** 1517-22-2 **Purity** 99%	(Lot PR-23065)	2,007.1 µg/mL	+/- 11.6693 +/- 89.1750 +/- 97.9753	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Chrysene-d12 **CAS #** 1719-03-5 **Purity** 99%	(Lot PR-25081)	2,013.2 µg/mL	+/- 11.7047 +/- 89.4460 +/- 98.2730	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	Perylene-d12 **CAS #** 1520-96-3 **Purity** 99%	(Lot PR-24113)	2,005.4 µg/mL	+/- 11.6598 +/- 89.1024 +/- 97.8955	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Reagent

MS-567684_00020

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

5035055
ID: MS-567684_00020
Exp: 08/31/22 Prpd: OCK
RES 8270 Internal Std Mix

Catalog No. : 567684 **Lot No.:** A0129635

Description : 8270 Internal Standard

8270 Internal Standard 2,000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2022 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 **Purity** 99%	(Lot PR-18488)	2,014.1 µg/mL	+/- 11.7102 +/- 90.7163 +/- 100.6609	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Naphthalene-d8 **CAS #** 1146-65-2 **Purity** 99%	(Lot M-1452)	2,004.1 µg/mL	+/- 11.6520 +/- 90.2659 +/- 100.1611	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	Acenaphthene-d10 **CAS #** 15067-26-2 **Purity** 99%	(Lot PR-25444)	2,011.1 µg/mL	+/- 11.6927 +/- 90.5811 +/- 100.5110	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	Phenanthrene-d10 **CAS #** 1517-22-2 **Purity** 99%	(Lot PR-27621)	2,014.5 µg/mL	+/- 11.7125 +/- 90.7343 +/- 100.6809	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Chrysene-d12 **CAS #** 1719-03-5 **Purity** 99%	(Lot PR-27952)	2,013.6 µg/mL	+/- 11.7072 +/- 90.6938 +/- 100.6359	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	Perylene-d12 **CAS #** 1520-96-3 **Purity** 99%	(Lot PR-27342)	2,012.2 µg/mL	+/- 11.6991 +/- 90.6307 +/- 100.5659	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Reagent

MS-567685_00004

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0130500

4941881
ID: MS-567685_00004
Exp: 09/30/22 Prpd: DCK
8270 Surrogates 5000ug/mL

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : September 30, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol		5,009.8 µg/mL	+/- 29.1274 µg/mL		Gravimetric
	CAS # 367-12-4	(Lot STBD7945V)		+/- 146.2028 µg/mL		Unstressed
	Purity 99%			+/- 177.4114 µg/mL		Stressed
2	Phenol-d5		5,013.6 µg/mL	+/- 29.1495 µg/mL		Gravimetric
	CAS # 4165-62-2	(Lot X-479)		+/- 146.3137 µg/mL		Unstressed
	Purity 99%			+/- 177.5460 µg/mL		Stressed
3	Nitrobenzene-d5		5,000.0 µg/mL	+/- 29.0704 µg/mL		Gravimetric
	CAS # 4165-60-0	(Lot PR-25462)		+/- 145.9168 µg/mL		Unstressed
	Purity 99%			+/- 177.0644 µg/mL		Stressed
4	2-Fluorobiphenyl		5,001.2 µg/mL	+/- 29.0774 µg/mL		Gravimetric
	CAS # 321-60-8	(Lot B19Z016)		+/- 145.9518 µg/mL		Unstressed
	Purity 99%			+/- 177.1069 µg/mL		Stressed
5	2,4,6-Tribromophenol		5,002.6 µg/mL	+/- 29.0855 µg/mL		Gravimetric
	CAS # 118-79-6	(Lot 29699MJV)		+/- 145.9926 µg/mL		Unstressed
	Purity 99%			+/- 177.1564 µg/mL		Stressed
6	p-Terphenyl-d14		5,004.0 µg/mL	+/- 29.0937 µg/mL		Gravimetric
	CAS # 1718-51-0	(Lot PR-27278)		+/- 146.0335 µg/mL		Unstressed
	Purity 99%			+/- 177.2060 µg/mL		Stressed

Reagent

MS-568023_00043

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

5199826
ID: MS-568023_00043
Exp: 06/30/20 Prpd: DCK
RES HSLA Famphur 2000ug/m

Catalog No. : 568023 **Lot No.:** A0139090

Description : 8270 Famphur Standard

8270 Famphur Standard 2,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Component #	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Famphur	2,014.9 µg/mL	+/- 18.7373	µg/mL	Gravimetric
	CAS # 52-85-7 (Lot 6789600)		+/- 87.6407	µg/mL	Unstressed
	Purity 98%		+/- 87.6775	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Brandon Reish - Mix Technician

Date Mixed: 21-Jun-2018 **Balance:** B345965662

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

MS-568033_00026

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568033 **Lot No.:** A0133057

4941894
ID: MS-568033_00026
Exp: 06/30/19 Prpd: DCK
RES HSLA CUSTOM MIX 4000u

Description : Denver 8270 Standard

Denver 8270 Standard 4,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2019 **Storage:** 10°C or colder

Handling: Sonicate prior to use. This product is photosensitive.

CERTIFIED VALUES

Component #	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2,3-Dichloroaniline	4,000.0 µg/mL	+/- 37.1978 µg/mL	Gravimetric
	CAS # 608-27-5 (Lot FBV01)		+/- 55.9394 µg/mL	Unstressed
	Purity 99%		+/- 81.4485 µg/mL	Stressed
2	3,5-Dimethylphenol	4,016.0 µg/mL	+/- 37.3466 µg/mL	Gravimetric
	CAS # 108-68-9 (Lot 02801LZ)		+/- 56.1632 µg/mL	Unstressed
	Purity 99%		+/- 81.7743 µg/mL	Stressed
3	Alachlor	4,008.0 µg/mL	+/- 37.2722 µg/mL	Gravimetric
	CAS # 15972-60-8 (Lot 6104400)		+/- 56.0513 µg/mL	Unstressed
	Purity 99%		+/- 81.6114 µg/mL	Stressed
4	alpha-Methylstyrene	4,016.0 µg/mL	+/- 37.3466 µg/mL	Gravimetric
	CAS # 98-83-9 (Lot MKBS2502V)		+/- 56.1632 µg/mL	Unstressed
	Purity 99%		+/- 81.7743 µg/mL	Stressed
5	Benzo(e)pyrene	4,004.0 µg/mL	+/- 37.2350 µg/mL	Gravimetric
	CAS # 192-97-2 (Lot NT058329)		+/- 55.9953 µg/mL	Unstressed
	Purity 99%		+/- 81.5299 µg/mL	Stressed

Reagent

MS-569730 HSL_00008

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

5306168
ID: MS-569730 AFC_00007
Exp: 10/31/19 Prpd: DCK
HSLA Amine Mix (2015) 200

5306172
ID: MS-569730 HSL_00008
Exp: 10/31/19 Prpd: DCK
HSLA Amine Mix (2015) 200

Catalog No. : 569730 **Lot No.:** A0137351

Description : 8270 List 1 / Std #9

8270 List 1 / Std #9 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : October 31, 2019 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Benzidine	2,000.3 µg/mL	+/- 11.6301	µg/mL	Gravimetric
	CAS # 92-87-5 (Lot 171228KJA)		+/- 23.9121	µg/mL	Unstressed
	Purity 99%		+/- 38.0558	µg/mL	Stressed
2	3,3'-Dichlorobenzidine	2,005.7 µg/mL	+/- 11.6611	µg/mL	Gravimetric
	CAS # 91-94-1 (Lot 180328JNA)		+/- 23.9759	µg/mL	Unstressed
	Purity 99%		+/- 38.1572	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

MS-569731_00079

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

4944222
ID: MS-569731_00079
Exp: 03/31/19 Prpd: DCK
HSLA Benzoic Acid (2015)

Catalog No. : 569731 **Lot No.:** A0130477

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : March 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Indene	1,996.3 µg/mL	+/- 11.6064 µg/mL	Gravimetric
	CAS # 95-13-6 (Lot MKBT8433V)		+/- 111.9283 µg/mL	Unstressed
	Purity 98%		+/- 114.5473 µg/mL	Stressed
2	Benzoic acid	2,000.8 µg/mL	+/- 11.6328 µg/mL	Gravimetric
	CAS # 65-85-0 (Lot MKBV5544V)		+/- 112.1829 µg/mL	Unstressed
	Purity 99%		+/- 114.8078 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

MS-569731_00095

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0132744

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Indene	2,013.6 µg/mL	+/- 11.7071 µg/mL	Gravimetric
	CAS # 95-13-6 (Lot MKBT8433V)		+/- 112.8991 µg/mL	Unstressed
	Purity 98%		+/- 115.5408 µg/mL	Stressed
2	Benzoic acid	2,019.3 µg/mL	+/- 11.7406 µg/mL	Gravimetric
	CAS # 65-85-0 (Lot MKBV5544V)		+/- 113.2220 µg/mL	Unstressed
	Purity 99%		+/- 115.8713 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MS-569731_00096

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0132744

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Indene	2,013.6 µg/mL	+/- 11.7071 µg/mL	Gravimetric
	CAS # 95-13-6 (Lot MKBT8433V)		+/- 112.8991 µg/mL	Unstressed
	Purity 98%		+/- 115.5408 µg/mL	Stressed
2	Benzoic acid	2,019.3 µg/mL	+/- 11.7406 µg/mL	Gravimetric
	CAS # 65-85-0 (Lot MKBV5544V)		+/- 113.2220 µg/mL	Unstressed
	Purity 99%		+/- 115.8713 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MS-569731_00097

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0132744

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Indene	2,013.6 µg/mL	+/- 11.7071 µg/mL	Gravimetric
	CAS # 95-13-6 (Lot MKBT8433V)		+/- 112.8991 µg/mL	Unstressed
	Purity 98%		+/- 115.5408 µg/mL	Stressed
2	Benzoic acid	2,019.3 µg/mL	+/- 11.7406 µg/mL	Gravimetric
	CAS # 65-85-0 (Lot MKBV5544V)		+/- 113.2220 µg/mL	Unstressed
	Purity 99%		+/- 115.8713 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MS-569731_00100

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0132744

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Indene	2,013.6 µg/mL	+/- 11.7071 µg/mL	Gravimetric
	CAS # 95-13-6 (Lot MKBT8433V)		+/- 112.8991 µg/mL	Unstressed
	Purity 98%		+/- 115.5408 µg/mL	Stressed
2	Benzoic acid	2,019.3 µg/mL	+/- 11.7406 µg/mL	Gravimetric
	CAS # 65-85-0 (Lot MKBV5544V)		+/- 113.2220 µg/mL	Unstressed
	Purity 99%		+/- 115.8713 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MS-569732 HSL_00006

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569732 **Lot No.:** A0137125

Description : 8270 List 1 / Std #11

8270 List 1 / Std #11 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : October 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

5335192
ID: MS-569732 HSL_00006
Exp: 10/31/19 Prpd: DCK
8270 List 1/ Std 11 (2015

5335191
ID: MS-569732 BZH_00008
Exp: 10/31/19 Prpd: DCK
8270 List 1/ Std 11 (2015

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Benzaldehyde **CAS #** 100-52-7 **Purity** 99%	(Lot SHBG8690V)	2,001.1 µg/mL	+/- 11.6345 µg/mL +/- 64.1460 µg/mL +/- 74.5673 µg/mL		Gravimetric Unstressed Stressed
2	epsilon-Caprolactam **CAS #** 105-60-2 **Purity** 99%	(Lot I16X016)	2,002.0 µg/mL	+/- 11.6398 µg/mL +/- 64.1754 µg/mL +/- 74.6014 µg/mL		Gravimetric Unstressed Stressed
3	Atrazine **CAS #** 1912-24-9 **Purity** 99%	(Lot 77P7D)	2,002.6 µg/mL	+/- 11.6432 µg/mL +/- 64.1941 µg/mL +/- 74.6232 µg/mL		Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

MS-571995.SEC_00002

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Bellefonte, PA 16823-8812
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CERTIFIED REFERENCE MATERIAL

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ISO Guide 34 Accredited
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Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

4994417
ID: MS-571995.SEC_00002
Exp:03/31/19 Prpd:DCK Opn:03/09/18
RES HSLB Mega Mix (2017)

Catalog No. : 571995.SEC **Lot No.:** A0131190

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : March 31, 2019 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane CAS # 123-91-1.SEC (Lot MUFZH) Purity 99%	1,000.0 µg/mL	+/- 5.8275 µg/mL +/- 11.9606 µg/mL +/- 19.0288 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine CAS # 62-75-9.SEC (Lot 61H72) Purity 99%	1,000.0 µg/mL	+/- 5.8275 µg/mL +/- 11.9606 µg/mL +/- 19.0288 µg/mL	Gravimetric Unstressed Stressed
3	Pyridine CAS # 110-86-1.SEC (Lot QN8DK) Purity 99%	2,000.0 µg/mL	+/- 11.6282 µg/mL +/- 23.9081 µg/mL +/- 38.0494 µg/mL	Gravimetric Unstressed Stressed
4	Phenol CAS # 108-95-2.SEC (Lot EDPYN) Purity 99%	1,000.6 µg/mL	+/- 5.8310 µg/mL +/- 11.9678 µg/mL +/- 19.0402 µg/mL	Gravimetric Unstressed Stressed
5	Aniline CAS # 62-53-3.SEC (Lot ZCD3N) Purity 99%	1,000.4 µg/mL	+/- 5.8299 µg/mL +/- 11.9654 µg/mL +/- 19.0364 µg/mL	Gravimetric Unstressed Stressed
6	Bis(2-chloroethyl)ether CAS # 111-44-4.SEC (Lot FA010143) Purity 99%	1,000.6 µg/mL	+/- 5.8310 µg/mL +/- 11.9678 µg/mL +/- 19.0402 µg/mL	Gravimetric Unstressed Stressed
7	n-Decane (C10) CAS # 124-18-5.SEC (Lot UCVNN) Purity 99%	1,000.0 µg/mL	+/- 5.8275 µg/mL +/- 11.9606 µg/mL +/- 19.0288 µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol CAS # 95-57-8.SEC Purity 99%	(Lot GJ01)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	1,3-Dichlorobenzene CAS # 541-73-1.SEC Purity 99%	(Lot FMDFD)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	1,4-Dichlorobenzene CAS # 106-46-7.SEC Purity 99%	(Lot 4Y5DC)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	Benzyl alcohol CAS # 100-51-6.SEC Purity 99%	(Lot QZBUO)	1,000.6	µg/mL	+/- 5.8310 +/- 11.9678 +/- 19.0402	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	1,2-Dichlorobenzene CAS # 95-50-1.SEC Purity 99%	(Lot R6QDM)	1,000.4	µg/mL	+/- 5.8299 +/- 11.9654 +/- 19.0364	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	2-Methylphenol (o-cresol) CAS # 95-48-7.SEC Purity 99%	(Lot NC7HL)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	2,2'-oxybis(1-chloropropane) CAS # 108-60-1.SEC Purity 99%	(Lot 2-KMW-57-8)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	Acetophenone CAS # 98-86-2.SEC Purity 99%	(Lot NSGTI)	1,000.6	µg/mL	+/- 5.8310 +/- 11.9678 +/- 19.0402	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	3-Methylphenol (m-cresol) CAS # 108-39-4.SEC Purity 99%	(Lot 6LHTM)	500.0	µg/mL	+/- 2.9138 +/- 5.9803 +/- 9.5144	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	4-Methylphenol (p-cresol) CAS # 106-44-5.SEC Purity 99%	(Lot 65S2E)	501.0	µg/mL	+/- 2.9196 +/- 5.9923 +/- 9.5334	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	N-Nitroso-di-n-propylamine CAS # 621-64-7.SEC Purity 99%	(Lot 4423200)	1,001.4	µg/mL	+/- 5.8357 +/- 11.9773 +/- 19.0555	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
19	Hexachloroethane CAS # 67-72-1.SEC Purity 99%	(Lot 10173016)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
20	Nitrobenzene CAS # 98-95-3.SEC Purity 99%	(Lot FLYIG)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
21	Isophorone CAS # 78-59-1.SEC Purity 99%	(Lot XHGJI)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
22	2-Nitrophenol CAS # 88-75-5.SEC Purity 99%	(Lot GXJ7J)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
23	2,4-Dimethylphenol CAS # 105-67-9.SEC Purity 99%	(Lot MKBL3650V)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 111-91-1 *	(Lot 5670100)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
25	2,4-Dichlorophenol		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 120-83-2.SEC	(Lot FHM01)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 120-82-1.SEC	(Lot OGO01)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
27	Naphthalene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 91-20-3.SEC	(Lot SKZ5N)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
28	2,6-Dichlorophenol		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 87-65-0.SEC	(Lot SIDBB)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
29	4-Chloroaniline		1,000.2	µg/mL	+/-	5.8287	µg/mL	Gravimetric
	CAS # 106-47-8.SEC	(Lot 10171860)			+/-	11.9630	µg/mL	Unstressed
	Purity 99%				+/-	19.0326	µg/mL	Stressed
30	Hexachlorobutadiene		1,000.5	µg/mL	+/-	5.8302	µg/mL	Gravimetric
	CAS # 87-68-3.SEC	(Lot 1068200)			+/-	11.9661	µg/mL	Unstressed
	Purity 97%				+/-	19.0375	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 59-50-7.SEC	(Lot FDO02)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
32	2-Methylnaphthalene		1,000.8	µg/mL	+/-	5.8320	µg/mL	Gravimetric
	CAS # 91-57-6.SEC	(Lot 76023-1)			+/-	11.9699	µg/mL	Unstressed
	Purity 98%				+/-	19.0436	µg/mL	Stressed
33	1-Methylnaphthalene		1,000.1	µg/mL	+/-	5.8279	µg/mL	Gravimetric
	CAS # 90-12-0.SEC	(Lot UATSA)			+/-	11.9614	µg/mL	Unstressed
	Purity 97%				+/-	19.0302	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 95-94-3.SEC	(Lot AF02)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 77-47-4.SEC	(Lot 5608400)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,000.6	µg/mL	+/-	5.8309	µg/mL	Gravimetric
	CAS # 88-06-2.SEC	(Lot UUMYM)			+/-	11.9675	µg/mL	Unstressed
	Purity 98%				+/-	19.0399	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,000.1	µg/mL	+/-	5.8279	µg/mL	Gravimetric
	CAS # 95-95-4.SEC	(Lot MKBQ9937V)			+/-	11.9614	µg/mL	Unstressed
	Purity 97%				+/-	19.0302	µg/mL	Stressed
38	2-Chloronaphthalene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 91-58-7.SEC	(Lot LC07783V)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
39	Biphenyl		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 92-52-4.SEC	(Lot 33OQE)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed

40	2-Nitroaniline CAS # 88-74-4.SEC Purity 99%	(Lot T6E7B)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	Acenaphthylene CAS # 208-96-8.SEC Purity 96%	(Lot 0012014)	999.9	µg/mL	+/- 5.8271 +/- 11.9598 +/- 19.0276	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	1,3-Dinitrobenzene CAS # 99-65-0.SEC Purity 99%	(Lot 3XXLB)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	Dimethylphthalate CAS # 131-11-3.SEC Purity 99%	(Lot 483WC)	1,002.0	µg/mL	+/- 5.8392 +/- 11.9845 +/- 19.0669	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	2,6-Dinitrotoluene CAS # 606-20-2.SEC Purity 99%	(Lot GE01)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	3-Nitroaniline CAS # 99-09-2.SEC Purity 99%	(Lot FGN03)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	Acenaphthene CAS # 83-32-9.SEC Purity 99%	(Lot BWZJE)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	2,4-Dinitrophenol CAS # 51-28-5.SEC Purity 99%	(Lot YTR6B)	2,000.0	µg/mL	+/- 11.6282 +/- 23.9081 +/- 38.0494	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	Dibenzofuran CAS # 132-64-9.SEC Purity 99%	(Lot 27ZGC)	1,000.8	µg/mL	+/- 5.8322 +/- 11.9702 +/- 19.0440	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	4-Nitrophenol CAS # 100-02-7.SEC Purity 99%	(Lot 2J5LB)	2,000.0	µg/mL	+/- 11.6282 +/- 23.9081 +/- 38.0494	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	2,4-Dinitrotoluene CAS # 121-14-2.SEC Purity 99%	(Lot SHRSA)	1,000.4	µg/mL	+/- 5.8299 +/- 11.9654 +/- 19.0364	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	2,3,4,6-Tetrachlorophenol CAS # 58-90-2.SEC Purity 99%	(Lot LC19623V)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	Fluorene CAS # 86-73-7.SEC Purity 99%	(Lot 5027400)	1,000.6	µg/mL	+/- 5.8310 +/- 11.9678 +/- 19.0402	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	n-Hexadecane (C16) CAS # 544-76-3.SEC Purity 99%	(Lot A0328141)	1,000.0	µg/mL	+/- 5.8275 +/- 11.9606 +/- 19.0288	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Diethylphthalate CAS # 84-66-2.SEC Purity 99%	(Lot UMBJC)	1,000.4	µg/mL	+/- 5.8299 +/- 11.9654 +/- 19.0364	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	4-Chlorophenyl phenyl ether CAS # 7005-72-3.SEC Purity 99%	(Lot P31G)	1,000.4	µg/mL	+/- 5.8299 +/- 11.9654 +/- 19.0364	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

56	4-Nitroaniline		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 100-01-6.SEC	(Lot 5ITRC)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,000.0	µg/mL	+/-	11.6282	µg/mL	Gravimetric
	CAS # 534-52-1.SEC	(Lot 6333400)			+/-	23.9081	µg/mL	Unstressed
	Purity 99%				+/-	38.0494	µg/mL	Stressed
58	Diphenylamine		850.0	µg/mL	+/-	4.9534	µg/mL	Gravimetric
	CAS # 122-39-4.SEC	(Lot 10164691)			+/-	10.1665	µg/mL	Unstressed
	Purity 99%				+/-	16.1745	µg/mL	Stressed
59	Azobenzene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 103-33-3.SEC	(Lot JUWAG)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 101-55-3.SEC	(Lot 84C6D)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
61	Hexachlorobenzene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 118-74-1.SEC	(Lot G120431)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
62	Pentachlorophenol		2,000.4	µg/mL	+/-	11.6305	µg/mL	Gravimetric
	CAS # 87-86-5.SEC	(Lot 5784900)			+/-	23.9129	µg/mL	Unstressed
	Purity 99%				+/-	38.0570	µg/mL	Stressed
63	n-Octadecane (C18)		1,001.0	µg/mL	+/-	5.8333	µg/mL	Gravimetric
	CAS # 593-45-3.SEC	(Lot G14U045)			+/-	11.9726	µg/mL	Unstressed
	Purity 99%				+/-	19.0478	µg/mL	Stressed
64	Phenanthrene		1,002.0	µg/mL	+/-	5.8389	µg/mL	Gravimetric
	CAS # 85-01-8.SEC	(Lot 4708400)			+/-	11.9839	µg/mL	Unstressed
	Purity 98%				+/-	19.0660	µg/mL	Stressed
65	Anthracene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 120-12-7.SEC	(Lot WDFNJ)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
66	Carbazole		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 86-74-8.SEC	(Lot LMIZB)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
67	Di-n-butylphthalate		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 84-74-2.SEC	(Lot 42FSG)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
68	Fluoranthene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 206-44-0.SEC	(Lot FREGF)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
69	Pyrene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 129-00-0.SEC	(Lot ROVJC)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 85-68-7.SEC	(Lot GX3GL)			+/-	11.9605	µg/mL	Unstressed
	Purity 98%				+/-	19.0287	µg/mL	Stressed
71	Benz(a)anthracene		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 56-55-3.SEC	(Lot MTENF)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed

72	chrysene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 218-01-9.SEC	(Lot NICZC)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 117-81-7.SEC	(Lot MT8AG)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
74	Di-n-octyl phthalate		1,000.8	µg/mL	+/-	5.8322	µg/mL	Gravimetric
	CAS # 117-84-0.SEC	(Lot O8DLD)			+/-	11.9702	µg/mL	Unstressed
	Purity 99%				+/-	19.0440	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 205-99-2.SEC	(Lot 022011)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,000.6	µg/mL	+/-	5.8310	µg/mL	Gravimetric
	CAS # 207-08-9.SEC	(Lot ER041513-01)			+/-	11.9678	µg/mL	Unstressed
	Purity 99%				+/-	19.0402	µg/mL	Stressed
77	Benzo(a)pyrene		1,000.5	µg/mL	+/-	5.8302	µg/mL	Gravimetric
	CAS # 50-32-8.SEC	(Lot M8DFD)			+/-	11.9661	µg/mL	Unstressed
	Purity 97%				+/-	19.0375	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 193-39-5.SEC	(Lot 0012014)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 53-70-3.SEC	(Lot 0012011)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.1	µg/mL	+/-	5.8279	µg/mL	Gravimetric
	CAS # 191-24-2.SEC	(Lot 0022012)			+/-	11.9614	µg/mL	Unstressed
	Purity 97%				+/-	19.0302	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.

Reagent

MS-571995_00002

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0136052

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

5163450
ID: MS-571995_00002
Exp: 09/30/19 Prpd: DCK
RES HSLB Mega Mix (2017)

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : September 30, 2019 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBH5677) **Purity** 99%	1,002.0 µg/mL	+/- 5.8257 µg/mL +/- 11.9780 µg/mL +/- 19.0628 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 161108JLM) **Purity** 99%	1,002.0 µg/mL	+/- 5.8257 µg/mL +/- 11.9780 µg/mL +/- 19.0628 µg/mL	Gravimetric Unstressed Stressed
3	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	2,011.2 µg/mL	+/- 11.6933 µg/mL +/- 24.0420 µg/mL +/- 38.2625 µg/mL	Gravimetric Unstressed Stressed
4	Phenol **CAS #** 108-95-2 (Lot SHBF1351V) **Purity** 99%	1,005.1 µg/mL	+/- 5.8439 µg/mL +/- 12.0154 µg/mL +/- 19.1224 µg/mL	Gravimetric Unstressed Stressed
5	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,002.6 µg/mL	+/- 5.8292 µg/mL +/- 11.9851 µg/mL +/- 19.0742 µg/mL	Gravimetric Unstressed Stressed
6	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot SHBD4430V) **Purity** 99%	1,001.4 µg/mL	+/- 5.8222 µg/mL +/- 11.9708 µg/mL +/- 19.0513 µg/mL	Gravimetric Unstressed Stressed
7	n-Decane (C10) **CAS #** 124-18-5 (Lot SHBH3926V) **Purity** 99%	1,000.7 µg/mL	+/- 5.8180 µg/mL +/- 11.9620 µg/mL +/- 19.0374 µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol CAS # 95-57-8 Purity 99%	(Lot STBF2690V)	1,007.1	µg/mL	+/- 5.8552 +/- 12.0385 +/- 19.1592	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	1,3-Dichlorobenzene CAS # 541-73-1 Purity 99%	(Lot BCBM5751V)	1,001.0	µg/mL	+/- 5.8199 +/- 11.9660 +/- 19.0437	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	1,4-Dichlorobenzene CAS # 106-46-7 Purity 99%	(Lot MKBS4401V)	1,004.4	µg/mL	+/- 5.8397 +/- 12.0067 +/- 19.1084	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	Benzyl alcohol CAS # 100-51-6 Purity 99%	(Lot SHBC1850V)	1,005.2	µg/mL	+/- 5.8443 +/- 12.0162 +/- 19.1236	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	1,2-Dichlorobenzene CAS # 95-50-1 Purity 99%	(Lot 68996CMV)	1,001.2	µg/mL	+/- 5.8211 +/- 11.9684 +/- 19.0475	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	2-Methylphenol (o-cresol) CAS # 95-48-7 Purity 99%	(Lot SHBH6379)	1,001.6	µg/mL	+/- 5.8234 +/- 11.9732 +/- 19.0551	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	2,2'-oxybis(1-chloropropane) CAS # 108-60-1 Purity 98%	(Lot 5510800)	1,006.7	µg/mL	+/- 5.8528 +/- 12.0336 +/- 19.1513	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	Acetophenone CAS # 98-86-2 Purity 99%	(Lot STBG7113)	1,005.5	µg/mL	+/- 5.8459 +/- 12.0194 +/- 19.1287	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	3-Methylphenol (m-cresol) CAS # 108-39-4 Purity 99%	(Lot SHBD0627V)	501.0	µg/mL	+/- 2.9196 +/- 5.9923 +/- 9.5334	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	4-Methylphenol (p-cresol) CAS # 106-44-5 Purity 99%	(Lot 49396APV)	501.7	µg/mL	+/- 2.9235 +/- 6.0002 +/- 9.5461	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	N-Nitroso-di-n-propylamine CAS # 621-64-7 Purity 99%	(Lot NOPCF)	1,003.1	µg/mL	+/- 5.8323 +/- 11.9915 +/- 19.0843	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
19	Hexachloroethane CAS # 67-72-1 Purity 99%	(Lot 4H3SF)	1,003.4	µg/mL	+/- 5.8339 +/- 11.9947 +/- 19.0894	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
20	Nitrobenzene CAS # 98-95-3 Purity 99%	(Lot SHBG5577V)	1,002.3	µg/mL	+/- 5.8273 +/- 11.9812 +/- 19.0678	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
21	Isophorone CAS # 78-59-1 Purity 98%	(Lot MKBG2442V)	1,003.3	µg/mL	+/- 5.8334 +/- 11.9938 +/- 19.0879	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
22	2-Nitrophenol CAS # 88-75-5 Purity 99%	(Lot BCBH7602V)	1,007.7	µg/mL	+/- 5.8587 +/- 12.0457 +/- 19.1706	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
23	2,4-Dimethylphenol CAS # 105-67-9 Purity 99%	(Lot 10165155)	1,000.9	µg/mL	+/- 5.8191 +/- 11.9644 +/- 19.0412	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 4621000)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
25	2,4-Dichlorophenol		1,003.1	µg/mL	+/-	5.8323	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.9915	µg/mL	Unstressed
	Purity 99%				+/-	19.0843	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,005.0	µg/mL	+/-	5.8432	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	12.0138	µg/mL	Unstressed
	Purity 99%				+/-	19.1198	µg/mL	Stressed
27	Naphthalene		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
28	2,6-Dichlorophenol		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
29	4-Chloroaniline		1,001.3	µg/mL	+/-	5.8215	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	11.9692	µg/mL	Unstressed
	Purity 99%				+/-	19.0488	µg/mL	Stressed
30	Hexachlorobutadiene		1,002.5	µg/mL	+/-	5.8284	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	11.9835	µg/mL	Unstressed
	Purity 99%				+/-	19.0716	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,006.2	µg/mL	+/-	5.8501	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0282	µg/mL	Unstressed
	Purity 99%				+/-	19.1427	µg/mL	Stressed
32	2-Methylnaphthalene		1,007.7	µg/mL	+/-	5.8587	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBG8884)			+/-	12.0459	µg/mL	Unstressed
	Purity 96%				+/-	19.1708	µg/mL	Stressed
33	1-Methylnaphthalene		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-9)			+/-	12.0202	µg/mL	Unstressed
	Purity 99%				+/-	19.1300	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,004.3	µg/mL	+/-	5.8389	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0051	µg/mL	Unstressed
	Purity 99%				+/-	19.1059	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,007.1	µg/mL	+/-	5.8552	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012017H)			+/-	12.0385	µg/mL	Unstressed
	Purity 99%				+/-	19.1592	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,003.5	µg/mL	+/-	5.8342	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	11.9955	µg/mL	Unstressed
	Purity 99%				+/-	19.0907	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,006.4	µg/mL	+/-	5.8513	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	12.0306	µg/mL	Unstressed
	Purity 99%				+/-	19.1465	µg/mL	Stressed
38	2-Chloronaphthalene		1,002.9	µg/mL	+/-	5.8308	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	11.9883	µg/mL	Unstressed
	Purity 99%				+/-	19.0792	µg/mL	Stressed
39	Biphenyl		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	11.9684	µg/mL	Unstressed
	Purity 99%				+/-	19.0475	µg/mL	Stressed

40	2-Nitroaniline **CAS #** 88-74-4 **Purity** 99%	(Lot MKBK7597V)	1,004.5	µg/mL	+/- 5.8401 +/- 12.0075 +/- 19.1097	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	Acenaphthylene **CAS #** 208-96-8 **Purity** 97%	(Lot O03R)	1,006.0	µg/mL	+/- 5.8491 +/- 12.0260 +/- 19.1392	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	1,3-Dinitrobenzene **CAS #** 99-65-0 **Purity** 99%	(Lot BCBN4329V)	1,001.8	µg/mL	+/- 5.8246 +/- 11.9756 +/- 19.0590	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	Dimethylphthalate **CAS #** 131-11-3 **Purity** 99%	(Lot 10117699)	1,003.7	µg/mL	+/- 5.8358 +/- 11.9987 +/- 19.0957	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	2,6-Dinitrotoluene **CAS #** 606-20-2 **Purity** 99%	(Lot BCBB8606V)	1,000.7	µg/mL	+/- 5.8183 +/- 11.9628 +/- 19.0387	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	3-Nitroaniline **CAS #** 99-09-2 **Purity** 99%	(Lot MKBX1283V)	1,005.2	µg/mL	+/- 5.8443 +/- 12.0162 +/- 19.1236	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	Acenaphthene **CAS #** 83-32-9 **Purity** 99%	(Lot MKCC8329)	1,005.9	µg/mL	+/- 5.8482 +/- 12.0242 +/- 19.1363	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	2,4-Dinitrophenol **CAS #** 51-28-5 **Purity** 99%	(Lot STBF9439V)	2,008.3	µg/mL	+/- 11.6766 +/- 24.0077 +/- 38.2080	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	Dibenzofuran **CAS #** 132-64-9 **Purity** 99%	(Lot MKBW2691V)	1,005.5	µg/mL	+/- 5.8463 +/- 12.0202 +/- 19.1300	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	4-Nitrophenol **CAS #** 100-02-7 **Purity** 99%	(Lot MKBV0501V)	2,009.3	µg/mL	+/- 11.6824 +/- 24.0197 +/- 38.2270	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690V)	1,003.9	µg/mL	+/- 5.8366 +/- 12.0003 +/- 19.0983	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	2,3,4,6-Tetrachlorophenol **CAS #** 58-90-2 **Purity** 99%	(Lot B180305L)	1,001.9	µg/mL	+/- 5.8253 +/- 11.9772 +/- 19.0615	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	Fluorene **CAS #** 86-73-7 **Purity** 99%	(Lot 10193329)	1,002.0	µg/mL	+/- 5.8257 +/- 11.9780 +/- 19.0628	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	n-Hexadecane (C16) **CAS #** 544-76-3 **Purity** 99%	(Lot SHBG2582V)	1,001.6	µg/mL	+/- 5.8234 +/- 11.9732 +/- 19.0551	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Diethylphthalate **CAS #** 84-66-2 **Purity** 99%	(Lot MKBV9622V)	1,003.3	µg/mL	+/- 5.8335 +/- 11.9939 +/- 19.0881	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	4-Chlorophenyl phenyl ether **CAS #** 7005-72-3 **Purity** 99%	(Lot MKBX5225V)	1,001.1	µg/mL	+/- 5.8203 +/- 11.9668 +/- 19.0450	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

56	4-Nitroaniline		1,003.1	µg/mL	+/-	5.8319	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	11.9907	µg/mL	Unstressed
	Purity 98%				+/-	19.0830	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,003.7	µg/mL	+/-	11.6495	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC25844V)			+/-	23.9520	µg/mL	Unstressed
	Purity 99%				+/-	38.1192	µg/mL	Stressed
58	Diphenylamine		852.3	µg/mL	+/-	4.9555	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1888	µg/mL	Unstressed
	Purity 99%				+/-	16.2154	µg/mL	Stressed
59	Azobenzene		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBQ0927V)			+/-	12.0202	µg/mL	Unstressed
	Purity 99%				+/-	19.1300	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,022.3	µg/mL	+/-	5.9439	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	12.2210	µg/mL	Unstressed
	Purity 99%				+/-	19.4496	µg/mL	Stressed
61	Hexachlorobenzene		1,002.5	µg/mL	+/-	5.8288	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot 7013600)			+/-	11.9843	µg/mL	Unstressed
	Purity 99%				+/-	19.0729	µg/mL	Stressed
62	Pentachlorophenol		2,002.1	µg/mL	+/-	11.6406	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 170306KJA)			+/-	23.9336	µg/mL	Unstressed
	Purity 99%				+/-	38.0900	µg/mL	Stressed
63	n-Octadecane (C18)		1,002.9	µg/mL	+/-	5.8308	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot OGCDK)			+/-	11.9883	µg/mL	Unstressed
	Purity 99%				+/-	19.0792	µg/mL	Stressed
64	Phenanthrene		1,001.1	µg/mL	+/-	5.8203	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	11.9668	µg/mL	Unstressed
	Purity 99%				+/-	19.0450	µg/mL	Stressed
65	Anthracene		1,000.3	µg/mL	+/-	5.8156	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBV7759V)			+/-	11.9573	µg/mL	Unstressed
	Purity 99%				+/-	19.0298	µg/mL	Stressed
66	Carbazole		1,000.5	µg/mL	+/-	5.8168	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 6489700)			+/-	11.9596	µg/mL	Unstressed
	Purity 99%				+/-	19.0336	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.7	µg/mL	+/-	5.8470	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0218	µg/mL	Unstressed
	Purity 99%				+/-	19.1325	µg/mL	Stressed
68	Fluoranthene		1,005.5	µg/mL	+/-	5.8463	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	12.0204	µg/mL	Unstressed
	Purity 98%				+/-	19.1302	µg/mL	Stressed
69	Pyrene		1,005.8	µg/mL	+/-	5.8478	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBT5695)			+/-	12.0234	µg/mL	Unstressed
	Purity 99%				+/-	19.1351	µg/mL	Stressed
70	Benzyl butyl phthalate		1,000.3	µg/mL	+/-	5.8156	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKBZ4553V)			+/-	11.9571	µg/mL	Unstressed
	Purity 98%				+/-	19.0295	µg/mL	Stressed
71	Benz(a)anthracene		1,003.1	µg/mL	+/-	5.8323	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot 0012012)			+/-	11.9915	µg/mL	Unstressed
	Purity 98%				+/-	19.0842	µg/mL	Stressed

72	Chrysene **CAS #** 218-01-9 **Purity** 99%	(Lot 012015)	1,004.6 µg/mL	+/- 5.8408 +/- 12.0091 +/- 19.1122	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
73	Bis(2-ethylhexyl)phthalate **CAS #** 117-81-7 **Purity** 99%	(Lot MKBZ3868V)	1,002.7 µg/mL	+/- 5.8296 +/- 11.9859 +/- 19.0754	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
74	Di-n-octyl phthalate **CAS #** 117-84-0 **Purity** 99%	(Lot 6016000)	1,007.9 µg/mL	+/- 5.8602 +/- 12.0489 +/- 19.1756	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
75	Benzo(b)fluoranthene **CAS #** 205-99-2 **Purity** 99%	(Lot 012012B)	1,003.6 µg/mL	+/- 5.8350 +/- 11.9971 +/- 19.0932	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
76	Benzo(k)fluoranthene **CAS #** 207-08-9 **Purity** 99%	(Lot 012017K)	1,006.2 µg/mL	+/- 5.8501 +/- 12.0282 +/- 19.1427	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
77	Benzo(a)pyrene **CAS #** 50-32-8 **Purity** 99%	(Lot ER071309-02)	1,002.1 µg/mL	+/- 5.8261 +/- 11.9788 +/- 19.0640	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
78	Indeno(1,2,3-cd)pyrene **CAS #** 193-39-5 **Purity** 99%	(Lot ER082107-02)	1,004.0 µg/mL	+/- 5.8373 +/- 12.0019 +/- 19.1008	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
79	Dibenz(a,h)anthracene **CAS #** 53-70-3 **Purity** 99%	(Lot ER032211-01)	1,001.9 µg/mL	+/- 5.8249 +/- 11.9764 +/- 19.0602	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
80	Benzo(g,h,i)perylene **CAS #** 191-24-2 **Purity** 99%	(Lot ER05121401)	1,000.9 µg/mL	+/- 5.8195 +/- 11.9652 +/- 19.0425	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:
N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.
This lot was approved even though the %D for 4,6-DN-2-MP was greater than 10%.

Reagent

MV-567650_00027

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567650 **Lot No.:** A0124069

Description : 8260 Surrogate Standard

8260 Surrogate Standard 2,500 ug/ml, P&T Methanol, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2022 **Storage:** 0°C or colder

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dibromofluoromethane **CAS #** 1868-53-7 (Lot 0012016) **Purity** 99%	2,521.2 µg/mL	+/- 14.6582 µg/mL +/- 141.3584 µg/mL +/- 144.6660 µg/mL	Gravimetric Unstressed Stressed
2	1,2-Dichloroethane-d4 **CAS #** 17060-07-0 (Lot PR-25433) **Purity** 98%	2,513.8 µg/mL	+/- 14.6157 µg/mL +/- 140.9489 µg/mL +/- 144.2469 µg/mL	Gravimetric Unstressed Stressed
3	Toluene-d8 **CAS #** 2037-26-5 (Lot PR-27311) **Purity** 99%	2,519.4 µg/mL	+/- 14.6480 µg/mL +/- 141.2603 µg/mL +/- 144.5656 µg/mL	Gravimetric Unstressed Stressed
4	1-Bromo-4-fluorobenzene (BFB) **CAS #** 460-00-4 (Lot 20401KOV) **Purity** 99%	2,520.8 µg/mL	+/- 14.6559 µg/mL +/- 141.3360 µg/mL +/- 144.6430 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

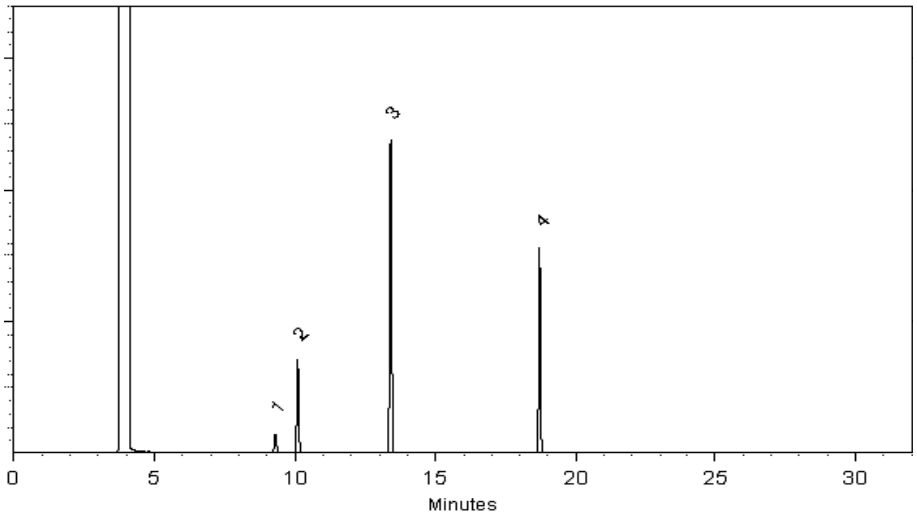
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Isaiah Harrison - Mix Technician

Date Mixed: 09-Jan-2017 **Balance:** 1128342314

Amanda Miller - Operations Tech-ARM QC

Date Passed: 11-Jan-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

rec'd 3/1/18

Catalog No. : 568718 **Lot No.:** A0127975

Description : 8260 Internal Standard 2014

8260 Internal Standard 2014 250-5,000 ug/ml, P&T Methanol, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	tert-Butyl-d9-alcohol **CAS #** 25725-11-5 **Purity** 99%	(Lot I-201)	5,022.1	µg/mL	+/- 29.1976 +/- 107.5241 +/- 110.6500	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone-d5 **CAS #** 24313-50-6 **Purity** 99%	(Lot M-276)	1,257.5	µg/mL	+/- 7.3114 +/- 26.9239 +/- 27.7067	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	Fluorobenzene **CAS #** 462-06-6 **Purity** 99%	(Lot BCBK8171V)	250.8	µg/mL	+/- 1.4613 +/- 5.3699 +/- 5.5259	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	1,4-Dioxane-d8 **CAS #** 17647-74-4 **Purity** 99%	(Lot I-19942)	5,009.4	µg/mL	+/- 29.1236 +/- 107.2514 +/- 110.3694	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Chlorobenzene-d5 **CAS #** 3114-55-4 **Purity** 99%	(Lot PR-21944)	251.7	µg/mL	+/- 1.4666 +/- 5.3891 +/- 5.5458	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 **Purity** 99%	(Lot PR-18488)	251.3	µg/mL	+/- 1.4645 +/- 5.3813 +/- 5.5377	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

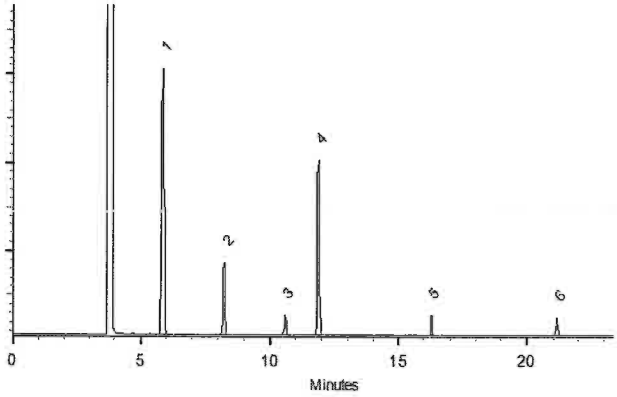
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 30-May-2017 **Balance:** 1128342314

Justine Albertson - Operations Tech-ARM QC

Date Passed: 06-Jun-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
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- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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MV-569721.sec_00005

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721.sec **Lot No.:** A0123880

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500 µg/ml, P&T Methanol/Water (90:10), 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetone	12,501.6 µg/mL	+/- 73.1996 µg/mL	Gravimetric
	CAS # 67-64-1.SEC (Lot P14A572)		+/- 754.3267 µg/mL	Unstressed
	Purity 99%		+/- 756.1173 µg/mL	Stressed
2	2-Butanone (MEK)	12,503.6 µg/mL	+/- 73.2113 µg/mL	Gravimetric
	CAS # 78-93-3.SEC (Lot RA58J)		+/- 754.4473 µg/mL	Unstressed
	Purity 99%		+/- 756.2383 µg/mL	Stressed
3	4-Methyl-2-pentanone (MIBK)	12,506.0 µg/mL	+/- 73.2254 µg/mL	Gravimetric
	CAS # 108-10-1.SEC (Lot E29T040)		+/- 754.5921 µg/mL	Unstressed
	Purity 99%		+/- 756.3834 µg/mL	Stressed
4	2-Hexanone	12,504.0 µg/mL	+/- 73.2137 µg/mL	Gravimetric
	CAS # 591-78-6.SEC (Lot V3NRA)		+/- 754.4715 µg/mL	Unstressed
	Purity 99%		+/- 756.2625 µg/mL	Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

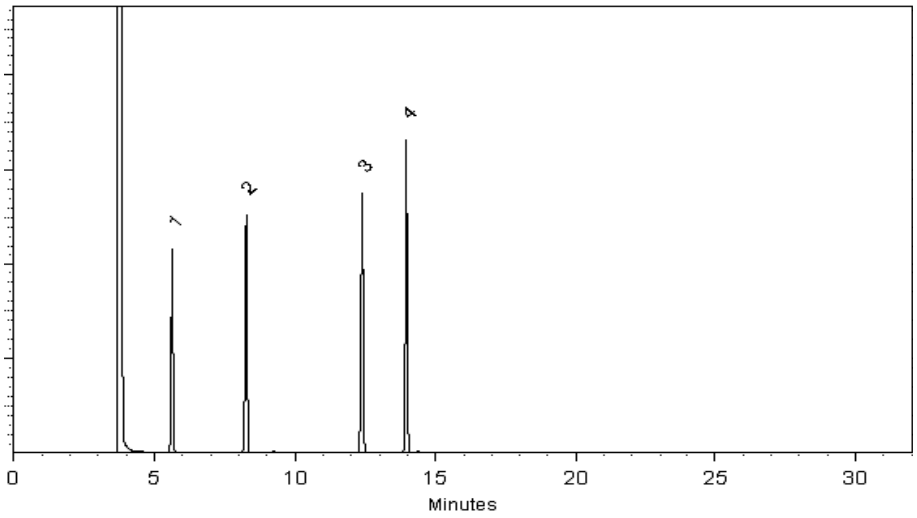
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Michael J Maye

Date Mixed: 03-Jan-2017 **Balance:** 1127510105

Jennifer L Pollino

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 05-Jan-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

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- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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MV-569722.sec_00005

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Catalog No. : 569722.SEC **Lot No.:** A0128832

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500 ug/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12)	2,505.9 µg/mL	+/- 22.3986 µg/mL	Gravimetric
	CAS # 75-71-8.SEC (Lot 23586)		+/- 141.5312 µg/mL	Unstressed
	Purity 99%		+/- 144.7955 µg/mL	Stressed
2	Chloromethane (methyl chloride)	2,503.7 µg/mL	+/- 24.8413 µg/mL	Gravimetric
	CAS # 74-87-3.SEC (Lot 18343)		+/- 141.8153 µg/mL	Unstressed
	Purity 99%		+/- 145.0675 µg/mL	Stressed
3	Vinyl chloride	2,503.2 µg/mL	+/- 25.9197 µg/mL	Gravimetric
	CAS # 75-01-4.SEC (Lot MKBK6872V)		+/- 141.9813 µg/mL	Unstressed
	Purity 99%		+/- 145.2285 µg/mL	Stressed
4	1,3-Butadiene	2,508.9 µg/mL	+/- 20.6969 µg/mL	Gravimetric
	CAS # 106-99-0.SEC (Lot 24033)		+/- 141.4379 µg/mL	Unstressed
	Purity 99%		+/- 144.7121 µg/mL	Stressed
5	Bromomethane (methyl bromide)	2,502.6 µg/mL	+/- 26.2540 µg/mL	Gravimetric
	CAS # 74-83-9.SEC (Lot Q119-46)		+/- 142.0076 µg/mL	Unstressed
	Purity 99%		+/- 145.2526 µg/mL	Stressed
6	Chloroethane (ethyl chloride)	2,510.6 µg/mL	+/- 24.9094 µg/mL	Gravimetric
	CAS # 75-00-3.SEC (Lot 00004202)		+/- 142.2038 µg/mL	Unstressed
	Purity 99%		+/- 145.4650 µg/mL	Stressed
7	Dichlorofluoromethane (CFC-21)	2,510.9 µg/mL	+/- 25.6719 µg/mL	Gravimetric
	CAS # 75-43-4.SEC (Lot SHBC0858V)		+/- 142.3575 µg/mL	Unstressed
	Purity 99%		+/- 145.6160 µg/mL	Stressed

8	Trichlorofluoromethane (CFC-11)		2,504.9	µg/mL	+/-	18.9312	µg/mL	Gravimetric
	CAS # 75-69-4.SEC	(Lot 253600)			+/-	140.9660	µg/mL	Unstressed
	Purity 99%				+/-	144.2404	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

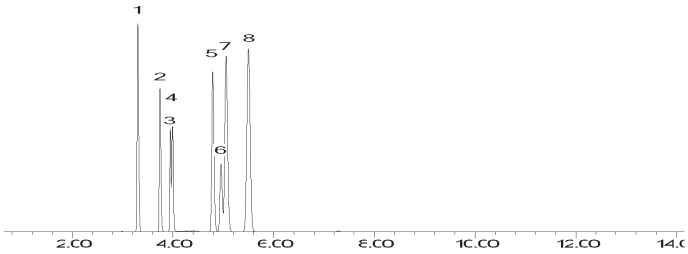
Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Mix Technician

Date Mixed: 29-Jun-2017 **Balance:** 1127510105

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 24-Jul-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
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- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

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  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
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- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

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Catalog No. : 569727 **Lot No.:** A0124672

Description : 8260 List 2/ Std #3 Cyclohexanone (2015)

8260 List 2/ Std #3 Cyclohexanone (2015) 25,000 µg/ml, Water, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 29, 2020 **Storage:** 10°C or colder

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Cyclohexanone	25,006.0 µg/mL	+/- 146.4156 µg/mL	Gravimetric
	CAS # 108-94-1 (Lot MKBN5282V)		+/- 1,508.8223 µg/mL	Unstressed
	Purity 99%		+/- 1,512.4040 µg/mL	Stressed

Solvent: Water
CAS # 7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

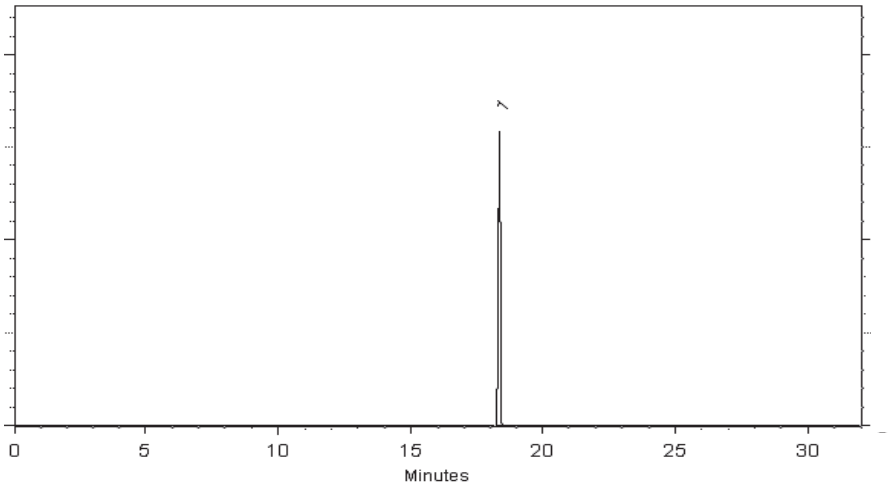
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 03-Feb-2017 **Balance:** 1125113331

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 07-Feb-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MV-571992.sec_00001

Reagent

MV-571992_00001

Reagent

MV-STS110N1_00066

Certificate of Analysis

4-Bromofluorobenzene Solution

Product Number: STS-110N **Page:** 1 of 1

Lot Number: CH-3248Z **Lot Issue Date:** 31-Aug-2016 **Expiration Date:** 31-Oct-2019

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
4-bromofluorobenzene	000460-00-4	RM03365	2005 ± 10 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store Frozen (-25° to -10°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Vincent Wang, Ph.D.
Director of QA/RA

ISO 9001
Registered
TUV USA, Inc.

250 SMITH STREET • NORTH KINGSTOWN, RHODE ISLAND 02852 • WWW.ULTRASCI.COM

Reagent

OP-569732_00001

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Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569732 **Lot No.:** A0137125

Description : 8270 List 1 / Std #11

8270 List 1 / Std #11 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : October 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)		
1	Benzaldehyde		2,001.1 µg/mL	+/- 11.6345	µg/mL	Gravimetric
	CAS # 100-52-7	(Lot SHBG8690V)		+/- 64.1460	µg/mL	Unstressed
	Purity 99%			+/- 74.5673	µg/mL	Stressed
2	epsilon-Caprolactam		2,002.0 µg/mL	+/- 11.6398	µg/mL	Gravimetric
	CAS # 105-60-2	(Lot I16X016)		+/- 64.1754	µg/mL	Unstressed
	Purity 99%			+/- 74.6014	µg/mL	Stressed
3	Atrazine		2,002.6 µg/mL	+/- 11.6432	µg/mL	Gravimetric
	CAS # 1912-24-9	(Lot 77P7D)		+/- 64.1941	µg/mL	Unstressed
	Purity 99%			+/- 74.6232	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

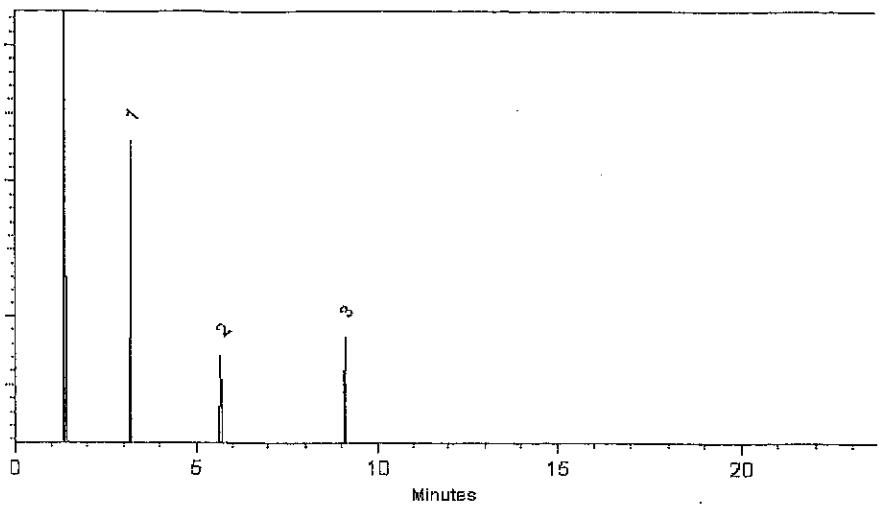
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician **Date Mixed:** 12-Apr-2018 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 16-Apr-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

OP-569732_00002

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569732 **Lot No.:** A0137125

Description : 8270 List 1 / Std #11

8270 List 1 / Std #11 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : October 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)	
1	Benzaldehyde **CAS #** 100-52-7 **Purity** 99%	(Lot SHBG8690V)	2,001.1 µg/mL	+/- 11.6345 µg/mL +/- 64.1460 µg/mL +/- 74.5673 µg/mL	Gravimetric Unstressed Stressed
2	epsilon-Caprolactam **CAS #** 105-60-2 **Purity** 99%	(Lot I16X016)	2,002.0 µg/mL	+/- 11.6398 µg/mL +/- 64.1754 µg/mL +/- 74.6014 µg/mL	Gravimetric Unstressed Stressed
3	Atrazine **CAS #** 1912-24-9 **Purity** 99%	(Lot 77P7D)	2,002.6 µg/mL	+/- 11.6432 µg/mL +/- 64.1941 µg/mL +/- 74.6232 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

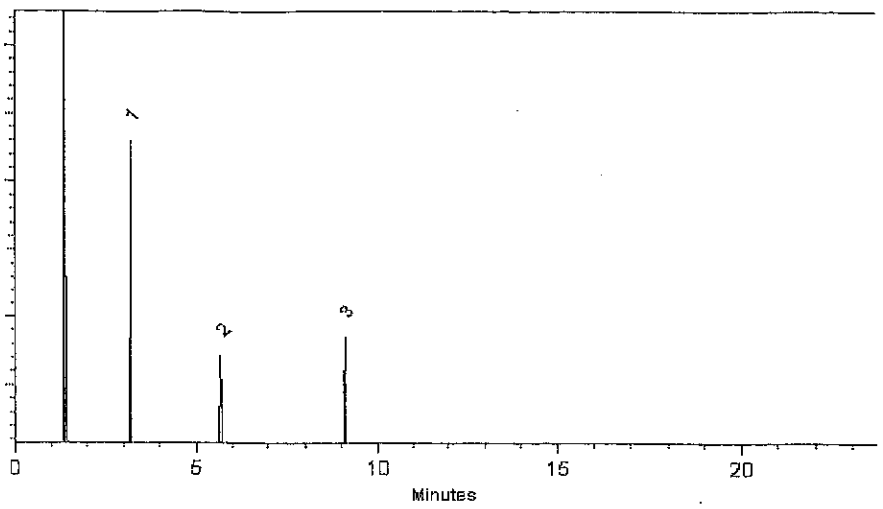
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician **Date Mixed:** 12-Apr-2018 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 16-Apr-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

OP-572556_00003

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CERTIFIED REFERENCE MATERIAL

Gravimetric Certificate

ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572556 **Lot No.:** A0127376

Description : Custom Hexachlorocyclopentadiene Standard

Custom Hexachlorocyclopentadiene Standard 4,000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Component #	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Hexachlorocyclopentadiene **CAS #** 77-47-4 (Lot 0012015) **Purity** 99%	4,019.0 µg/mL	+/- 23.585744 µg/mL +/- 225.364148 µg/mL +/- 230.636330 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Rebecca Sawver

Date Mixed: 08-May-2017 **Balance:** B345965662

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

OP-572556_00006

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CERTIFIED REFERENCE MATERIAL

Gravimetric Certificate

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572556 **Lot No.:** A0127376

Description : Custom Hexachlorocyclopentadiene Standard

Custom Hexachlorocyclopentadiene Standard 4,000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Component #	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Hexachlorocyclopentadiene **CAS #** 77-47-4 (Lot 0012015) **Purity** 99%	4,019.0 µg/mL	+/- 23.585744 µg/mL +/- 225.364148 µg/mL +/- 230.636330 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Rebecca Sawver

Date Mixed: 08-May-2017 **Balance:** B345965662

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

OP-CustBenz_00026

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CERTIFIED REFERENCE MATERIAL

Gravimetric Certificate

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

10x 5mL
Received 7/31/18
AMB

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572555 **Lot No.:** A0139914

Description : Custom Benzidines Standard

Custom Benzidines Standard 4,000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : July 31, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Component #	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	3,3'-Dichlorobenzidine		4,016.0 µg/mL	+/- 23.568138 µg/mL	Gravimetric
	CAS # 91-94-1	(Lot 170112KJA)		+/- 121.518984 µg/mL	Unstressed
	Purity 99%			+/- 121.518984 µg/mL	Stressed
2	Benzidine		4,033.0 µg/mL	+/- 23.667904 µg/mL	Gravimetric
	CAS # 92-87-5	(Lot 180406JNA)		+/- 122.033382 µg/mL	Unstressed
	Purity 99%			+/- 122.033382 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Lane Kibe - Mix Technician **Date Mixed:** 24-Jul-2018 **Balance:** 1122030677

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

PicricARestek_00080

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CERTIFIED REFERENCE MATERIAL

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Reference Material Producer
Certificate #3222.01

Certificate of Analysis

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31499 **Lot No.:** A0114009

Description : Picric Acid Standard

1000µg/mL, Methanol, 1mL/ampul *PGI BOX REQUIRED* SHIP FED EX GROUND ONLY

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Picric Acid **CAS #** 88-89-1 **Purity** 99% (Lot 06130CU)	1,004.0 µg/mL	+/- 5.9635 µg/mL +/- 53.9873 µg/mL +/- 58.7028 µg/mL		Gravimetric Unstressed Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Specific Reference Material Notes:
This is a derivatized analysis.

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SIM_LVI_SURR_00006

Preliminary Report

TestAmerica Denver

LCS, Lab Control Sample Report

Sample Path: \\ChromNA\Denver\ChromData\SMS_F\20181003-74690.b\F3780.D

Lims ID: SIM_LVI_SURR_00006 Inj. Date: 03-Oct-2018 18:34:30

Worklist ID: 280-0074690-004 Instrument: SMS_F

Method: SMSF_8270SIMX

Compound	Amount Added	Amount Recovered	%Rec	Limits 1 3510C_LVI
$ 4 Nitrobenzene-d5	2000.0	1816.9	90.8	43-120
$ 5 2-Fluorobiphenyl	2000.0	1789.6	89.5	42-120
$ 6 Terphenyl-d14	2000.0	1805.0	90.3	47-120
$ 53 2-methylnaphthalene-d10	2000.0	1964.1	98.2	
$ 54 Fluoranthene-d10	2000.0	1814.7	90.7	

Samples for Limit Group: 1, Lims Prep Method: 3510C_LVI

280-114217-H-1-A

Method 8260B

Volatile Organic Compounds (GC/MS) by Method 8260B

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-624 v1 ID: 32 (um)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
RQLmw-007-181001-GW	280-115950-4	102	102	101	98
RQLmw-008-181001-GW	280-115950-5	100	105	101	98
FWGTB-181001-TB	280-115950-6	103	105	99	101
	MB 280-436416/4	101	95	101	98
	LCS 280-436416/5	98	96	100	96

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	80-119
DCA = 1,2-Dichloroethane-d4 (Surr)	81-118
TOL = Toluene-d8 (Surr)	89-112
BFB = 4-Bromofluorobenzene (Surr)	85-114

Column to be used to flag recovery values

FORM II 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low Lab File ID: G1284.D

Lab ID: LCS 280-436416/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	5.00	100	74-131	
1,1,2,2-Tetrachloroethane	5.00	5.54	111	71-121	
1,1,2-Trichloroethane	5.00	5.59	112	80-119	
1,1-Dichloroethane	5.00	5.15	103	77-125	
1,1-Dichloroethene	5.00	4.76	95	71-131	
1,2-Dibromoethane	5.00	5.19	104	77-121	
1,2-Dichloroethane	5.00	5.06	101	73-128	
1,2-Dichloropropane	5.00	5.39	108	78-122	
2-Butanone (MEK)	20.0	21.3	106	56-143	
2-Hexanone	20.0	20.1	101	57-139	
4-Methyl-2-pentanone (MIBK)	20.0	21.9	109	67-130	
Acetone	20.0	18.0	90	39-160	
Benzene	5.00	5.24	105	79-120	
Bromobenzene	5.00	5.31	106	80-120	
Bromochloromethane	5.00	5.36	107	78-123	
Bromodichloromethane	5.00	5.27	105	79-125	
Bromoform	5.00	5.39	108	66-130	
Bromomethane	5.00	4.67	93	53-141	
Carbon disulfide	5.00	4.65	93	64-133	
Carbon tetrachloride	5.00	5.04	101	72-136	
Chlorobenzene	5.00	5.17	103	82-118	
Chloroethane	5.00	4.68	94	60-138	
Chloroform	5.00	5.14	103	79-124	
Chloromethane	5.00	4.65	93	50-139	
cis-1,3-Dichloropropene	5.00	5.56	111	75-124	
Dibromochloromethane	5.00	5.47	109	74-126	
Ethylbenzene	5.00	5.31	106	79-121	
Methylene Chloride	5.00	4.50 J	90	74-124	
Styrene	5.00	5.53	111	78-123	
Tetrachloroethene	5.00	5.13	103	74-129	
Toluene	5.00	5.40	108	80-121	
trans-1,3-Dichloropropene	5.00	5.43	109	73-127	
Trichloroethene	5.00	5.23	105	79-123	
Vinyl chloride	5.00	4.83	97	58-137	
Xylenes, Total	10.0	10.8	108	79-121	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab File ID: G1283.D Lab Sample ID: MB 280-436416/4

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: VMS_G Date Analyzed: 11/05/2018 23:51

GC Column: DB-624 v1 ID: 32(um)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-436416/5	G1284.D	11/06/2018 00:11
RQLmw-007-181001-GW	280-115950-4	G1296.D	11/06/2018 04:14
RQLmw-008-181001-GW	280-115950-5	G1297.D	11/06/2018 04:34
FWGTB-181001-TB	280-115950-6	G1298.D	11/06/2018 04:54

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab File ID: G9554.D BFB Injection Date: 09/28/2018

Instrument ID: VMS_G BFB Injection Time: 10:25

Analysis Batch No.: 431341

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	25.8	
75	30.0 - 60.0 % of mass 95	48.9	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.6	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	67.7	
175	5.0 - 9.0 % of mass 174	4.0	(5.9) 1
176	95.0 - 101.0 % of mass 174	64.5	(95.3) 1
177	5.0 - 9.0 % of mass 176	4.4	(6.8) 2

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

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICV 280-431341/24	G9573.D	09/28/2018	17:00

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab File ID: G0940.D BFB Injection Date: 10/29/2018

Instrument ID: VMS_G BFB Injection Time: 19:13

Analysis Batch No.: 435406

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	24.4	
75	30.0 - 60.0 % of mass 95	47.1	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.6	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	76.9	
175	5.0 - 9.0 % of mass 174	5.6	(7.3) 1
176	95.0 - 101.0 % of mass 174	74.8	(97.3) 1
177	5.0 - 9.0 % of mass 176	4.9	(6.6) 2

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

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD005 280-435406/10	G0942.D	10/29/2018	20:00
	STD01 280-435406/11	G0943.D	10/29/2018	20:20
	STD02 280-435406/12	G0944.D	10/29/2018	20:40
	STD05 280-435406/13	G0945.D	10/29/2018	21:01
	ICIS 280-435406/14	G0946.D	10/29/2018	21:21
	STD25 280-435406/15	G0947.D	10/29/2018	21:42
	STD60 280-435406/16	G0948.D	10/29/2018	22:02
	ICV 280-435406/17	G0950.D	10/29/2018	22:43

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab File ID: G1279.D BFB Injection Date: 11/05/2018

Instrument ID: VMS_G BFB Injection Time: 22:25

Analysis Batch No.: 436416

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	25.2	
75	30.0 - 60.0 % of mass 95	47.6	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.0	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	75.7	
175	5.0 - 9.0 % of mass 174	5.7	(7.5) 1
176	95.0 - 101.0 % of mass 174	72.3	(95.6) 1
177	5.0 - 9.0 % of mass 176	4.8	(6.7) 2

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

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-436416/2	G1281.D	11/05/2018	23:10
	CCV 280-436416/3	G1282.D	11/05/2018	23:30
	MB 280-436416/4	G1283.D	11/05/2018	23:51
	LCS 280-436416/5	G1284.D	11/06/2018	00:11
RQLmw-007-181001-GW	280-115950-4	G1296.D	11/06/2018	04:14
RQLmw-008-181001-GW	280-115950-5	G1297.D	11/06/2018	04:34
FWGTB-181001-TB	280-115950-6	G1298.D	11/06/2018	04:54
	CCVC 280-436416/30	G1305.D	11/06/2018	07:16

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Sample No.: ICIS 280-435406/14 Date Analyzed: 10/29/2018 21:21

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um)

Lab File ID (Standard): G0946.D Heated Purge: (Y/N) N

Calibration ID: 34172

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		98670	4.47	795389	6.47	150141	9.16
UPPER LIMIT		197340	4.97	1590778	6.97	300282	9.66
LOWER LIMIT		49335	3.97	397695	5.97	75071	8.66
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-435406/17		105013	4.46	867672	6.46	162862	9.15
CCV 280-436416/2		99986	4.45	713205	6.46	137088	9.16
CCV 280-436416/3		99035	4.46	701405	6.47	140028	9.16
MB 280-436416/4		91527	4.46	665561	6.46	125236	9.16
LCS 280-436416/5		92337	4.45	739494	6.46	140970	9.16
280-115950-4	RQLmw-007-181001-GW	91427	4.46	641403	6.47	121368	9.16
280-115950-5	RQLmw-008-181001-GW	92191	4.46	644793	6.47	122484	9.16
280-115950-6	FWGTB-181001-TB	81575	4.46	641245	6.46	122094	9.15
CCVC 280-436416/30		94756	4.46	651227	6.46	127071	9.16

TBAd9 = TBA-d9 (IS)
FB = Fluorobenzene
CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260B

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Sample No.: ICIS 280-435406/14 Date Analyzed: 10/29/2018 21:21

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um)

Lab File ID (Standard): G0946.D Heated Purge: (Y/N) N

Calibration ID: 34172

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		211577	11.29				
UPPER LIMIT		423154	11.79				
LOWER LIMIT		105789	10.79				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-435406/17		222059	11.28				
CCV 280-436416/2		194847	11.29				
CCV 280-436416/3		188535	11.29				
MB 280-436416/4		169947	11.29				
LCS 280-436416/5		195956	11.29				
280-115950-4	RQLmw-007-181001-GW	162041	11.29				
280-115950-5	RQLmw-008-181001-GW	162796	11.29				
280-115950-6	FWGTB-181001-TB	162579	11.28				
CCVC 280-436416/30		179412	11.28				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: RQLmw-007-181001-GW | Lab Sample ID: 280-115950-4

Matrix: Water | Lab File ID: G1296.D

Analysis Method: 8260B | Date Collected: 10/22/2018 12:50

Sample wt/vol: 20(mL) | Date Analyzed: 11/06/2018 04:14

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 436416 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.40	U H	1.0	0.40	0.16
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U H	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U H	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U H	1.0	0.80	0.22
75-35-4	1,1-Dichloroethene	0.80	U H	1.0	0.80	0.23
106-93-4	1,2-Dibromoethane	0.40	U H	1.0	0.40	0.18
107-06-2	1,2-Dichloroethane	0.40	U H	1.0	0.40	0.13
540-59-0	1,2-Dichloroethene, Total	0.20	U H	1.0	0.20	0.24
78-87-5	1,2-Dichloropropane	0.40	U H	1.0	0.40	0.18
78-93-3	2-Butanone (MEK)	4.0	U H	6.0	4.0	2.0
591-78-6	2-Hexanone	4.0	U H	5.0	4.0	1.7
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U H	5.0	3.2	0.98
67-64-1	Acetone	6.4	U M H	10	6.4	1.9
71-43-2	Benzene	0.40	U H	1.0	0.40	0.16
108-86-1	Bromobenzene	0.40	U H	1.0	0.40	0.17
74-97-5	Bromochloromethane	0.20	U H	1.0	0.20	0.10
75-27-4	Bromodichloromethane	0.40	U H	1.0	0.40	0.17
75-25-2	Bromoform	0.40	U H	1.0	0.40	0.19
74-83-9	Bromomethane	0.80	U H	2.0	0.80	0.21
75-15-0	Carbon disulfide	1.6	U H	2.0	1.6	0.45
56-23-5	Carbon tetrachloride	0.40	U H	2.0	0.40	0.19
108-90-7	Chlorobenzene	0.40	U H	1.0	0.40	0.17
75-00-3	Chloroethane	1.6	U H	2.0	1.6	0.41
67-66-3	Chloroform	0.40	U H	1.0	0.40	0.16
74-87-3	Chloromethane	0.80	U H	2.0	0.80	0.30
10061-01-5	cis-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.16
124-48-1	Dibromochloromethane	0.40	U H	1.0	0.40	0.17
100-41-4	Ethylbenzene	0.40	U H	1.0	0.40	0.16
75-09-2	Methylene Chloride	0.80	U H	5.0	0.80	0.32
100-42-5	Styrene	0.40	U H	1.0	0.40	0.17
127-18-4	Tetrachloroethene	0.40	U H	1.0	0.40	0.20
108-88-3	Toluene	0.40	U H	1.0	0.40	0.17
10061-02-6	trans-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.19
79-01-6	Trichloroethene	0.40	U H	1.0	0.40	0.16
75-01-4	Vinyl chloride	0.20	U H	1.5	0.20	0.10
1330-20-7	Xylenes, Total	0.80	U H	1.0	0.80	0.19

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: RQLmw-007-181001-GW | Lab Sample ID: 280-115950-4

Matrix: Water | Lab File ID: G1296.D

Analysis Method: 8260B | Date Collected: 10/22/2018 12:50

Sample wt/vol: 20(mL) | Date Analyzed: 11/06/2018 04:14

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 436416 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		81-118
460-00-4	4-Bromofluorobenzene (Surr)	98		85-114
1868-53-7	Dibromofluoromethane (Surr)	102		80-119
2037-26-5	Toluene-d8 (Surr)	101		89-112

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1296.D
Lims ID: 280-115950-K-4
Client ID: RQLmw-007-181001-GW
Sample Type: Client
Inject. Date: 06-Nov-2018 04:14:30 ALS Bottle#: 26 Worklist Smp#: 21
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: 280-115950-K-4 pH<2
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 07-Nov-2018 18:09:09 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0322

First Level Reviewer: newcomer Date: 06-Nov-2018 22:39:28

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.457	4.453	0.004	0	91427	250.0	
* 149 1,4-Dioxane-d8	96		4.687				ND	
* 1 Fluorobenzene	96	6.465	6.462	0.003	97	641403	12.5	
* 2 Chlorobenzene-d5	119	9.163	9.160	0.003	90	121368	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.290	11.286	0.004	97	162041	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.884	5.881	0.003	91	185341	10.2	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.180	6.176	0.004	0	137855	10.2	
$ 7 Toluene-d8 (Surr)	98	7.814	7.820	-0.006	96	552861	10.1	
$ 8 4-Bromofluorobenzene (Surr	95	10.266	10.272	-0.006	86	170194	9.84	
27 Chloromethane	50		3.104				ND	
28 Vinyl chloride	62		3.212				ND	
31 Bromomethane	94		3.527				ND	
32 Chloroethane	64		3.576				ND	
42 Acetone	43		4.167				ND	U
45 1,1-Dichloroethene	96		4.197				ND	
50 Carbon disulfide	76		4.453				ND	
52 Methylene Chloride	84		4.541				ND	
55 trans-1,2-Dichloroethene	96		4.768				ND	
59 1,1-Dichloroethane	63		5.083				ND	
62 2-Butanone (MEK)	43		5.477				ND	
66 cis-1,2-Dichloroethene	96	5.530	5.526	0.004	76	2030	0.1024	
69 Chlorobromomethane	128		5.723				ND	
70 Chloroform	83		5.753				ND	
73 1,1,1-Trichloroethane	97		5.969				ND	
76 Carbon tetrachloride	117		6.127				ND	
77 1,2-Dichloroethane	62		6.245				ND	
79 Benzene	78		6.265				ND	
81 Trichloroethene	95		6.777				ND	
84 1,2-Dichloropropane	63		6.964				ND	
88 Dichlorobromomethane	83		7.161				ND	
91 cis-1,3-Dichloropropene	75		7.545				ND	
92 4-Methyl-2-pentanone (MIBK	43		7.623				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
93 Toluene	91		7.879				ND	
95 trans-1,3-Dichloropropene	75		8.007				ND	
96 1,1,2-Trichloroethane	97		8.195				ND	
97 2-Hexanone	43		8.372				ND	
99 Tetrachloroethene	164		8.401				ND	
100 Chlorodibromomethane	129		8.598				ND	
102 Ethylene Dibromide	107		8.736				ND	
104 Chlorobenzene	112		9.189				ND	
106 Ethylbenzene	106		9.268				ND	
107 m-Xylene & p-Xylene	106		9.366				ND	
108 o-Xylene	106		9.760				ND	
109 Styrene	104		9.770				ND	
110 Bromoform	173		9.977				ND	
114 1,1,2,2-Tetrachloroethane	83		10.341				ND	
117 Bromobenzene	156		10.449				ND	
S 141 Xylenes, Total	106		0.000				ND	
S 140 1,2-Dichloroethene, Total	1					0	0.1024	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

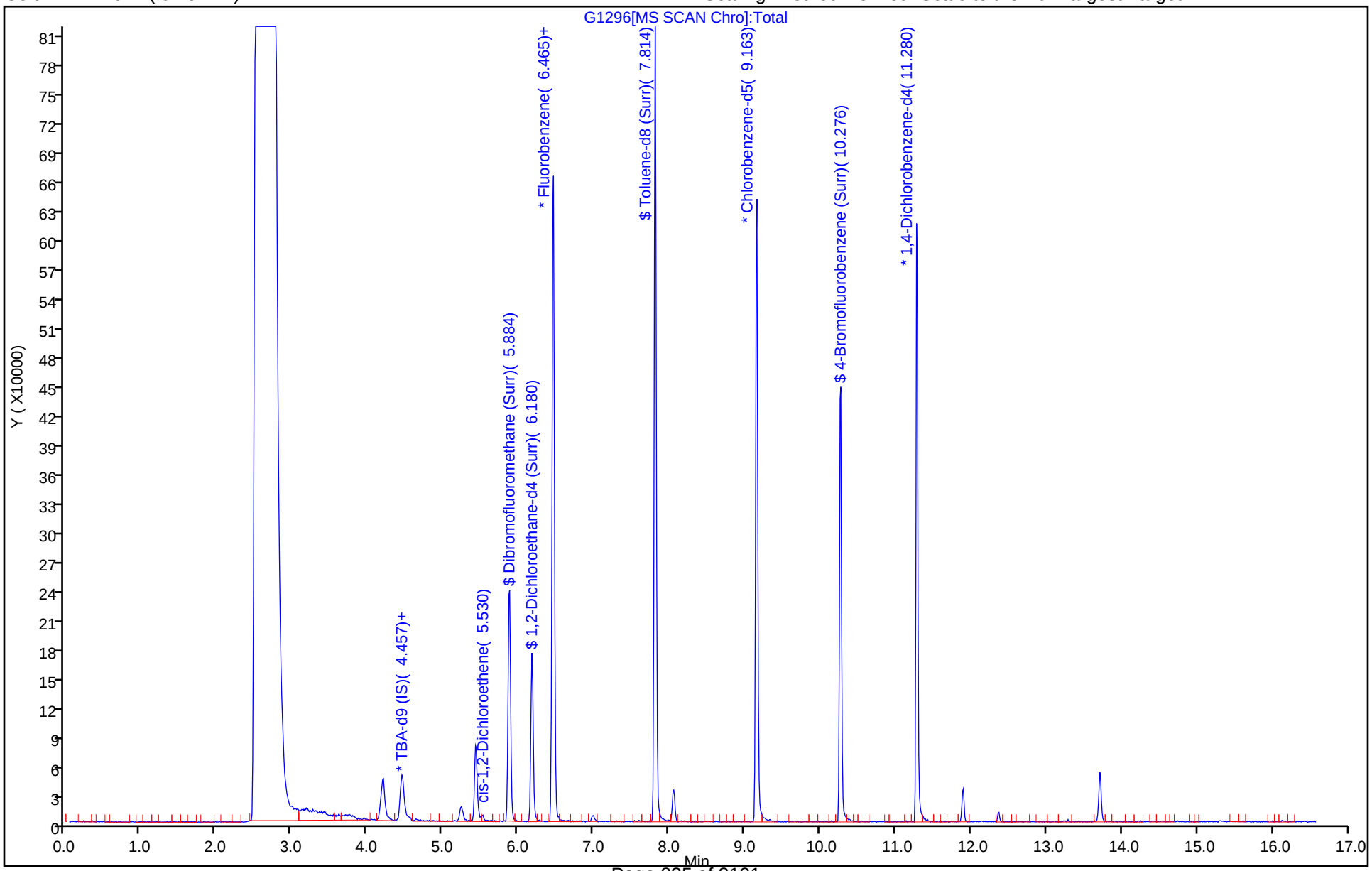
Report Date: 07-Nov-2018 18:09:37 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1296.D

Injection Date:	06-Nov-2018 04:14:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	280-115950-K-4	Lab Sample ID:	280-115950-4	Worklist Smp#:	21
Client ID:	RQLmw-007-181001-GW				
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1296.D				
Lims ID:	280-115950-K-4				
Client ID:	RQLmw-007-181001-GW				
Sample Type:	Client				
Inject. Date:	06-Nov-2018 04:14:30	ALS Bottle#:	26	Worklist Smp#:	21
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	280-115950-K-4 pH<2				
Operator ID:	newcomer	Instrument ID:	VMS_G		
Method:	\\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\AQ_VMSG_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	07-Nov-2018 18:09:09	Calib Date:	29-Oct-2018 22:02:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D				
Column 1 :	DB-624 (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0322				

First Level Reviewer: newcomer Date: 06-Nov-2018 22:39:28

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	10.0	10.2	102.37
$ 6 1,2-Dichloroethane-d4 (Surr)	10.0	10.2	102.07
$ 7 Toluene-d8 (Surr)	10.0	10.1	100.52
$ 8 4-Bromofluorobenzene (Surr)	10.0	9.84	98.40

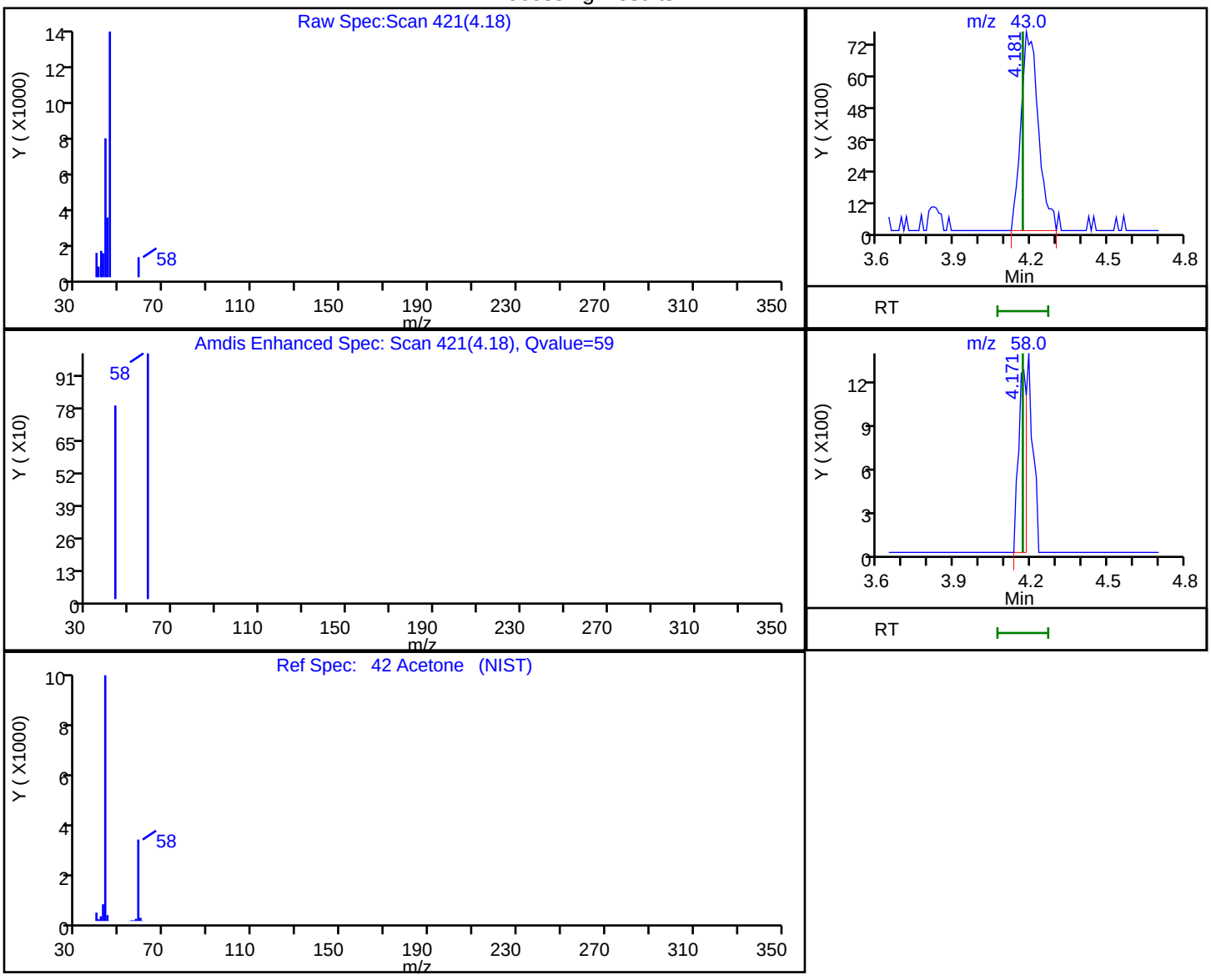
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1296.D				
Injection Date:	06-Nov-2018 04:14:30	Instrument ID:	VMS_G		
Lims ID:	280-115950-K-4	Lab Sample ID:	280-115950-4		
Client ID:	RQLmw-007-181001-GW				
Operator ID:	newcomer	ALS Bottle#:	26	Worklist Smp#:	21
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	DB-624 (0.25 mm)	Detector	MS SCAN		

42 Acetone, CAS: 67-64-1

Processing Results



RT	Mass	Response	Amount
4.18	43.00	36264	13.978162
4.17	58.00	2871	

Reviewer: newcomer, 06-Nov-2018 22:39:17

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: RQLmw-008-181001-GW | Lab Sample ID: 280-115950-5

Matrix: Water | Lab File ID: G1297.D

Analysis Method: 8260B | Date Collected: 10/22/2018 10:05

Sample wt/vol: 20(mL) | Date Analyzed: 11/06/2018 04:34

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 436416 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.40	U H	1.0	0.40	0.16
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U H	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U H	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U H	1.0	0.80	0.22
75-35-4	1,1-Dichloroethene	0.80	U H	1.0	0.80	0.23
106-93-4	1,2-Dibromoethane	0.40	U H	1.0	0.40	0.18
107-06-2	1,2-Dichloroethane	0.40	U H	1.0	0.40	0.13
540-59-0	1,2-Dichloroethene, Total	0.20	U H	1.0	0.20	0.24
78-87-5	1,2-Dichloropropane	0.40	U H	1.0	0.40	0.18
78-93-3	2-Butanone (MEK)	4.0	U H	6.0	4.0	2.0
591-78-6	2-Hexanone	4.0	U H	5.0	4.0	1.7
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U H	5.0	3.2	0.98
67-64-1	Acetone	6.4	U M H	10	6.4	1.9
71-43-2	Benzene	0.40	U H	1.0	0.40	0.16
108-86-1	Bromobenzene	0.40	U H	1.0	0.40	0.17
74-97-5	Bromochloromethane	0.20	U H	1.0	0.20	0.10
75-27-4	Bromodichloromethane	0.40	U H	1.0	0.40	0.17
75-25-2	Bromoform	0.40	U H	1.0	0.40	0.19
74-83-9	Bromomethane	0.80	U H	2.0	0.80	0.21
75-15-0	Carbon disulfide	1.6	U H	2.0	1.6	0.45
56-23-5	Carbon tetrachloride	0.40	U H	2.0	0.40	0.19
108-90-7	Chlorobenzene	0.40	U H	1.0	0.40	0.17
75-00-3	Chloroethane	1.6	U H	2.0	1.6	0.41
67-66-3	Chloroform	0.40	U H	1.0	0.40	0.16
74-87-3	Chloromethane	0.80	U H	2.0	0.80	0.30
10061-01-5	cis-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.16
124-48-1	Dibromochloromethane	0.40	U H	1.0	0.40	0.17
100-41-4	Ethylbenzene	0.40	U H	1.0	0.40	0.16
75-09-2	Methylene Chloride	0.80	U H	5.0	0.80	0.32
100-42-5	Styrene	0.40	U H	1.0	0.40	0.17
127-18-4	Tetrachloroethene	0.40	U H	1.0	0.40	0.20
108-88-3	Toluene	0.40	U H	1.0	0.40	0.17
10061-02-6	trans-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.19
79-01-6	Trichloroethene	0.40	U H	1.0	0.40	0.16
75-01-4	Vinyl chloride	0.20	U H	1.5	0.20	0.10
1330-20-7	Xylenes, Total	0.80	U H	1.0	0.80	0.19

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: RQLmw-008-181001-GW | Lab Sample ID: 280-115950-5

Matrix: Water | Lab File ID: G1297.D

Analysis Method: 8260B | Date Collected: 10/22/2018 10:05

Sample wt/vol: 20(mL) | Date Analyzed: 11/06/2018 04:34

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 436416 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		81-118
460-00-4	4-Bromofluorobenzene (Surr)	98		85-114
1868-53-7	Dibromofluoromethane (Surr)	100		80-119
2037-26-5	Toluene-d8 (Surr)	101		89-112

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1297.D
Lims ID: 280-115950-M-5
Client ID: RQLmw-008-181001-GW
Sample Type: Client
Inject. Date: 06-Nov-2018 04:34:30 ALS Bottle#: 27 Worklist Smp#: 22
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: 280-115950-M-5 pH<2
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 07-Nov-2018 18:09:09 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0322

First Level Reviewer: newcomer Date: 06-Nov-2018 22:40:02

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.456	4.453	0.003	0	92191	250.0	
* 149 1,4-Dioxane-d8	96		4.687				ND	
* 1 Fluorobenzene	96	6.465	6.462	0.003	97	644793	12.5	
* 2 Chlorobenzene-d5	119	9.163	9.160	0.003	91	122484	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.290	11.286	0.004	97	162796	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.884	5.881	0.003	91	181701	9.98	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.179	6.176	0.003	0	142025	10.5	
$ 7 Toluene-d8 (Surr)	98	7.814	7.820	-0.006	95	558969	10.1	
$ 8 4-Bromofluorobenzene (Surr	95	10.266	10.272	-0.006	86	170160	9.79	
27 Chloromethane	50		3.104				ND	
28 Vinyl chloride	62		3.212				ND	
31 Bromomethane	94		3.527				ND	
32 Chloroethane	64		3.576				ND	
42 Acetone	43		4.167				ND	U
45 1,1-Dichloroethene	96		4.197				ND	
50 Carbon disulfide	76		4.453				ND	
52 Methylene Chloride	84		4.541				ND	
55 trans-1,2-Dichloroethene	96		4.768				ND	
59 1,1-Dichloroethane	63		5.083				ND	
62 2-Butanone (MEK)	43		5.477				ND	
66 cis-1,2-Dichloroethene	96		5.526				ND	
69 Chlorobromomethane	128		5.723				ND	
70 Chloroform	83		5.753				ND	
73 1,1,1-Trichloroethane	97		5.969				ND	
76 Carbon tetrachloride	117		6.127				ND	
77 1,2-Dichloroethane	62		6.245				ND	
79 Benzene	78		6.265				ND	
81 Trichloroethene	95		6.777				ND	
84 1,2-Dichloropropane	63		6.964				ND	
88 Dichlorobromomethane	83		7.161				ND	
91 cis-1,3-Dichloropropene	75		7.545				ND	
92 4-Methyl-2-pentanone (MIBK	43		7.623				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
93 Toluene	91		7.879				ND	
95 trans-1,3-Dichloropropene	75		8.007				ND	
96 1,1,2-Trichloroethane	97		8.195				ND	
97 2-Hexanone	43		8.372				ND	
99 Tetrachloroethene	164		8.401				ND	
100 Chlorodibromomethane	129		8.598				ND	
102 Ethylene Dibromide	107		8.736				ND	
104 Chlorobenzene	112		9.189				ND	
106 Ethylbenzene	106		9.268				ND	
107 m-Xylene & p-Xylene	106		9.366				ND	
108 o-Xylene	106		9.760				ND	
109 Styrene	104		9.770				ND	
110 Bromoform	173		9.977				ND	
114 1,1,2,2-Tetrachloroethane	83		10.341				ND	
117 Bromobenzene	156		10.449				ND	
S 141 Xylenes, Total	106		0.000				ND	
S 140 1,2-Dichloroethene, Total	1		0.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

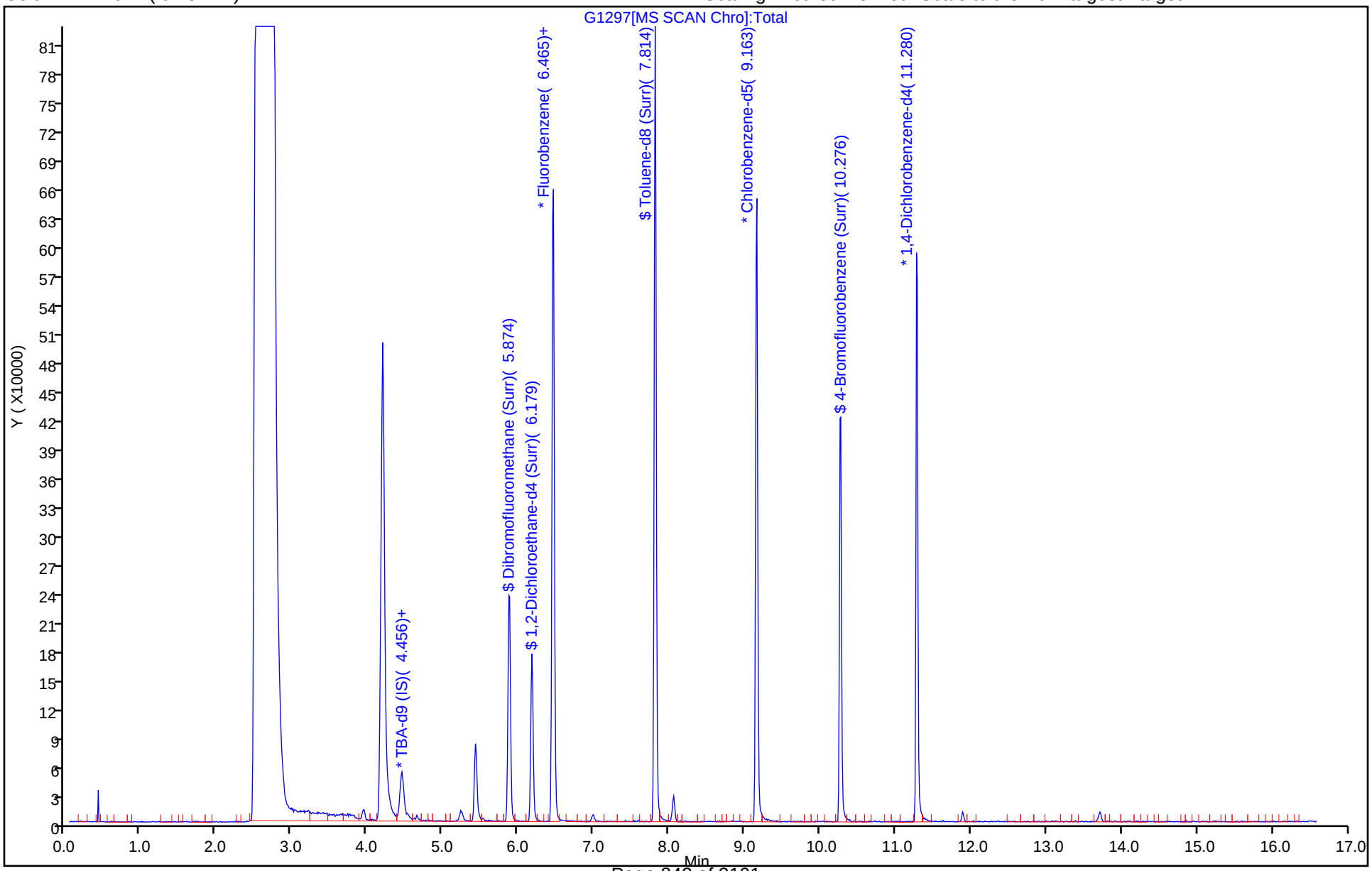
Report Date: 07-Nov-2018 18:09:39 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1297.D

Injection Date:	06-Nov-2018 04:34:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	280-115950-M-5	Lab Sample ID:	280-115950-5	Worklist Smp#:	22
Client ID:	RQLmw-008-181001-GW				
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1297.D				
Lims ID:	280-115950-M-5				
Client ID:	RQLmw-008-181001-GW				
Sample Type:	Client				
Inject. Date:	06-Nov-2018 04:34:30	ALS Bottle#:	27	Worklist Smp#:	22
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	280-115950-M-5 pH<2				
Operator ID:	newcomer	Instrument ID:	VMS_G		
Method:	\\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\AQ_VMSG_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	07-Nov-2018 18:09:09	Calib Date:	29-Oct-2018 22:02:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D				
Column 1 :	DB-624 (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0322				

First Level Reviewer: newcomer Date: 06-Nov-2018 22:40:02

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	10.0	9.98	99.83
$ 6 1,2-Dichloroethane-d4 (Surr)	10.0	10.5	104.60
$ 7 Toluene-d8 (Surr)	10.0	10.1	100.70
$ 8 4-Bromofluorobenzene (Surr)	10.0	9.79	97.92

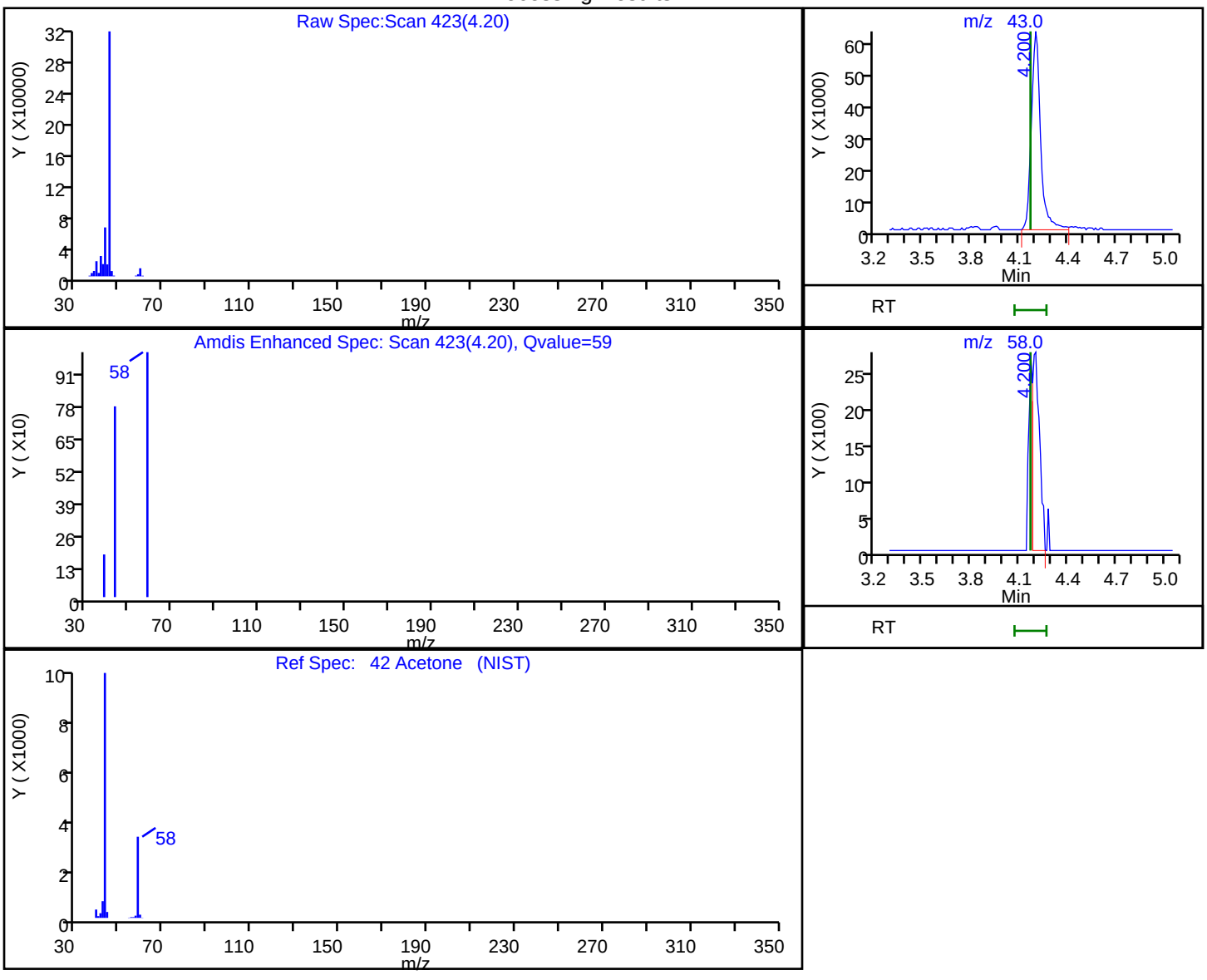
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1297.D				
Injection Date:	06-Nov-2018 04:34:30	Instrument ID:	VMS_G		
Lims ID:	280-115950-M-5	Lab Sample ID:	280-115950-5		
Client ID:	RQLmw-008-181001-GW				
Operator ID:	newcomer	ALS Bottle#:	27	Worklist Smp#:	22
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	DB-624 (0.25 mm)	Detector	MS SCAN		

42 Acetone, CAS: 67-64-1

Processing Results



RT	Mass	Response	Amount
4.20	43.00	256039	109.0038
4.20	58.00	8363	

Reviewer: newcomer, 06-Nov-2018 22:39:54

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: FWGTB-181001-TB | Lab Sample ID: 280-115950-6

Matrix: Water | Lab File ID: G1298.D

Analysis Method: 8260B | Date Collected: 10/22/2018 10:05

Sample wt/vol: 20(mL) | Date Analyzed: 11/06/2018 04:54

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 436416 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.40	U H	1.0	0.40	0.16
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U H	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U H	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U H	1.0	0.80	0.22
75-35-4	1,1-Dichloroethene	0.80	U H	1.0	0.80	0.23
106-93-4	1,2-Dibromoethane	0.40	U H	1.0	0.40	0.18
107-06-2	1,2-Dichloroethane	0.40	U H	1.0	0.40	0.13
540-59-0	1,2-Dichloroethene, Total	0.20	U H	1.0	0.20	0.24
78-87-5	1,2-Dichloropropane	0.40	U H	1.0	0.40	0.18
78-93-3	2-Butanone (MEK)	4.0	U H	6.0	4.0	2.0
591-78-6	2-Hexanone	4.0	U H	5.0	4.0	1.7
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U H	5.0	3.2	0.98
67-64-1	Acetone	6.4	U H	10	6.4	1.9
71-43-2	Benzene	0.40	U H	1.0	0.40	0.16
108-86-1	Bromobenzene	0.40	U H	1.0	0.40	0.17
74-97-5	Bromochloromethane	0.20	U H	1.0	0.20	0.10
75-27-4	Bromodichloromethane	0.40	U H	1.0	0.40	0.17
75-25-2	Bromoform	0.40	U H	1.0	0.40	0.19
74-83-9	Bromomethane	0.80	U H	2.0	0.80	0.21
75-15-0	Carbon disulfide	1.6	U H	2.0	1.6	0.45
56-23-5	Carbon tetrachloride	0.40	U H	2.0	0.40	0.19
108-90-7	Chlorobenzene	0.40	U H	1.0	0.40	0.17
75-00-3	Chloroethane	1.6	U H	2.0	1.6	0.41
67-66-3	Chloroform	0.40	U H	1.0	0.40	0.16
74-87-3	Chloromethane	0.80	U H	2.0	0.80	0.30
10061-01-5	cis-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.16
124-48-1	Dibromochloromethane	0.40	U H	1.0	0.40	0.17
100-41-4	Ethylbenzene	0.40	U H	1.0	0.40	0.16
75-09-2	Methylene Chloride	0.80	U H	5.0	0.80	0.32
100-42-5	Styrene	0.40	U H	1.0	0.40	0.17
127-18-4	Tetrachloroethene	0.40	U H	1.0	0.40	0.20
108-88-3	Toluene	0.40	U H	1.0	0.40	0.17
10061-02-6	trans-1,3-Dichloropropene	0.40	U H	1.0	0.40	0.19
79-01-6	Trichloroethene	0.40	U H	1.0	0.40	0.16
75-01-4	Vinyl chloride	0.20	U H	1.5	0.20	0.10
1330-20-7	Xylenes, Total	0.80	U H	1.0	0.80	0.19

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: FWGTB-181001-TB | Lab Sample ID: 280-115950-6

Matrix: Water | Lab File ID: G1298.D

Analysis Method: 8260B | Date Collected: 10/22/2018 10:05

Sample wt/vol: 20(mL) | Date Analyzed: 11/06/2018 04:54

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 436416 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		81-118
460-00-4	4-Bromofluorobenzene (Surr)	101		85-114
1868-53-7	Dibromofluoromethane (Surr)	103		80-119
2037-26-5	Toluene-d8 (Surr)	99		89-112

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1298.D
Lims ID: 280-115950-A-6
Client ID: FWGTB-181001-TB
Sample Type: Client
Inject. Date: 06-Nov-2018 04:54:30 ALS Bottle#: 28 Worklist Smp#: 23
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: 280-115950-A-6 pH<2
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 07-Nov-2018 18:09:09 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0322

First Level Reviewer: newcomer Date: 06-Nov-2018 22:40:23

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.458	4.453	0.005	0	81575	250.0	
* 149 1,4-Dioxane-d8	96		4.687				ND	
* 1 Fluorobenzene	96	6.456	6.462	-0.006	97	641245	12.5	
* 2 Chlorobenzene-d5	119	9.154	9.160	-0.006	92	122094	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.281	11.286	-0.005	97	162579	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.876	5.881	-0.005	91	185702	10.3	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.181	6.176	0.005	0	141186	10.5	
$ 7 Toluene-d8 (Surr)	98	7.815	7.820	-0.005	96	547573	9.90	
$ 8 4-Bromofluorobenzene (Surr	95	10.267	10.272	-0.005	85	176084	10.1	
27 Chloromethane	50		3.104				ND	
28 Vinyl chloride	62		3.212				ND	
31 Bromomethane	94		3.527				ND	
32 Chloroethane	64		3.576				ND	
42 Acetone	43		4.167				ND	
45 1,1-Dichloroethene	96		4.197				ND	
50 Carbon disulfide	76		4.453				ND	
52 Methylene Chloride	84		4.541				ND	
55 trans-1,2-Dichloroethene	96		4.768				ND	
59 1,1-Dichloroethane	63		5.083				ND	
62 2-Butanone (MEK)	43		5.477				ND	
66 cis-1,2-Dichloroethene	96		5.526				ND	
69 Chlorobromomethane	128		5.723				ND	
70 Chloroform	83		5.753				ND	
73 1,1,1-Trichloroethane	97		5.969				ND	
76 Carbon tetrachloride	117		6.127				ND	
77 1,2-Dichloroethane	62		6.245				ND	
79 Benzene	78		6.265				ND	
81 Trichloroethene	95		6.777				ND	
84 1,2-Dichloropropane	63		6.964				ND	
88 Dichlorobromomethane	83		7.161				ND	
91 cis-1,3-Dichloropropene	75		7.545				ND	
92 4-Methyl-2-pentanone (MIBK	43		7.623				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
93 Toluene	91		7.879				ND	
95 trans-1,3-Dichloropropene	75		8.007				ND	
96 1,1,2-Trichloroethane	97		8.195				ND	
97 2-Hexanone	43		8.372				ND	
99 Tetrachloroethene	164		8.401				ND	
100 Chlorodibromomethane	129		8.598				ND	
102 Ethylene Dibromide	107		8.736				ND	
104 Chlorobenzene	112		9.189				ND	
106 Ethylbenzene	106		9.268				ND	
107 m-Xylene & p-Xylene	106		9.366				ND	
108 o-Xylene	106		9.760				ND	
109 Styrene	104		9.770				ND	
110 Bromoform	173		9.977				ND	
114 1,1,2,2-Tetrachloroethane	83		10.341				ND	
117 Bromobenzene	156		10.449				ND	
S 141 Xylenes, Total	106		0.000				ND	
S 140 1,2-Dichloroethene, Total	1		0.000				ND	

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

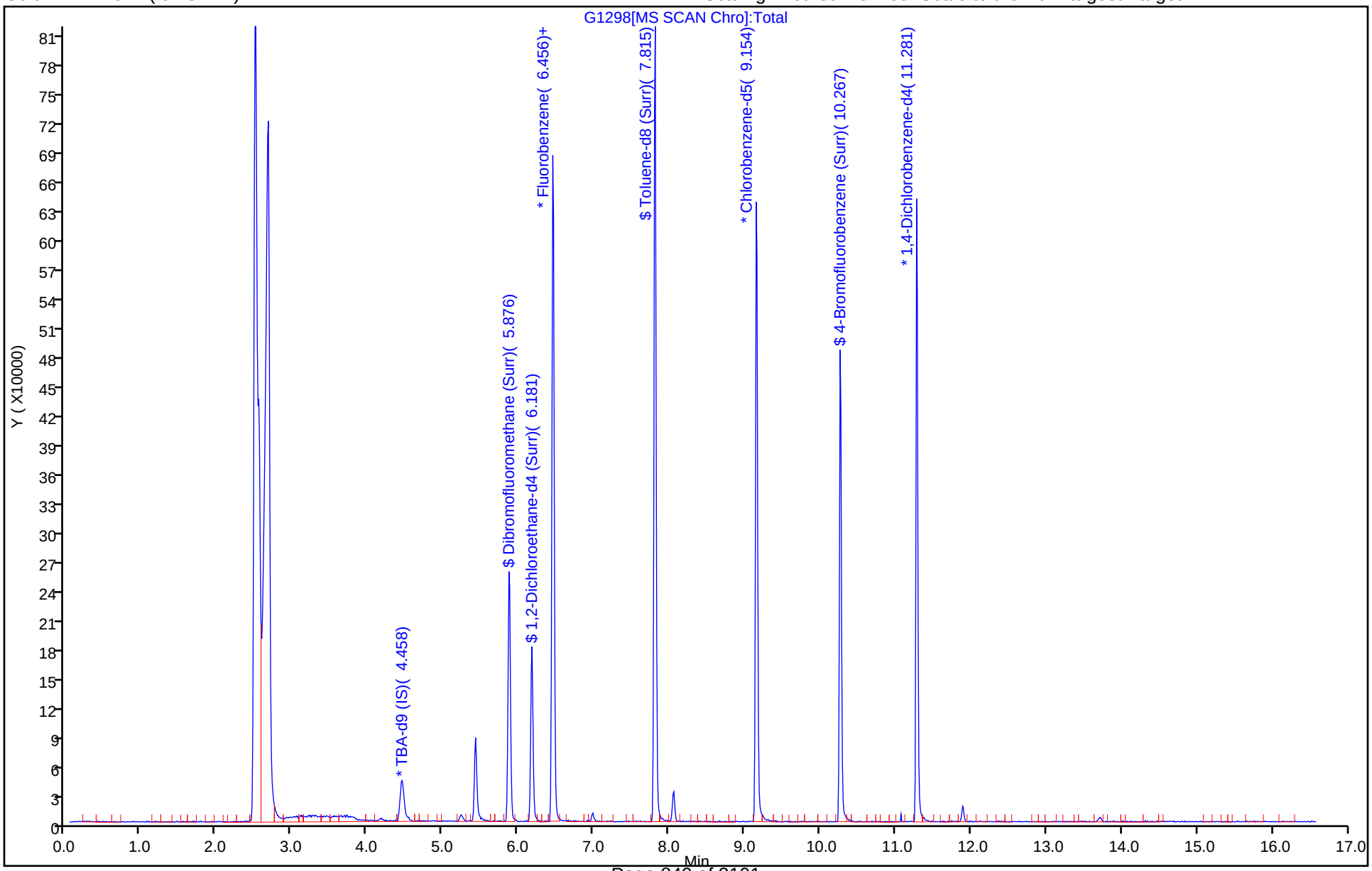
Report Date: 07-Nov-2018 18:09:40 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1298.D

Injection Date:	06-Nov-2018 04:54:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	280-115950-A-6	Lab Sample ID:	280-115950-6	Worklist Smp#:	23
Client ID:	FWGTB-181001-TB				
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	28
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1298.D				
Lims ID:	280-115950-A-6				
Client ID:	FWGTB-181001-TB				
Sample Type:	Client				
Inject. Date:	06-Nov-2018 04:54:30	ALS Bottle#:	28	Worklist Smp#:	23
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	280-115950-A-6 pH<2				
Operator ID:	newcomer	Instrument ID:	VMS_G		
Method:	\\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\AQ_VMSG_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	07-Nov-2018 18:09:09	Calib Date:	29-Oct-2018 22:02:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D				
Column 1 :	DB-624 (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0322				

First Level Reviewer: newcomer Date: 06-Nov-2018 22:40:23

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	10.0	10.3	102.60
$ 6 1,2-Dichloroethane-d4 (Surr)	10.0	10.5	104.56
$ 7 Toluene-d8 (Surr)	10.0	9.90	98.96
$ 8 4-Bromofluorobenzene (Surr)	10.0	10.1	101.47

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD005 280-435406/10	G0942.D
Level 2	STD01 280-435406/11	G0943.D
Level 3	STD02 280-435406/12	G0944.D
Level 4	STD05 280-435406/13	G0945.D
Level 5	ICIS 280-435406/14	G0946.D
Level 6	STD25 280-435406/15	G0947.D
Level 7	STD60 280-435406/16	G0948.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.5189 0.5625	0.5192 0.5472	0.4952	0.4596	0.5696	Ave		0.5246				7.4		15.0			
Chloromethane	0.5888 0.6094	0.6399 0.5838	0.5904	0.5747	0.6225	Ave		0.6014			0.1000	3.9		15.0			
Vinyl chloride	0.4750 0.4885	0.5013 0.4370	0.4768	0.4392	0.5053	Ave		0.4747				5.8		30.0			
Bromomethane	0.3729 0.3122	0.3563 0.2744	0.3236	0.2990	0.3253	Ave		0.3234				10.3		15.0			
Chloroethane	0.2305 0.2311	0.2431 0.2008	0.2290	0.2234	0.2376	Ave		0.2279				5.9		15.0			
Dichlorofluoromethane	0.6257 0.6600	0.6778 0.6050	0.5995	0.6360	0.6764	Ave		0.6401				5.0		15.0			
Trichlorofluoromethane	0.6367 0.6171	0.6476 0.5651	0.5953	0.5753	0.6286	Ave		0.6094				5.2		15.0			
Ethyl ether	0.1418 0.1750	0.1651 0.1603	0.1673	0.1533	0.1747	Ave		0.1625				7.3		15.0			
Acrolein	0.0186 0.0214	0.0211 0.0208	0.0195	0.0192	0.0199	Ave		0.0201				5.3		15.0			
Acetone	0.0842 0.0457	0.0664 0.0444	0.0560	0.0459	0.0486	Lin2	0.0806	0.0448							0.9980		0.9900
1,1,2-Trichloro-1,2,2-trifluoroethane	+++++ 0.2905	0.3023 0.2769	0.2823	0.2636	0.2957	Ave		0.2852				4.9		15.0			
1,1-Dichloroethene	0.3779 0.3918	0.3808 0.3734	0.3687	0.3509	0.3892	Ave		0.3761				3.7		30.0			
Iodomethane	0.7508 0.7539	0.7574 0.7380	0.7263	0.7241	0.7545	Ave		0.7436				1.9		15.0			
Methyl acetate	+++++ 0.1095	0.1496 0.1094	0.1253	0.1157	0.1137	Lin1	0.0769	0.1086							1.0000		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
3-Chloro-1-propene	0.9487 0.9719	1.0151 0.9400	0.9476	0.9354	0.9646	Ave		0.9605				2.8		15.0			
Carbon disulfide	1.9670 2.0290	2.0038 1.9601	1.9131	1.9000	2.0038	Ave		1.9681				2.5		15.0			
t-Butyl alcohol	+++++ 1.5451	1.6792 1.4999	1.5058	1.4900	1.5641	Ave		1.5473				4.6		15.0			
Methylene Chloride	0.4037 0.3674	0.4193 0.3519	0.3839	0.3581	0.3610	Ave		0.3779				6.7		15.0			
Acrylonitrile	0.0429 0.0480	0.0442 0.0472	0.0455	0.0449	0.0464	Ave		0.0456				3.9		15.0			
Methyl tert-butyl ether	0.3850 0.4352	0.4041 0.4239	0.3898	0.4070	0.4199	Ave		0.4093				4.5		15.0			
trans-1,2-Dichloroethene	0.3565 0.4106	0.4090 0.3978	0.4014	0.4010	0.4136	Ave		0.3985				4.9		15.0			
Hexane	4.0789 3.9976	3.6871 3.8895	3.9642	3.8993	4.0564	Ave		3.9390				3.4		15.0			
Vinyl acetate	+++++ 0.4795	0.4223 0.4570	0.4119	0.4300	0.4376	Ave		0.4397				5.6		15.0			
1,1-Dichloroethane	0.8127 0.8110	0.8048 0.7949	0.7907	0.7729	0.7997	Ave		0.7981			0.1000	1.7		15.0			
2-Butanone (MEK)	+++++ 0.0640	0.0651 0.0661	0.0648	0.0631	0.0612	Ave		0.0640				2.7		15.0			
cis-1,2-Dichloroethene	0.3613 0.3949	0.3931 0.3874	0.3890	0.3841	0.3957	Ave		0.3865				3.1		15.0			
sec-Butyl Alcohol	+++++ 1.5162	1.4273 1.5573	1.3963	1.4382	1.4982	Ave		1.4723				4.2		15.0			
2,2-Dichloropropane	0.5618 0.5552	0.6053 0.5382	0.5674	0.5404	0.5568	Ave		0.5607				4.0		15.0			
Bromochloromethane	0.1129 0.1377	0.1302 0.1342	0.1308	0.1312	0.1359	Ave		0.1304				6.3		15.0			
Chloroform	0.6580 0.6858	0.6807 0.6567	0.6568	0.6553	0.6726	Ave		0.6665				1.9		30.0			
Tetrahydrofuran	+++++ 0.0394	0.0270 0.0377	0.0329	0.0372	0.0365	Ave		0.0351				12.9		15.0			
1,1,1-Trichloroethane	0.5890 0.5959	0.5895 0.5773	0.5773	0.5690	0.5831	Ave		0.5830				1.6		15.0			
Isobutyl alcohol	+++++ 0.6838	0.5992 0.5988	0.5969	0.6091	0.6633	Ave		0.6252				6.1		15.0			
Cyclohexane	0.8621 0.9007	0.8733 0.8537	0.8756	0.8558	0.8993	Ave		0.8743				2.2		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.5834 0.6325	0.5923 0.5969	0.6097	0.6086	0.6312	Ave		0.6078				3.1		15.0			
Carbon tetrachloride	0.5151 0.5305	0.4840 0.5097	0.5123	0.5075	0.5273	Ave		0.5123				3.0		15.0			
1,2-Dichloroethane	0.2843 0.3317	0.3087 0.3187	0.3069	0.3135	0.3251	Ave		0.3127				4.9		15.0			
Benzene	1.4807 1.5009	1.4874 1.4490	1.4091	1.4512	1.5130	Ave		1.4702				2.4		15.0			
Trichloroethene	0.3979 0.4146	0.3886 0.4019	0.3883	0.3871	0.4141	Ave		0.3989				3.0		15.0			
2-Pentanone	+++++ 0.1027	0.0820 0.1044	0.0841	0.0891	0.0976	Lin1	-0.138	0.1040							0.9990		0.9900
1,2-Dichloropropane	0.3529 0.3844	0.3633 0.3651	0.3763	0.3702	0.3765	Ave		0.3698				2.8		30.0			
Methylcyclohexane	0.7241 0.7442	0.7188 0.7071	0.7073	0.7136	0.7333	Ave		0.7212				1.9		15.0			
1,4-Dioxane	+++++ 0.0010	0.0002 0.0009	0.0007	0.0008	0.0010	Lin2	-0.014	0.0010							0.9960		0.9900
Dibromomethane	0.1329 0.1508	0.1440 0.1493	0.1403	0.1482	0.1482	Ave		0.1448				4.4		15.0			
Bromodichloromethane	0.3738 0.4272	0.3773 0.4214	0.3812	0.3922	0.4208	Ave		0.3991				5.8		15.0			
2-Chloroethyl vinyl ether	+++++ 0.0367	+++++ 0.0438	0.0234	0.0267	0.0300	Lin1	-0.060	0.0424							0.9900		0.9900
cis-1,3-Dichloropropene	1.8622 2.3339	1.8839 2.3351	1.9593	2.1446	2.2649	Ave		2.1120				9.9		15.0			
4-Methyl-2-pentanone (MIBK)	0.1213 0.1495	0.1219 0.1472	0.1272	0.1332	0.1437	Ave		0.1349				8.9		15.0			
Toluene	1.2786 1.3779	1.2811 1.3189	1.3065	1.3487	1.3737	Ave		1.3265				3.1		30.0			
trans-1,3-Dichloropropene	0.2533 0.3220	0.2580 0.3183	0.2698	0.2755	0.3069	Ave		0.2863				10.1		15.0			
Ethyl methacrylate	0.4660 0.9185	0.5867 0.9490	0.7219	0.7797	0.8556	Lin2	-0.231	0.8812							0.9940		0.9900
1,1,2-Trichloroethane	0.1401 0.1599	0.1383 0.1540	0.1414	0.1578	0.1553	Ave		0.1495				6.2		15.0			
1,3-Dichloropropane	1.4192 1.5208	1.3715 1.4715	1.3911	1.4899	1.5239	Ave		1.4554				4.2		15.0			
2-Hexanone	0.3254 0.5031	0.3738 0.4935	0.3912	0.4342	0.4787	Lin2	-0.339	0.4753							0.9950		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Tetrachloroethene	1.4976 1.5095	1.5202 1.4330	1.5056	1.4664	1.5494	Ave		1.4974				2.5		15.0			
Dibromochloromethane	0.9864 1.1681	0.9524 1.1721	1.0615	1.1027	1.1445	Ave		1.0840				8.1		15.0			
1,2-Dibromoethane	0.6891 0.8364	0.7473 0.8343	0.7752	0.7967	0.8293	Ave		0.7869				6.9		15.0			
1-Chlorohexane	2.3593 2.9504	2.7062 2.8419	2.6346	2.8252	2.9842	Ave		2.7574				7.8		15.0			
Chlorobenzene	3.9407 3.8647	4.0467 3.8066	3.9130	3.9543	3.9936	Ave		3.9314			0.3000	2.0		15.0			
1,1,1,2-Tetrachloroethane	1.2671 1.3181	1.2651 1.2598	1.2568	1.3243	1.3266	Ave		1.2882				2.5		15.0			
Ethylbenzene	2.0875 2.1677	2.1304 2.0365	2.1503	2.2333	2.2757	Ave		2.1545				3.8		30.0			
m-Xylene & p-Xylene	2.3726 2.6577	2.4547 2.5717	2.6025	2.6759	2.6831	Ave		2.5740				4.6		15.0			
o-Xylene	2.2164 2.3891	2.3824 2.2270	2.3043	2.4464	2.4786	Ave		2.3492				4.4		15.0			
Styrene	2.7094 3.7180	2.9364 3.5348	3.1880	3.5682	3.7747	Ave		3.3470				12.2		15.0			
Bromoform	+++++ 0.5482	0.4279 0.5720	0.4756	0.5188	0.5334	Ave		0.5127			0.1000	10.3		15.0			
Isopropylbenzene	4.6666 5.2903	4.6513 5.2202	4.9619	5.0422	5.1400	Ave		4.9961				5.1		15.0			
Cyclohexanone	0.0327 0.0422	0.0341 0.0422	0.0364	0.0372	0.0409	Ave		0.0380				10.2		15.0			
1,1,2,2-Tetrachloroethane	0.6462 0.6719	0.6564 0.6758	0.6508	0.6784	0.6552	Ave		0.6621			0.3000	2.0		15.0			
trans-1,4-Dichloro-2-butene	+++++ 0.1579	0.0953 0.1675	0.1114	0.1253	0.1400	Lin2	-0.065	0.1532							0.9910		0.9900
1,2,3-Trichloropropane	+++++ 0.1245	0.1201 0.1278	0.1018	0.1184	0.1212	Ave		0.1190				7.6		15.0			
Bromobenzene	0.9172 1.0661	0.9754 1.0618	0.9767	1.0064	1.0472	Ave		1.0073				5.5		15.0			
N-Propylbenzene	1.0345 1.3111	1.1363 1.2884	1.2573	1.2808	1.2997	Ave		1.2297				8.5		15.0			
2-Chlorotoluene	1.1233 1.1395	1.0608 1.0974	1.1147	1.1145	1.1508	Ave		1.1145				2.6		15.0			
1,3,5-Trimethylbenzene	3.8464 4.1479	3.9518 3.8947	4.0597	4.1351	4.2088	Ave		4.0349				3.4		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
4-Chlorotoluene	1.0407 1.1107	1.0366 1.0883	1.0971	1.1228	1.1243	Ave		1.0886				3.4		15.0			
tert-Butylbenzene	3.1405 3.8819	3.7070 3.8147	3.7318	3.8757	3.9060	Ave		3.7225				7.2		15.0			
1,2,4-Trimethylbenzene	3.6075 4.0728	3.8989 4.0072	3.8982	3.9746	4.0724	Ave		3.9331				4.1		15.0			
sec-Butylbenzene	0.8604 0.9757	0.9104 0.9448	0.9351	0.9408	0.9725	Ave		0.9342				4.2		15.0			
4-Isopropyltoluene	4.0900 4.4718	4.3049 4.2702	4.3609	4.4617	4.5942	Ave		4.3648				3.8		15.0			
1,3-Dichlorobenzene	2.1650 2.0782	2.1176 2.0042	2.0415	2.0932	2.1108	Ave		2.0872				2.5		15.0			
1,4-Dichlorobenzene	2.1605 2.1419	2.1783 2.0448	2.1821	2.1239	2.0740	Ave		2.1294				2.5		15.0			
n-Butylbenzene	4.9286 5.3336	4.9988 5.3236	5.2043	5.3594	5.3832	Ave		5.2188				3.5		15.0			
1,2-Dichlorobenzene	1.6782 1.7254	1.6298 1.6853	1.6221	1.6933	1.6941	Ave		1.6755				2.2		15.0			
1,2-Dibromo-3-Chloropropane	+++++ 0.0791	0.0459 0.0873	0.0516	0.0630	0.0741	Lin1	-0.059	0.0852							0.9960		0.9900
1,2,4-Trichlorobenzene	0.9498 1.1588	0.9642 1.1873	1.0129	1.0936	1.1417	Ave		1.0726				9.0		15.0			
Hexachlorobutadiene	0.9129 0.9254	0.9332 0.9203	0.9315	0.8916	0.9223	Ave		0.9196				1.5		15.0			
Naphthalene	1.0442 1.3915	0.9844 1.4468	1.1304	1.2050	1.3158	Ave		1.2169				14.4		15.0			
1,2,3-Trichlorobenzene	0.9484 0.9106	0.8905 0.9164	0.8722	0.8869	0.8812	Ave		0.9009				2.9		15.0			
Dibromofluoromethane (Surr)	0.3774 0.3638	0.3354 0.3512	0.3468	0.3412	0.3541	Ave		0.3528				4.0		15.0			
1,2-Dichloroethane-d4 (Surr)	+++++ 0.2632	0.2564 0.2563	0.2534	0.2703	0.2797	Ave		0.2632				3.9		15.0			
Toluene-d8 (Surr)	5.6460 5.6977	5.6579 5.5776	5.6019	5.5568	5.9156	Ave		5.6648				2.1		15.0			
4-Bromofluorobenzene (Surr)	1.3508 1.3344	1.3231 1.3500	1.3220	1.3191	1.3403	Ave		1.3342				1.0		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD005 280-435406/10	G0942.D
Level 2	STD01 280-435406/11	G0943.D
Level 3	STD02 280-435406/12	G0944.D
Level 4	STD05 280-435406/13	G0945.D
Level 5	ICIS 280-435406/14	G0946.D
Level 6	STD25 280-435406/15	G0947.D
Level 7	STD60 280-435406/16	G0948.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	17294 944100	33055 2201431	63354	139187	362413	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Chloromethane	FB	Ave	19624 1022833	40738 2348854	75526	174028	396078	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Vinyl chloride	FB	Ave	15830 819874	31913 1758215	60990	133003	321542	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Bromomethane	FB	Ave	12427 524053	22682 1103895	41400	90558	206962	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Chloroethane	FB	Ave	7683 387921	15475 807775	29301	67663	151203	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Ave	20852 1107704	43148 2434070	76698	192583	430409	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Trichlorofluoromethane	FB	Ave	21218 1035659	41228 2273426	76155	174225	400011	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Ethyl ether	FB	Ave	4724 293713	10512 644914	21405	46427	111153	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Acrolein	FB	Ave	6198 359580	13433 837071	24982	58037	126350	5.00 250	10.0 600	20.0	50.0	100
Acetone	FB	Lin2	11230 306683	16919 714004	28654	55651	123625	2.00 100	4.00 240	8.00	20.0	40.0
1,1,2-Trichloro-1,2,2-trifluoroethane	FB	Ave	+++++ 487591	19246 1113937	36118	79815	188177	+++++ 25.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloroethene	FB	Ave	12594 657521	24242 1502214	47165	106249	247671	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Iodomethane	FB	Ave	25020 1265293	48220 2969268	92918	219276	480128	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Methyl acetate	FB	Lin1	+++++ 367452	19046 880480	32047	70047	144708	+++++ 50.0	2.00 120	4.00	10.0	20.0
3-Chloro-1-propene	FB	Ave	31616 1631204	64625 3781854	121229	283250	613782	0.500 25.0	1.00 60.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Carbon disulfide	FB	Ave	65551 3405354	127567 7885623	244744	575368	1275023	0.500 25.0	1.00 60.0	2.00	5.00	10.0
t-Butyl alcohol	TBAd9	Ave	+++++ 166690	6594 389448	11747	28566	61733	+++++ 250	10.0 600	20.0	50.0	100
Methylene Chloride	FB	Ave	13454 616554	26696 1415583	49114	108438	229711	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Acrylonitrile	FB	Ave	14310 806080	28139 1900539	58190	135971	295451	5.00 250	10.0 600	20.0	50.0	100
Methyl tert-butyl ether	FB	Ave	12831 730417	25725 1705233	49863	123239	267198	0.500 25.0	1.00 60.0	2.00	5.00	10.0
trans-1,2-Dichloroethene	FB	Ave	11880 689108	26037 1600365	51347	121426	263182	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Hexane	CBNZ d5	Ave	24878 1310692	44540 2999386	94698	220907	487229	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Vinyl acetate	FB	Ave	+++++ 1609362	53771 3677378	105388	260435	556939	+++++ 50.0	2.00 120	4.00	10.0	20.0
1,1-Dichloroethane	FB	Ave	27083 1361105	51238 3197979	101149	234058	508858	0.500 25.0	1.00 60.0	2.00	5.00	10.0
2-Butanone (MEK)	FB	Ave	+++++ 429872	16567 1063889	33162	76420	155653	+++++ 100	4.00 240	8.00	20.0	40.0
cis-1,2-Dichloroethene	FB	Ave	12040 662740	25025 1558561	49758	116313	251772	0.500 25.0	1.00 60.0	2.00	5.00	10.0
sec-Butyl Alcohol	TBAd9	Ave	+++++ 490737	16814 1213043	32680	82723	177391	+++++ 750	30.0 1800	60.0	150	300
2,2-Dichloropropane	FB	Ave	18724 931857	38536 2165163	72588	163633	354297	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Bromochloromethane	FB	Ave	3762 231122	8288 540017	16732	39720	86484	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Chloroform	FB	Ave	21927 1150975	43332 2642141	84022	198447	427971	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Ave	+++++ 132248	3432 303191	8426	22524	46435	+++++ 50.0	2.00 120	4.00	10.0	20.0
1,1,1-Trichloroethane	FB	Ave	19630 1000044	37528 2322546	73856	172322	371046	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Isobutyl alcohol	TBAd9	Ave	+++++ 184437	5882 388705	11641	29194	65444	+++++ 625	25.0 1500	50.0	125	250
Cyclohexane	FB	Ave	28729 1511678	55593 3434488	112012	259166	572213	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloropropene	FB	Ave	19444 1061606	37708 2401475	78001	184304	401626	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Carbon tetrachloride	FB	Ave	17166 890309	30811 2050744	65538	153675	335539	0.500 25.0	1.00 60.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dichloroethane	FB	Ave	9475 556741	19655 1282258	39267	94931	206859	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Benzene	FB	Ave	49346 2518964	94692 5829470	180268	439450	962759	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Trichloroethene	FB	Ave	13262 695795	24739 1616845	49671	117212	263490	0.500 25.0	1.00 60.0	2.00	5.00	10.0
2-Pentanone	FB	Lin1	+++++ 689606	20881 1680746	43051	107988	248379	+++++ 100	4.00 240	8.00	20.0	40.0
1,2-Dichloropropane	FB	Ave	11760 645210	23130 1468752	48144	112117	239556	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Methylcyclohexane	FB	Ave	24131 1249033	45761 2844803	90479	216098	466620	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,4-Dioxane	FB	Lin2	+++++ 32387	306 75909	1715	4579	12207	+++++ 500	20.0 1200	40.0	100	200
Dibromomethane	FB	Ave	4430 253125	9170 600668	17950	44866	94278	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Bromodichloromethane	FB	Ave	12457 717048	24019 1695227	48772	118765	267780	0.500 25.0	1.00 60.0	2.00	5.00	10.0
2-Chloroethyl vinyl ether	FB	Lin1	+++++ 61553	+++++ 176324	2994	8071	19062	+++++ 25.0	+++++ 60.0	2.00	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Ave	11358 765214	22758 1800721	46805	121494	272041	0.500 25.0	1.00 60.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	16167 1003529	31050 2368458	65098	161325	365729	2.00 100	4.00 240	8.00	20.0	40.0
Toluene	FB	Ave	42611 2312568	81555 5306072	167135	408414	874116	0.500 25.0	1.00 60.0	2.00	5.00	10.0
trans-1,3-Dichloropropene	FB	Ave	8440 540508	16425 1280670	34511	83416	195305	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Lin2	2842 301142	7087 731813	17245	44174	102768	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,1,2-Trichloroethane	FB	Ave	4670 268342	8803 619437	18091	47776	98799	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichloropropane	CBNZ d5	Ave	8656 498626	16568 1134760	33231	84408	183045	0.500 25.0	1.00 60.0	2.00	5.00	10.0
2-Hexanone	CBNZ d5	Lin2	7938 659784	18064 1522296	37383	98383	229989	2.00 100	4.00 240	8.00	20.0	40.0
Tetrachloroethene	CBNZ d5	Ave	9134 494911	18364 1105058	35967	83074	186097	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Dibromochloromethane	CBNZ d5	Ave	6016 382971	11505 903891	25357	62472	137471	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromoethane	CBNZ d5	Ave	4203 274242	9027 643353	18519	45134	99612	0.500 25.0	1.00 60.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1-Chlorohexane	CBNZ d5	Ave	14390 967325	32691 2191537	62936	160054	358435	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Ave	24035 1267094	48885 2935465	93476	224021	479677	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	7728 432148	15282 971474	30023	75026	159339	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Ethylbenzene	CBNZ d5	Ave	12732 710703	25736 1570437	51367	126521	273345	0.500 25.0	1.00 60.0	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Ave	14471 871370	29653 1983179	62169	151594	322272	0.500 25.0	1.00 60.0	2.00	5.00	10.0
o-Xylene	CBNZ d5	Ave	13518 783298	28779 1717337	55046	138597	297710	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Styrene	CBNZ d5	Ave	16525 1218992	35472 2725854	76155	202146	453384	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Bromoform	CBNZ d5	Ave	+++++ 179732	5169 441121	11361	29394	64074	+++++ 25.0	1.00 60.0	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Ave	39432 2375776	77682 5346881	163110	395568	870005	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Cyclohexanone	CBNZ d5	Ave	7981 552931	16493 1302693	34747	84219	196637	20.0 1000	40.0 2400	80.0	200	400
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	5460 301722	10962 692250	21394	53220	110892	0.500 25.0	1.00 60.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Lin2	+++++ 70921	1591 171577	3661	9832	23696	+++++ 25.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	+++++ 55910	2005 130921	3346	9292	20508	+++++ 25.0	1.00 60.0	2.00	5.00	10.0
Bromobenzene	DCBd 4	Ave	7750 478762	16291 1087600	32105	78958	177254	0.500 25.0	1.00 60.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Ave	8741 588769	18977 1319729	41330	100479	219996	0.500 25.0	1.00 60.0	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Ave	9492 511732	17717 1124078	36642	87437	194794	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	32502 1862759	65999 3989293	133451	324410	712392	0.500 25.0	1.00 60.0	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Ave	8794 498802	17312 1114689	36065	88086	190303	0.500 25.0	1.00 60.0	2.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Ave	26537 1743280	61912 3907330	122674	304055	661137	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	30483 1829002	65117 4104525	128144	311818	689309	0.500 25.0	1.00 60.0	2.00	5.00	10.0
sec-Butylbenzene	DCBd 4	Ave	7270 438151	15204 967706	30738	73805	164606	0.500 25.0	1.00 60.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 435406

SDG No.:

Instrument ID: VMS_G GC Column: DB-624 v1 ID: 32(um) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 20:00 Calibration End Date: 10/29/2018 22:02 Calibration ID: 34172

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
4-Isopropyltoluene	DCBd 4	Ave	34560 2008203	71897 4373881	143353	350030	777623	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Ave	18294 933293	35367 2052839	67110	164219	357284	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,4-Dichlorobenzene	DCBd 4	Ave	18256 961899	36381 2094459	71731	166626	351050	0.500 25.0	1.00 60.0	2.00	5.00	10.0
n-Butylbenzene	DCBd 4	Ave	41646 2395194	83486 5452789	171076	420454	911161	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Ave	14181 774851	27219 1726193	53321	132845	286743	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Lin1	+++++ 35522	767 89433	1695	4946	12540	+++++ 25.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	8026 520400	16103 1216076	33297	85792	193241	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Ave	7714 415593	15586 942693	30619	69950	156112	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Naphthalene	DCBd 4	Ave	8823 624895	16440 1481945	37160	94538	222722	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	8014 408924	14873 938622	28672	69580	149149	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Dibromofluoromethane (Surr)	FB	Ave	12576 610553	21351 1413118	44360	103325	225337	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	+++++ 441724	16323 1030951	32413	81861	177998	+++++ 25.0	1.00 60.0	2.00	5.00	10.0
Toluene-d8 (Surr)	CBNZ d5	Ave	34436 1868080	68348 4301156	133819	314805	710539	0.500 25.0	1.00 60.0	2.00	5.00	10.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	11414 599233	22098 1382771	43456	103489	226859	0.500 25.0	1.00 60.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0942.D
Lims ID: STD005
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Oct-2018 20:00:30 ALS Bottle#: 11 Worklist Smp#: 10
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: STD005
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub83

Method: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 30-Oct-2018 01:32:48 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: newcomer Date: 29-Oct-2018 21:22:08

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.466	4.466	0.000	0	99482	250.0	250.0	
* 1 Fluorobenzene	96	6.465	6.465	0.000	97	833155	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.163	9.163	0.000	91	152480	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.290	11.290	0.000	97	211247	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.884	5.884	0.000	88	12576	0.5000	0.5348	
$ 6 1,2-Dichloroethane-d4 (Sur	65		6.180				ND	ND	
$ 7 Toluene-d8 (Surr)	98	7.824	7.814	0.010	94	34436	0.5000	0.4983	
$ 8 4-Bromofluorobenzene (Surr	95	10.276	10.276	0.000	81	11414	0.5000	0.5062	
25 Dichlorodifluoromethane	85	2.891	2.891	0.000	97	17294	0.5000	0.4946	
27 Chloromethane	50	3.107	3.098	0.009	97	19624	0.5000	0.4896	
28 Vinyl chloride	62	3.216	3.216	0.000	83	15830	0.5000	0.5003	
31 Bromomethane	94	3.531	3.521	0.010	91	12427	0.5000	0.5765	
32 Chloroethane	64	3.580	3.570	0.010	94	7683	0.5000	0.5057	
33 Dichlorofluoromethane	67	3.718	3.718	0.000	96	20852	0.5000	0.4888	
35 Trichlorofluoromethane	101	3.836	3.826	0.010	95	21218	0.5000	0.5224	
38 Ethyl ether	59	3.954	3.954	0.000	85	4724	0.5000	0.4362	
41 Acrolein	56	4.082	4.072	0.010	42	6198	5.00	4.63	
42 Acetone	43	4.181	4.171	0.010	94	11230	2.00	1.96	
45 1,1-Dichloroethene	96	4.210	4.200	0.010	92	12594	0.5000	0.5024	
44 1,1,2-Trichloro-1,2,2-trif	151		4.200				ND	ND	
47 Iodomethane	142	4.368	4.358	0.010	96	25020	0.5000	0.5048	
48 Methyl acetate	43		4.417				ND	ND	
49 3-Chloro-1-propene	41	4.456	4.456	0.000	65	31616	0.5000	0.4939	
50 Carbon disulfide	76	4.456	4.456	0.000	99	65551	0.5000	0.4997	
51 2-Methyl-2-propanol	59		4.525				ND	ND	U
52 Methylene Chloride	84	4.555	4.545	0.010	95	13454	0.5000	0.5341	
53 Acrylonitrile	53	4.703	4.693	0.010	98	14310	5.00	4.71	
54 Methyl tert-butyl ether	73	4.742	4.742	0.000	95	12831	0.5000	0.4704	
55 trans-1,2-Dichloroethene	96	4.781	4.771	0.010	92	11880	0.5000	0.4472	
56 Hexane	57	4.959	4.959	0.000	94	24878	0.5000	0.5178	
57 Vinyl acetate	43	5.057	5.047	0.010	94	22112	1.00	0.7545	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.087	5.087	0.000	95	27083	0.5000	0.5091	
62 2-Butanone (MEK)	43		5.480				ND	ND	
66 cis-1,2-Dichloroethene	96	5.540	5.530	0.010	86	12040	0.5000	0.4674	
65 sec-Butyl Alcohol	45		5.549				ND	ND	U
67 2,2-Dichloropropane	77	5.569	5.559	0.010	85	18724	0.5000	0.5010	
69 Chlorobromomethane	128	5.727	5.727	0.000	64	3762	0.5000	0.4328	
70 Chloroform	83	5.756	5.756	0.000	97	21927	0.5000	0.4936	
71 Tetrahydrofuran	42		5.766				ND	ND	
73 1,1,1-Trichloroethane	97	5.973	5.973	0.000	95	19630	0.5000	0.5051	
72 Isobutyl alcohol	41		5.992				ND	ND	U
74 Cyclohexane	56	6.061	6.052	0.009	95	28729	0.5000	0.4930	
75 1,1-Dichloropropene	75	6.091	6.091	0.000	93	19444	0.5000	0.4800	
76 Carbon tetrachloride	117	6.130	6.120	0.010	95	17166	0.5000	0.5027	
77 1,2-Dichloroethane	62	6.248	6.248	0.000	46	9475	0.5000	0.4546	M
79 Benzene	78	6.268	6.268	0.000	99	49346	0.5000	0.5036	
13 n-Heptane	43	6.406	6.406	0.000	94	30301	0.5000	0.4582	
81 Trichloroethene	95	6.780	6.770	0.010	93	13262	0.5000	0.4988	
82 2-Pentanone	43		6.829				ND	ND	
84 1,2-Dichloropropane	63	6.967	6.957	0.010	87	11760	0.5000	0.4771	
85 Methylcyclohexane	55	6.987	6.987	0.000	97	24131	0.5000	0.5020	
86 1,4-Dioxane	88		7.036				ND	ND	
87 Dibromomethane	93	7.076	7.066	0.010	91	4430	0.5000	0.4589	
88 Dichlorobromomethane	83	7.174	7.164	0.010	95	12457	0.5000	0.4682	
90 2-Chloroethyl vinyl ether	63		7.361				ND	ND	
91 cis-1,3-Dichloropropene	75	7.548	7.538	0.010	87	11358	0.5000	0.4409	
92 4-Methyl-2-pentanone (MIBK	43	7.637	7.627	0.010	95	16167	2.00	1.80	
93 Toluene	91	7.883	7.873	0.010	96	42611	0.5000	0.4820	
95 trans-1,3-Dichloropropene	75	8.011	8.011	0.000	88	8440	0.5000	0.4424	
94 Ethyl methacrylate	69	8.041	8.031	0.010	15	2842	0.5000	0.5266	
96 1,1,2-Trichloroethane	97	8.198	8.198	0.000	81	4670	0.5000	0.4686	
98 1,3-Dichloropropane	76	8.366	8.366	0.000	89	8656	0.5000	0.4876	
97 2-Hexanone	43	8.375	8.375	0.000	43	7938	2.00	2.08	
99 Tetrachloroethene	164	8.405	8.405	0.000	88	9134	0.5000	0.5001	
100 Chlorodibromomethane	129	8.602	8.592	0.010	87	6016	0.5000	0.4550	
102 Ethylene Dibromide	107	8.750	8.740	0.010	98	4203	0.5000	0.4379	
103 1-Chlorohexane	91	9.104	9.094	0.010	80	14390	0.5000	0.4278	
104 Chlorobenzene	112	9.193	9.193	0.000	91	24035	0.5000	0.5012	
105 1,1,1,2-Tetrachloroethane	131	9.252	9.242	0.010	88	7728	0.5000	0.4918	
106 Ethylbenzene	106	9.271	9.262	0.009	99	12732	0.5000	0.4845	
107 m-Xylene & p-Xylene	106	9.370	9.370	0.000	0	14471	0.5000	0.4609	
109 Styrene	104	9.774	9.764	0.010	76	16525	0.5000	0.4047	
108 o-Xylene	106	9.764	9.764	0.000	87	13518	0.5000	0.4717	
110 Bromoform	173		9.980				ND	ND	
111 Isopropylbenzene	105	10.118	10.108	0.010	97	39432	0.5000	0.4670	
113 Cyclohexanone	55	10.227	10.217	0.010	92	7981	20.0	17.2	
114 1,1,2,2-Tetrachloroethane	83	10.355	10.345	0.010	85	5460	0.5000	0.4880	
115 trans-1,4-Dichloro-2-buten	53		10.404				ND	ND	
116 1,2,3-Trichloropropane	110		10.414				ND	ND	
117 Bromobenzene	156	10.453	10.453	0.000	93	7750	0.5000	0.4553	
118 N-Propylbenzene	120	10.502	10.492	0.010	99	8741	0.5000	0.4206	
120 2-Chlorotoluene	126	10.611	10.601	0.010	96	9492	0.5000	0.5040	
119 1,3,5-Trimethylbenzene	105	10.640	10.630	0.010	93	32502	0.5000	0.4766	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
121 4-Chlorotoluene	126	10.699	10.689	0.010	97	8794	0.5000	0.4780	
122 tert-Butylbenzene	119	10.936	10.926	0.010	95	26537	0.5000	0.4218	
123 1,2,4-Trimethylbenzene	105	10.965	10.965	0.000	95	30483	0.5000	0.4586	
124 sec-Butylbenzene	134	11.113	11.113	0.000	96	7270	0.5000	0.4605	
125 4-Isopropyltoluene	119	11.221	11.221	0.000	96	34560	0.5000	0.4685	
126 1,3-Dichlorobenzene	146	11.241	11.241	0.000	96	18294	0.5000	0.5186	
127 1,4-Dichlorobenzene	146	11.310	11.310	0.000	93	18256	0.5000	0.5073	
129 n-Butylbenzene	91	11.576	11.576	0.000	99	41646	0.5000	0.4722	
130 1,2-Dichlorobenzene	146	11.654	11.644	0.010	94	14181	0.5000	0.5008	
131 1,2-Dibromo-3-Chloropropan	157		12.334				ND	ND	
132 1,2,4-Trichlorobenzene	180	13.200	13.190	0.010	89	8026	0.5000	0.4428	
133 Hexachlorobutadiene	225	13.358	13.348	0.010	91	7714	0.5000	0.4964	
134 Naphthalene	128	13.486	13.486	0.000	1	8823	0.5000	0.4290	M
135 1,2,3-Trichlorobenzene	180	13.762	13.752	0.010	90	8014	0.5000	0.5264	
S 142 1,2-Dichloroethene, Total	96				0		1.00	0.9146	
S 137 Xylenes, Total (URS)	1				0		1.00	0.9326	
S 141 Xylenes, Total	106				0		1.00	0.9326	
S 138 Total BTEX	1				0			2.40	
S 140 1,2-Dichloroethene, Total	1				0		1.00	0.9146	
S 136 Trihalomethanes, Total	1				0		2.00	1.42	
S 139 1,3-Dichloropropene, Total	1				0		1.00	0.8832	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL
MV-ARCH SS A_00107	Amount Added:	0.04	Units: uL
MV-MegaMainA_00002	Amount Added:	0.20	Units: uL

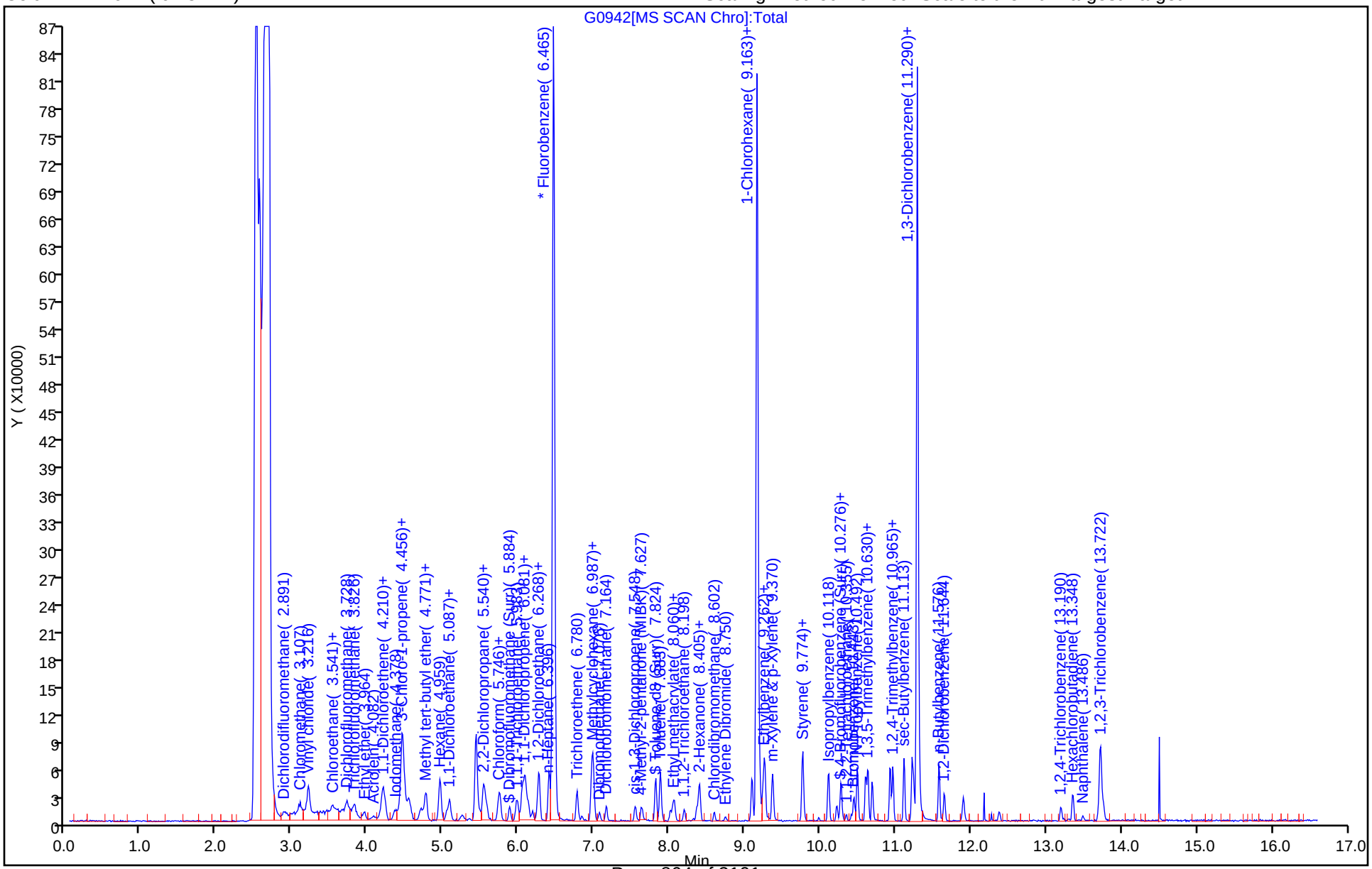
Report Date: 30-Oct-2018 01:32:49 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0942.D

Injection Date:	29-Oct-2018 20:00:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	STD005			Worklist Smp#:	10
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

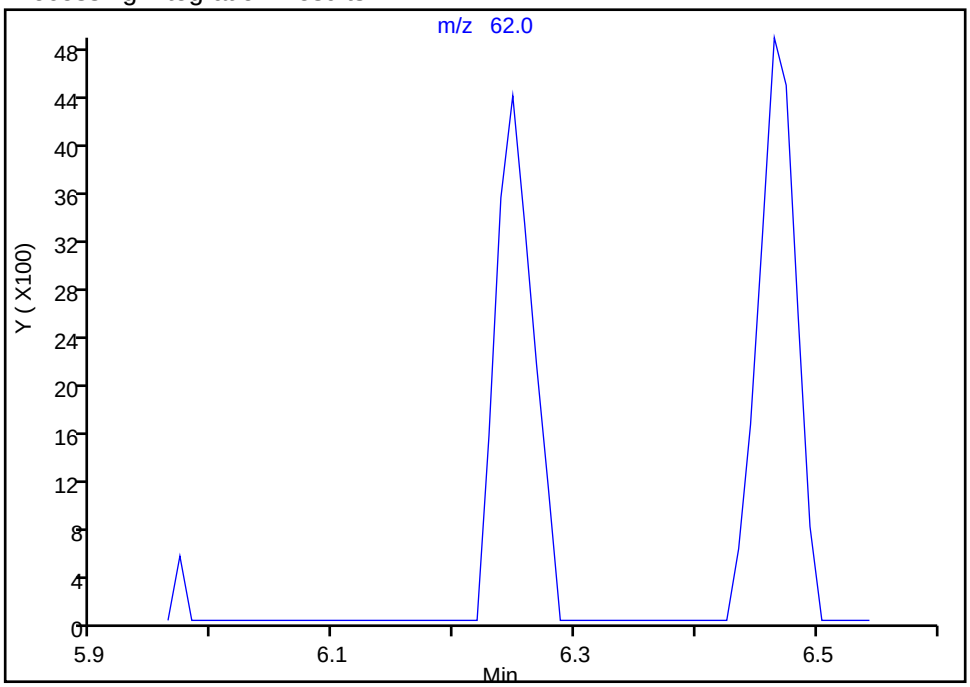
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0942.D
Injection Date: 29-Oct-2018 20:00:30 Instrument ID: VMS_G
Lims ID: STD005
Client ID:
Operator ID: newcomer ALS Bottle#: 11 Worklist Smp#: 10
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

77 1,2-Dichloroethane, CAS: 107-06-2

Signal: 1

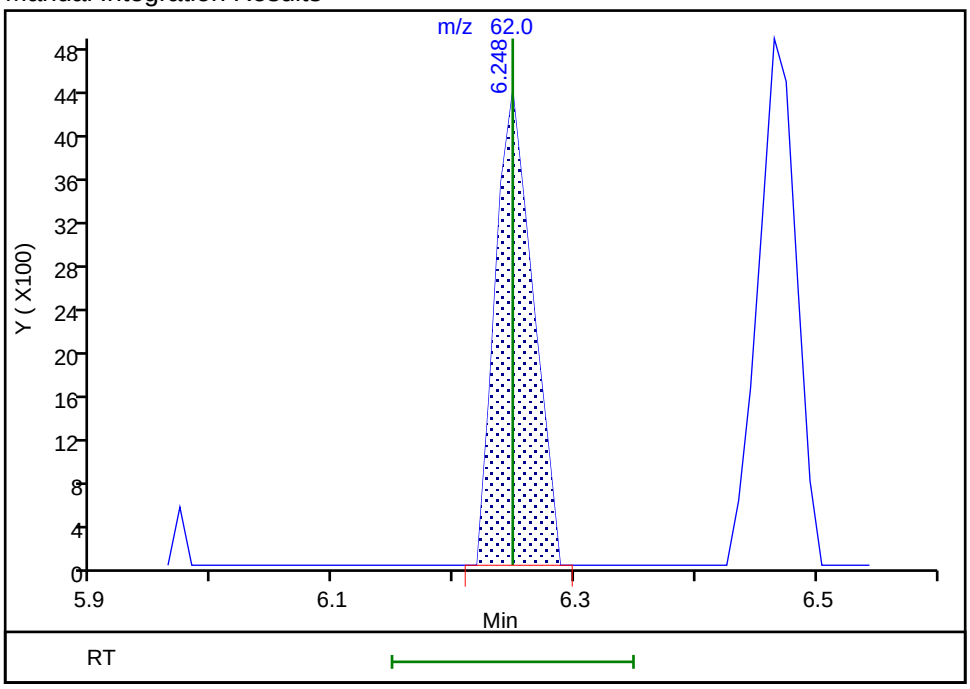
Not Detected
Expected RT: 6.25

Processing Integration Results



Manual Integration Results

RT: 6.25
Area: 9475
Amount: 0.454583
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:18:49
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

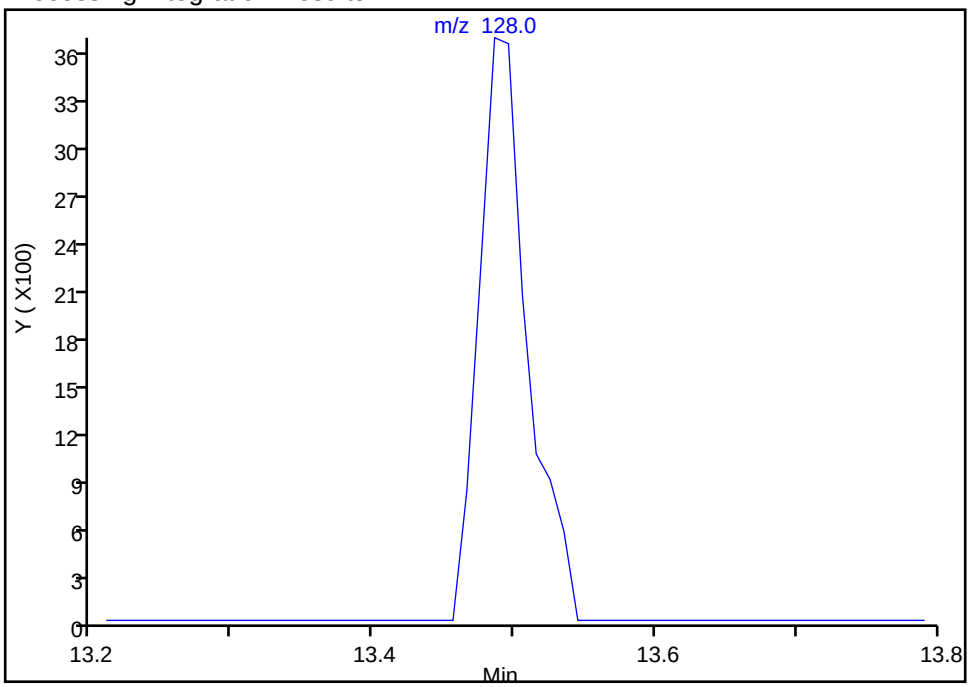
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0942.D
Injection Date: 29-Oct-2018 20:00:30 Instrument ID: VMS_G
Lims ID: STD005
Client ID:
Operator ID: newcomer ALS Bottle#: 11 Worklist Smp#: 10
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

134 Naphthalene, CAS: 91-20-3

Signal: 1

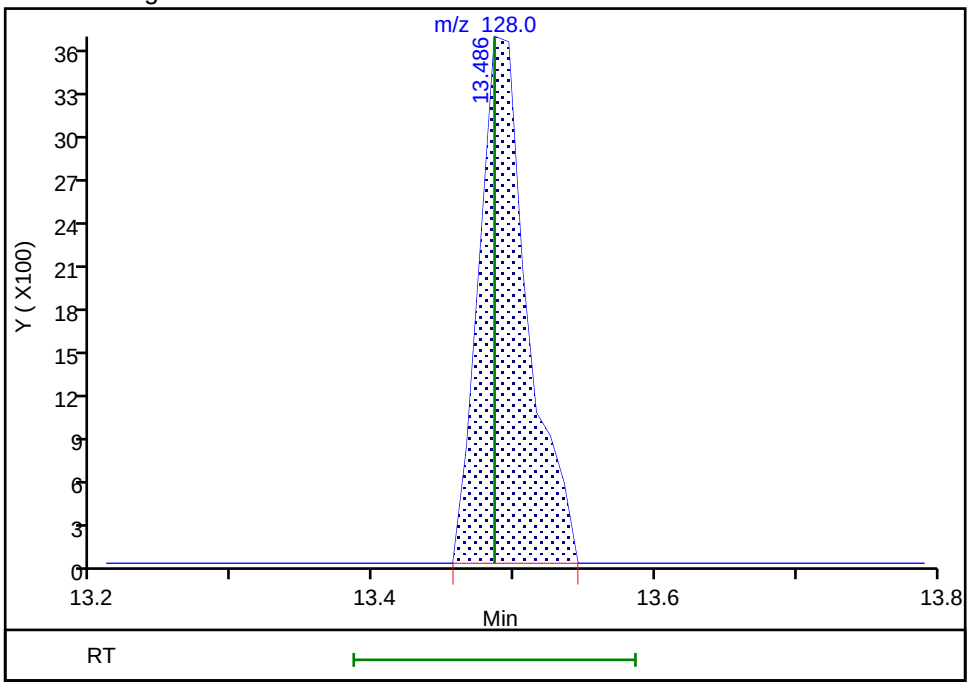
Not Detected
Expected RT: 13.49

Processing Integration Results



Manual Integration Results

RT: 13.49
Area: 8823
Amount: 0.429030
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:21:56
Audit Action: Manually Integrated Audit Reason: Assign Peak

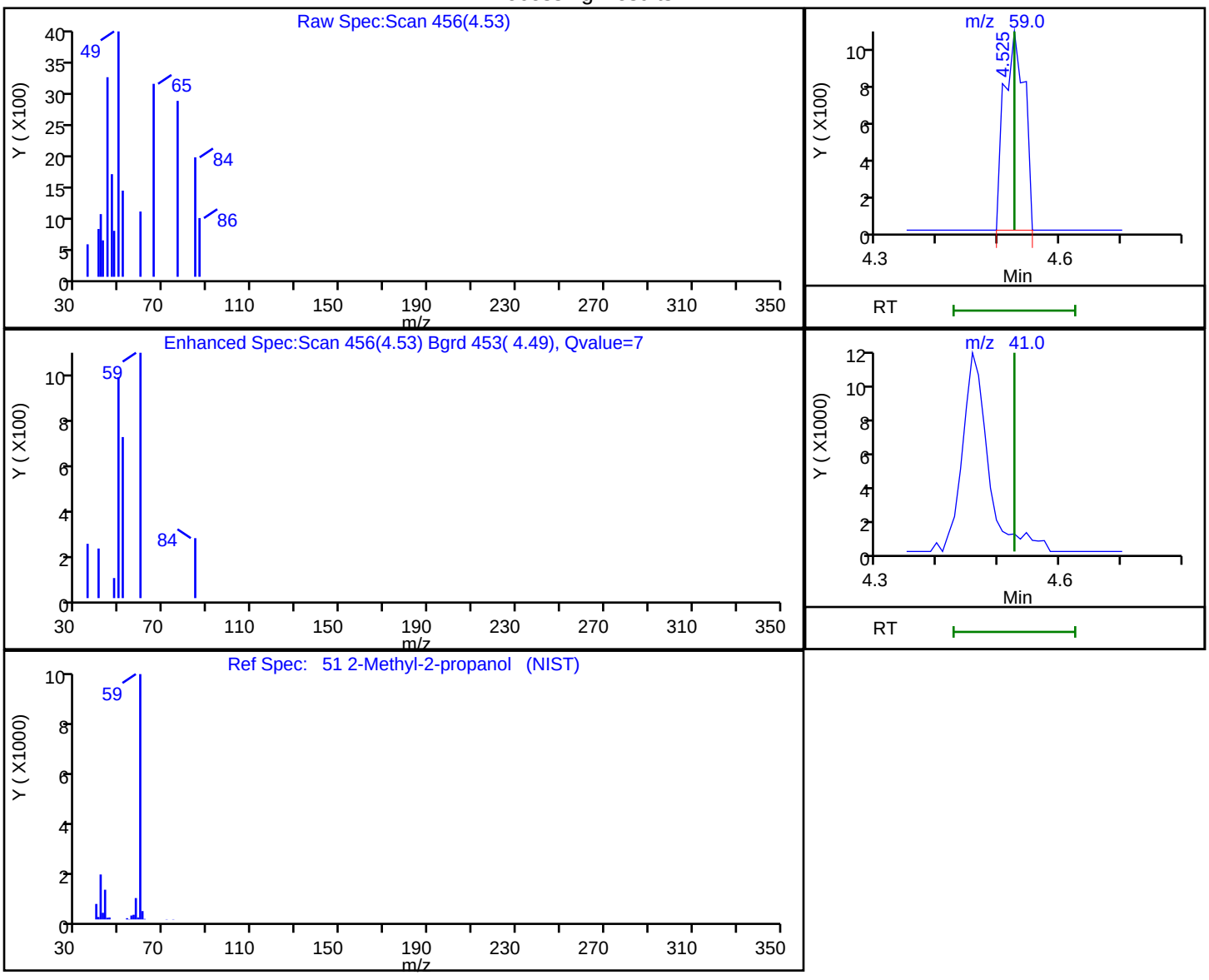
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0942.D				
Injection Date:	29-Oct-2018 20:00:30	Instrument ID:	VMS_G		
Lims ID:	STD005				
Client ID:					
Operator ID:	newcomer	ALS Bottle#:	11	Worklist Smp#:	10
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	DB-624 (0.25 mm)	Detector	MS SCAN		

51 2-Methyl-2-propanol, CAS: 75-65-0

Processing Results



RT	Mass	Response	Amount
4.53	59.00	2412	3.976206
4.51	41.00	0	

Reviewer: newcomer, 29-Oct-2018 21:18:11

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

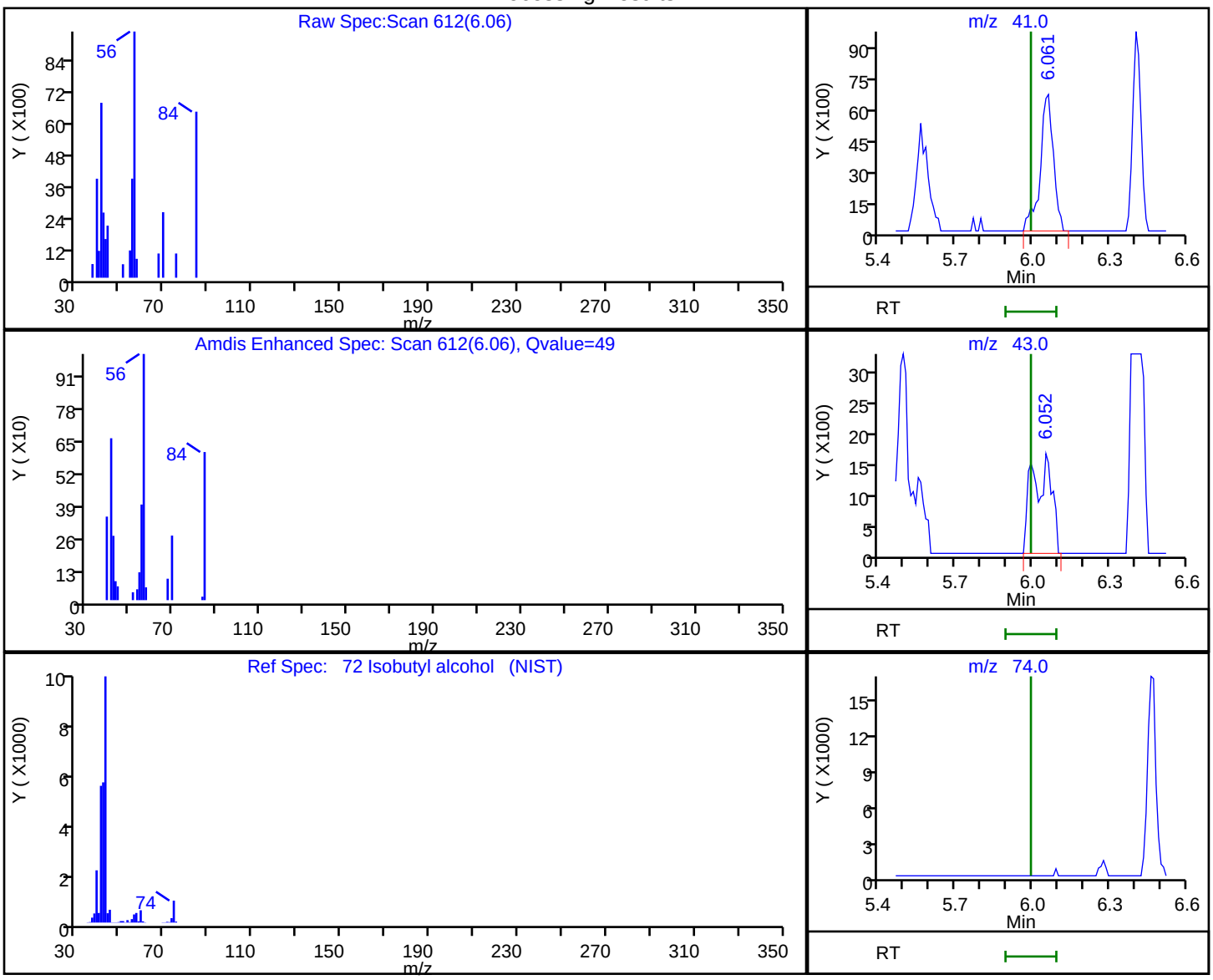
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0942.D				
Injection Date:	29-Oct-2018 20:00:30	Instrument ID:	VMS_G		
Lims ID:	STD005				
Client ID:					
Operator ID:	newcomer	ALS Bottle#:	11	Worklist Smp#:	10
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		
Column:	DB-624 (0.25 mm)	Detector	MS SCAN		

72 Isobutyl alcohol, CAS: 78-83-1

Processing Results



RT	Mass	Response	Amount
6.06	41.00	24306	97.703856
6.05	43.00	8505	
6.05	74.00	0	

Reviewer: newcomer, 29-Oct-2018 23:08:49

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

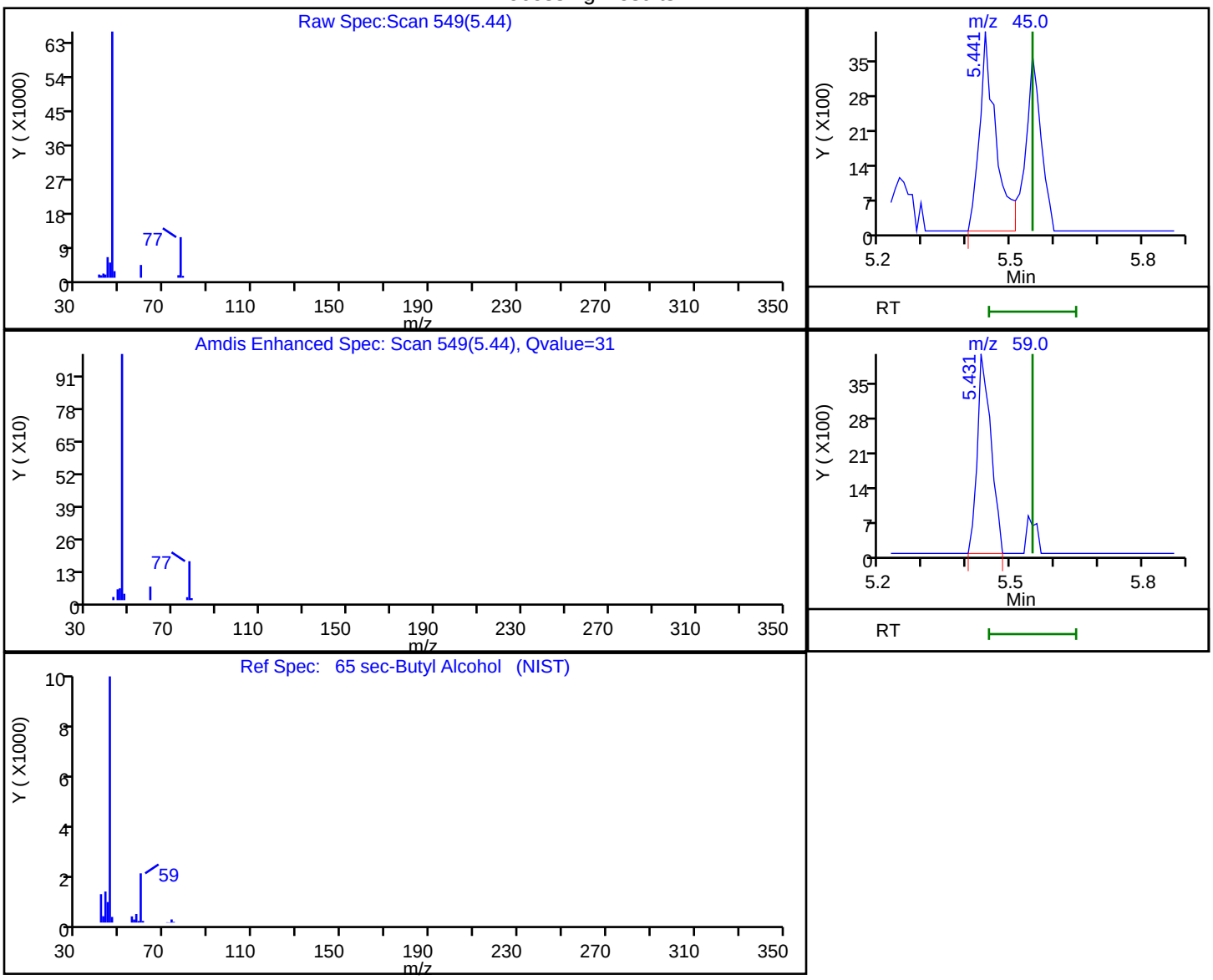
User Disabled Compound Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0942.D
Injection Date: 29-Oct-2018 20:00:30 Instrument ID: VMS_G
Lims ID: STD005
Client ID:
Operator ID: newcomer ALS Bottle#: 11 Worklist Smp#: 10
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

65 sec-Butyl Alcohol, CAS: 78-92-2

Processing Results



RT	Mass	Response	Amount
5.44	45.00	10487	33.305500
5.43	59.00	8845	

Reviewer: newcomer, 29-Oct-2018 21:18:29
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0943.D
Lims ID: STD01
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 29-Oct-2018 20:20:30 ALS Bottle#: 12 Worklist Smp#: 11
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: STD01
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub83

Method: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 30-Oct-2018 01:32:53 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: newcomer Date: 29-Oct-2018 21:25:34

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.457	4.466	-0.009	0	98172	250.0	250.0	
* 1 Fluorobenzene	96	6.465	6.465	0.000	97	795776	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.163	9.163	0.000	91	151001	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.290	11.290	0.000	97	208765	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.884	5.884	0.000	89	21351	1.00	0.9505	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.190	6.180	0.010	0	16323	1.00	0.9741	
$ 7 Toluene-d8 (Surr)	98	7.824	7.814	0.010	95	68348	1.00	1.00	
$ 8 4-Bromofluorobenzene (Surr	95	10.276	10.276	0.000	84	22098	1.00	0.99	
25 Dichlorodifluoromethane	85	2.881	2.891	-0.010	97	33055	1.00	0.9897	
27 Chloromethane	50	3.098	3.098	0.000	98	40738	1.00	1.06	
28 Vinyl chloride	62	3.216	3.216	0.000	85	31913	1.00	1.06	
31 Bromomethane	94	3.531	3.521	0.010	94	22682	1.00	1.10	
32 Chloroethane	64	3.580	3.570	0.010	96	15475	1.00	1.07	
33 Dichlorofluoromethane	67	3.718	3.718	0.000	97	43148	1.00	1.06	
35 Trichlorofluoromethane	101	3.826	3.826	0.000	96	41228	1.00	1.06	
38 Ethyl ether	59	3.954	3.954	0.000	93	10512	1.00	1.02	
41 Acrolein	56	4.073	4.072	0.001	97	13433	10.0	10.5	
42 Acetone	43	4.181	4.171	0.010	96	16919	4.00	4.13	
45 1,1-Dichloroethene	96	4.210	4.200	0.010	93	24242	1.00	1.01	
44 1,1,2-Trichloro-1,2,2-trif	151	4.201	4.200	0.001	71	19246	1.00	1.06	
47 Iodomethane	142	4.368	4.358	0.010	97	48220	1.00	1.02	
48 Methyl acetate	43	4.417	4.417	0.000	98	19046	2.00	2.05	
49 3-Chloro-1-propene	41	4.457	4.456	0.001	75	64625	1.00	1.06	
50 Carbon disulfide	76	4.457	4.456	0.001	98	127567	1.00	1.02	
51 2-Methyl-2-propanol	59	4.516	4.525	-0.009	91	6594	10.0	10.9	
52 Methylene Chloride	84	4.555	4.545	0.010	96	26696	1.00	1.11	
53 Acrylonitrile	53	4.703	4.693	0.010	99	28139	10.0	9.69	
54 Methyl tert-butyl ether	73	4.752	4.742	0.010	98	25725	1.00	0.9874	
55 trans-1,2-Dichloroethene	96	4.772	4.771	0.001	94	26037	1.00	1.03	
56 Hexane	57	4.959	4.959	0.000	89	44540	1.00	0.9360	
57 Vinyl acetate	43	5.057	5.047	0.010	96	53771	2.00	1.92	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.087	5.087	0.000	96	51238	1.00	1.01	
62 2-Butanone (MEK)	43	5.481	5.480	0.001	96	16567	4.00	4.06	
66 cis-1,2-Dichloroethene	96	5.540	5.530	0.010	87	25025	1.00	1.02	
65 sec-Butyl Alcohol	45	5.550	5.549	0.001	51	16814	30.0	29.1	M
67 2,2-Dichloropropane	77	5.569	5.559	0.010	88	38536	1.00	1.08	
69 Chlorobromomethane	128	5.737	5.727	0.010	92	8288	1.00	1.00	
70 Chloroform	83	5.756	5.756	0.000	97	43332	1.00	1.02	
71 Tetrahydrofuran	42	5.766	5.766	0.000	1	3432	2.00	1.54	M
73 1,1,1-Trichloroethane	97	5.983	5.973	0.010	96	37528	1.00	1.01	
72 Isobutyl alcohol	41	5.993	5.992	0.001	29	5882	25.0	24.0	M
74 Cyclohexane	56	6.062	6.052	0.010	95	55593	1.00	1.00	
75 1,1-Dichloropropene	75	6.091	6.091	0.000	92	37708	1.00	0.9745	
76 Carbon tetrachloride	117	6.131	6.120	0.011	95	30811	1.00	0.9446	
77 1,2-Dichloroethane	62	6.249	6.248	0.001	95	19655	1.00	0.9873	
79 Benzene	78	6.268	6.268	0.000	97	94692	1.00	1.01	
13 n-Heptane	43	6.406	6.406	0.000	94	63109	1.00	1.00	
81 Trichloroethene	95	6.780	6.770	0.010	94	24739	1.00	0.9741	
82 2-Pentanone	43	6.840	6.829	0.011	95	20881	4.00	4.48	
84 1,2-Dichloropropane	63	6.968	6.957	0.011	93	23130	1.00	0.9824	
85 Methylcyclohexane	55	6.987	6.987	0.000	97	45761	1.00	1.00	
86 1,4-Dioxane	88	7.036	7.036	0.000	14	306	20.0	19.7	M
87 Dibromomethane	93	7.066	7.066	0.000	92	9170	1.00	0.99	
88 Dichlorobromomethane	83	7.164	7.164	0.000	95	24019	1.00	0.9453	
90 2-Chloroethyl vinyl ether	63	7.371	7.361	0.010	1	1248	1.00	1.88	
91 cis-1,3-Dichloropropene	75	7.548	7.538	0.010	88	22758	1.00	0.8920	
92 4-Methyl-2-pentanone (MIBK	43	7.637	7.627	0.010	96	31050	4.00	3.62	
93 Toluene	91	7.883	7.873	0.010	97	81555	1.00	0.9658	
95 trans-1,3-Dichloropropene	75	8.021	8.011	0.010	93	16425	1.00	0.9013	
94 Ethyl methacrylate	69	8.031	8.031	0.000	92	7087	1.00	0.9279	
96 1,1,2-Trichloroethane	97	8.198	8.198	0.000	90	8803	1.00	0.9247	
98 1,3-Dichloropropane	76	8.366	8.366	0.000	96	16568	1.00	0.9423	
97 2-Hexanone	43	8.376	8.375	0.001	54	18064	4.00	3.86	
99 Tetrachloroethene	164	8.405	8.405	0.000	94	18364	1.00	1.02	
100 Chlorodibromomethane	129	8.602	8.592	0.010	90	11505	1.00	0.8786	
102 Ethylene Dibromide	107	8.750	8.740	0.010	98	9027	1.00	0.9496	
103 1-Chlorohexane	91	9.094	9.094	0.000	88	32691	1.00	0.9814	
104 Chlorobenzene	112	9.193	9.193	0.000	91	48885	1.00	1.03	
105 1,1,1,2-Tetrachloroethane	131	9.242	9.242	0.000	94	15282	1.00	0.9820	
106 Ethylbenzene	106	9.272	9.262	0.010	99	25736	1.00	0.9888	
107 m-Xylene & p-Xylene	106	9.370	9.370	0.000	0	29653	1.00	0.9536	
109 Styrene	104	9.774	9.764	0.010	77	35472	1.00	0.8773	
108 o-Xylene	106	9.774	9.764	0.010	88	28779	1.00	1.01	
110 Bromoform	173	9.981	9.980	0.001	83	5169	1.00	0.8346	
111 Isopropylbenzene	105	10.109	10.108	0.001	97	77682	1.00	0.9310	
113 Cyclohexanone	55	10.217	10.217	0.000	94	16493	40.0	36.0	
114 1,1,2,2-Tetrachloroethane	83	10.345	10.345	0.000	87	10962	1.00	0.99	
115 trans-1,4-Dichloro-2-buten	53	10.404	10.404	0.000	1	1591	1.00	1.05	
116 1,2,3-Trichloropropane	110	10.414	10.414	0.000	80	2005	1.00	1.01	
117 Bromobenzene	156	10.453	10.453	0.000	92	16291	1.00	0.9684	
118 N-Propylbenzene	120	10.493	10.492	0.001	99	18977	1.00	0.9240	
120 2-Chlorotoluene	126	10.601	10.601	0.000	95	17717	1.00	0.9519	
119 1,3,5-Trimethylbenzene	105	10.631	10.630	0.000	93	65999	1.00	0.9794	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
121 4-Chlorotoluene	126	10.690	10.689	0.001	98	17312	1.00	0.9522	
122 tert-Butylbenzene	119	10.926	10.926	0.000	94	61912	1.00	1.00	
123 1,2,4-Trimethylbenzene	105	10.965	10.965	0.000	94	65117	1.00	0.99	
124 sec-Butylbenzene	134	11.113	11.113	0.000	96	15204	1.00	0.9745	
125 4-Isopropyltoluene	119	11.221	11.221	0.000	97	71897	1.00	0.9863	
126 1,3-Dichlorobenzene	146	11.241	11.241	0.000	97	35367	1.00	1.01	
127 1,4-Dichlorobenzene	146	11.310	11.310	0.000	92	36381	1.00	1.02	
129 n-Butylbenzene	91	11.576	11.576	0.000	99	83486	1.00	0.9579	
130 1,2-Dichlorobenzene	146	11.645	11.644	0.001	94	27219	1.00	0.9727	
131 1,2-Dibromo-3-Chloropropan	157	12.334	12.334	0.000	1	767	1.00	1.24	M
132 1,2,4-Trichlorobenzene	180	13.201	13.190	0.010	94	16103	1.00	0.8989	
133 Hexachlorobutadiene	225	13.348	13.348	0.000	95	15586	1.00	1.01	
134 Naphthalene	128	13.486	13.486	0.000	95	16440	1.00	0.8089	
135 1,2,3-Trichlorobenzene	180	13.762	13.752	0.010	94	14873	1.00	0.9885	
S 142 1,2-Dichloroethene, Total	96				0		2.00	2.04	
S 137 Xylenes, Total (URS)	1				0		2.00	1.97	
S 141 Xylenes, Total	106				0		2.00	1.97	
S 138 Total BTEX	1				0			4.93	
S 140 1,2-Dichloroethene, Total	1				0		2.00	2.04	
S 136 Trihalomethanes, Total	1				0		4.00	3.68	
S 139 1,3-Dichloropropene, Total	1				0		2.00	1.79	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL
MV-ARCH SS A_00107	Amount Added:	0.08	Units: uL
MV-MegaMainA_00002	Amount Added:	0.40	Units: uL

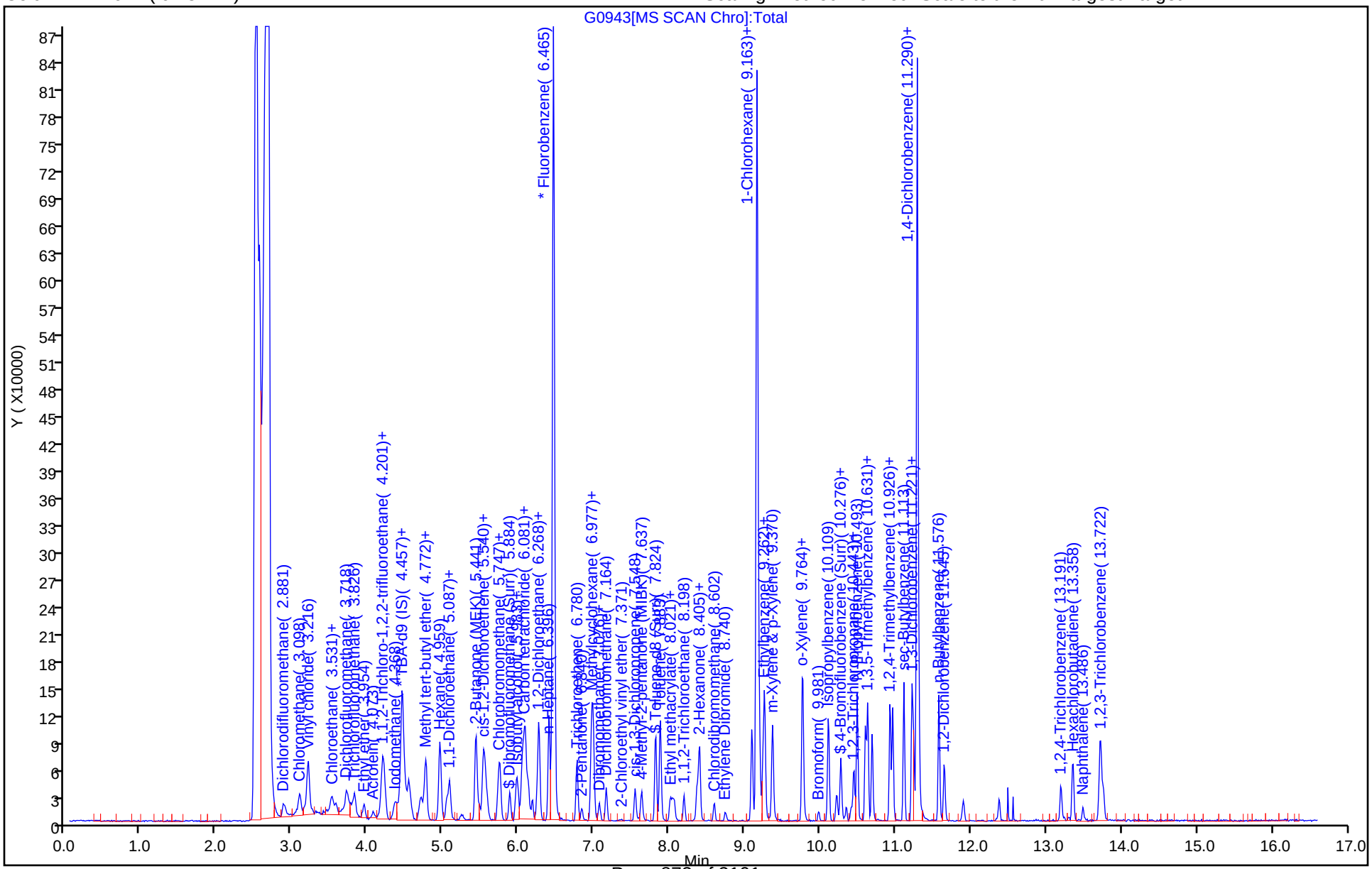
Report Date: 30-Oct-2018 01:32:53 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0943.D

Injection Date:	29-Oct-2018 20:20:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	STD01			Worklist Smp#:	11
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

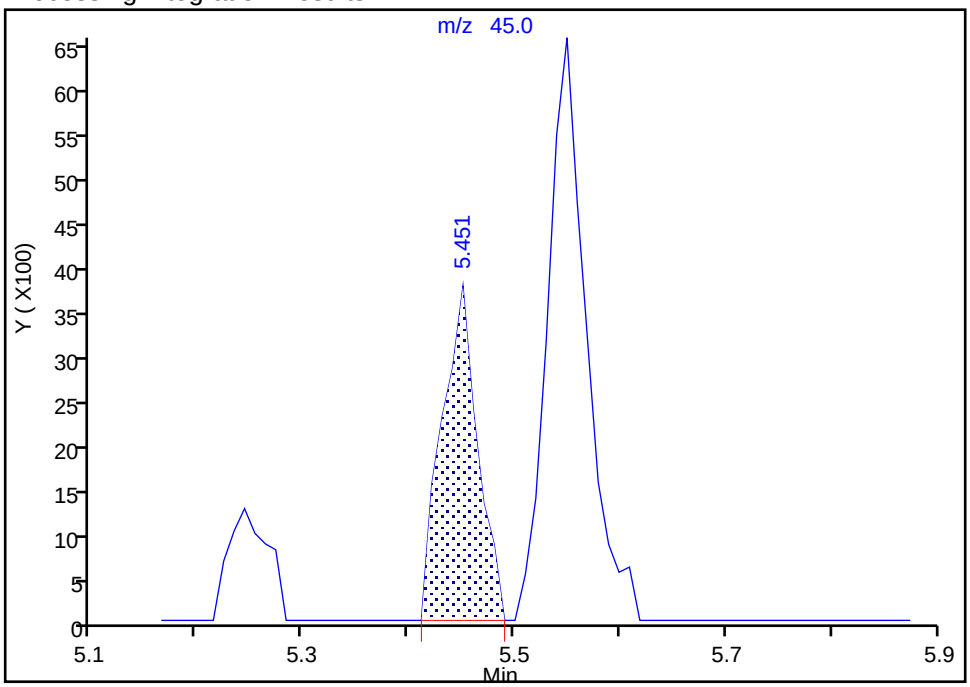
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0943.D
Injection Date: 29-Oct-2018 20:20:30 Instrument ID: VMS_G
Lims ID: STD01
Client ID:
Operator ID: newcomer ALS Bottle#: 12 Worklist Smp#: 11
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

65 sec-Butyl Alcohol, CAS: 78-92-2

Signal: 1

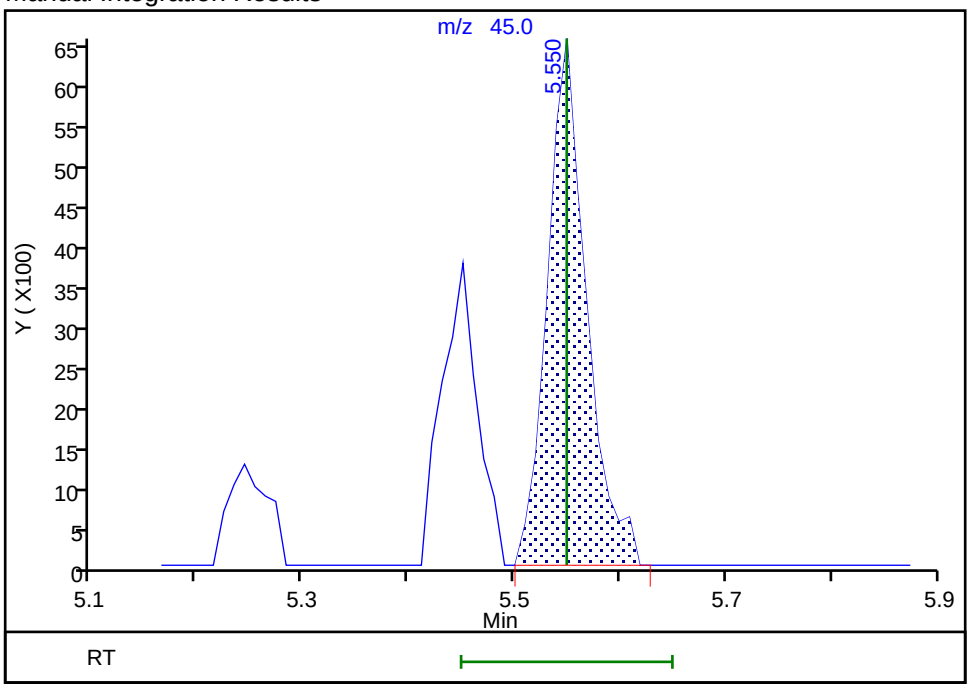
Processing Integration Results

RT: 5.45
Area: 8851
Amount: 38.384312
Amount Units: ug/l



Manual Integration Results

RT: 5.55
Area: 16814
Amount: 29.083074
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:24:01
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

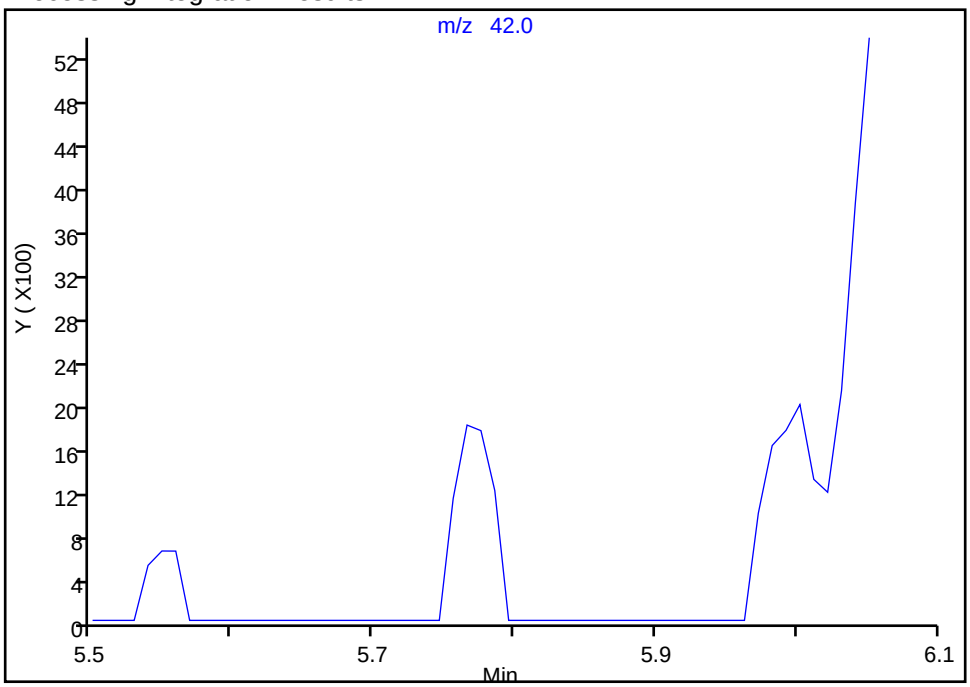
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0943.D
Injection Date: 29-Oct-2018 20:20:30 Instrument ID: VMS_G
Lims ID: STD01
Client ID:
Operator ID: newcomer ALS Bottle#: 12 Worklist Smp#: 11
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

71 Tetrahydrofuran, CAS: 109-99-9

Signal: 1

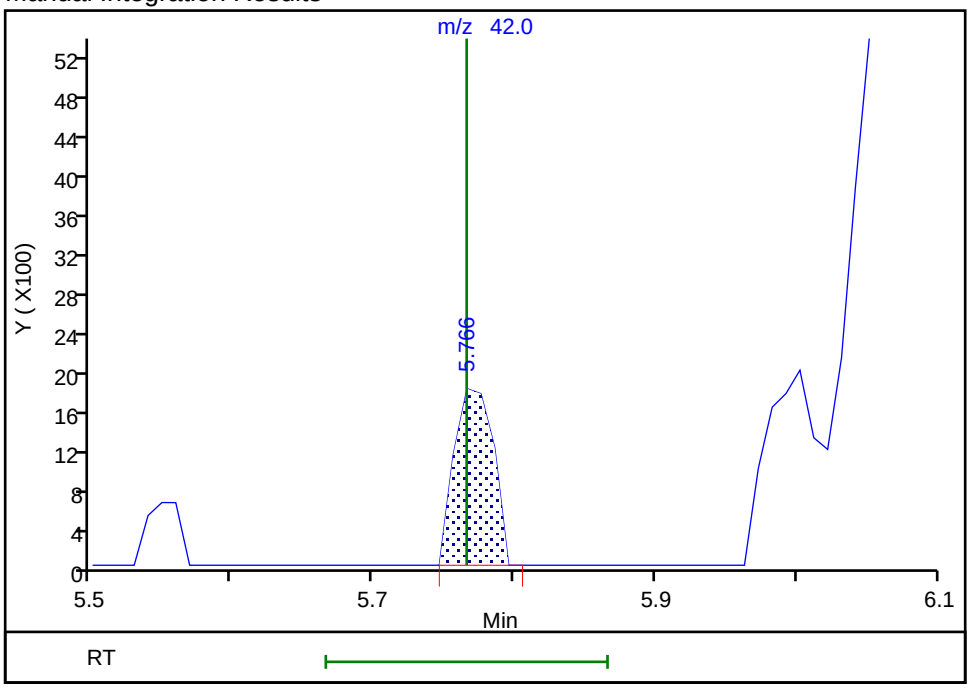
Not Detected
Expected RT: 5.77

Processing Integration Results



Manual Integration Results

RT: 5.77
Area: 3432
Amount: 1.535566
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:24:13
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

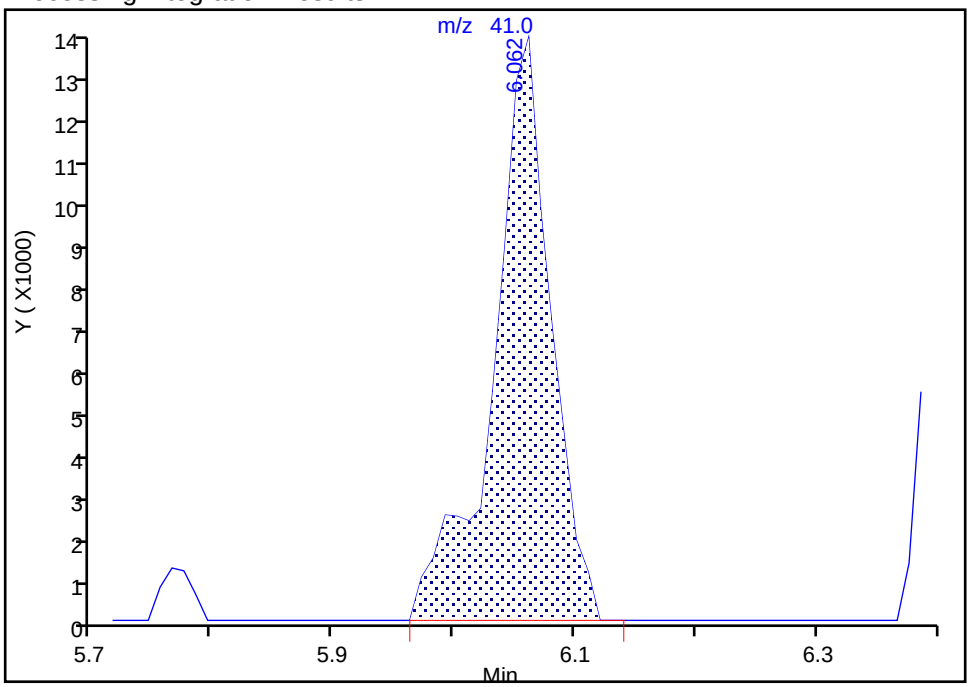
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0943.D
Injection Date: 29-Oct-2018 20:20:30 Instrument ID: VMS_G
Lims ID: STD01
Client ID:
Operator ID: newcomer ALS Bottle#: 12 Worklist Smp#: 11
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

72 Isobutyl alcohol, CAS: 78-83-1

Signal: 1

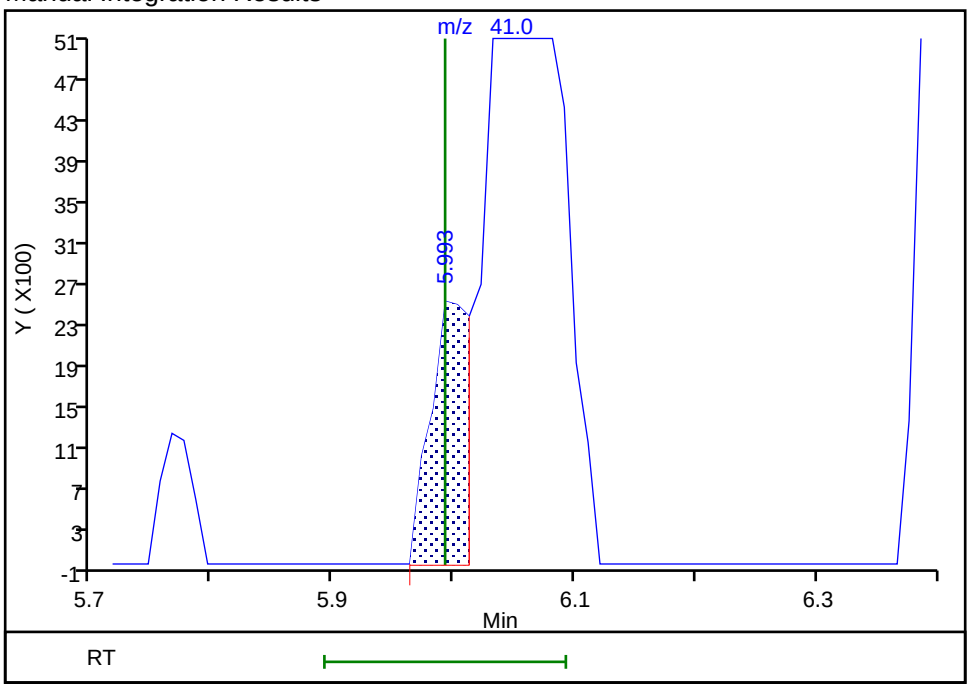
Processing Integration Results

RT: 6.06
Area: 46075
Amount: 48.650592
Amount Units: ug/l



Manual Integration Results

RT: 5.99
Area: 5882
Amount: 23.959629
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:24:35
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

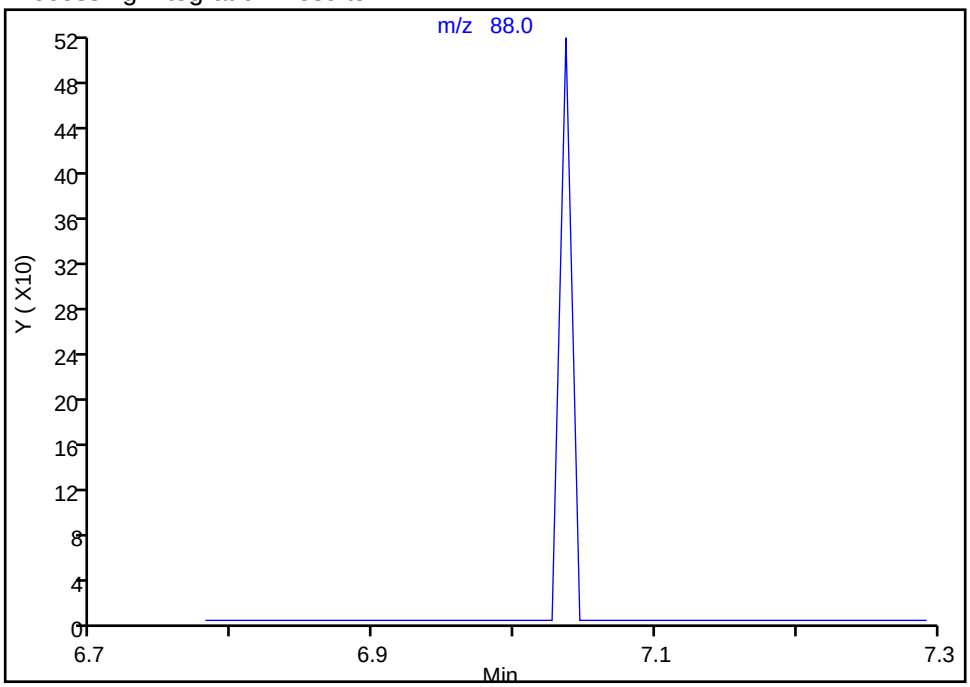
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0943.D
Injection Date: 29-Oct-2018 20:20:30 Instrument ID: VMS_G
Lims ID: STD01
Client ID:
Operator ID: newcomer ALS Bottle#: 12 Worklist Smp#: 11
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

86 1,4-Dioxane, CAS: 123-91-1

Signal: 1

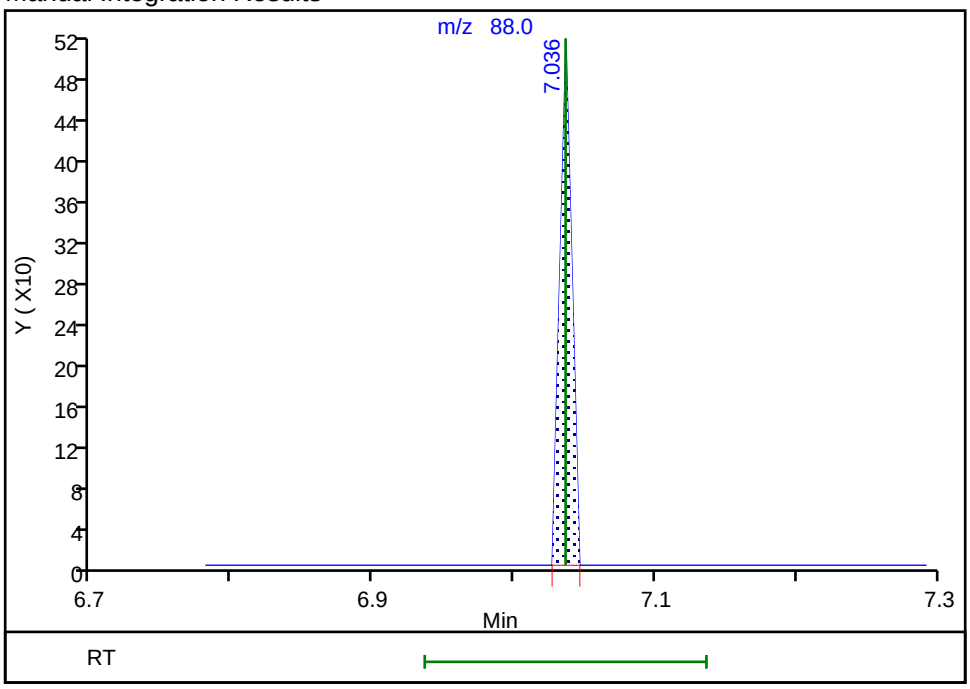
Not Detected
Expected RT: 7.04

Processing Integration Results



Manual Integration Results

RT: 7.04
Area: 306
Amount: 19.676721
Amount Units: ug/l



Reviewer: newcomer, 30-Oct-2018 01:27:43
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

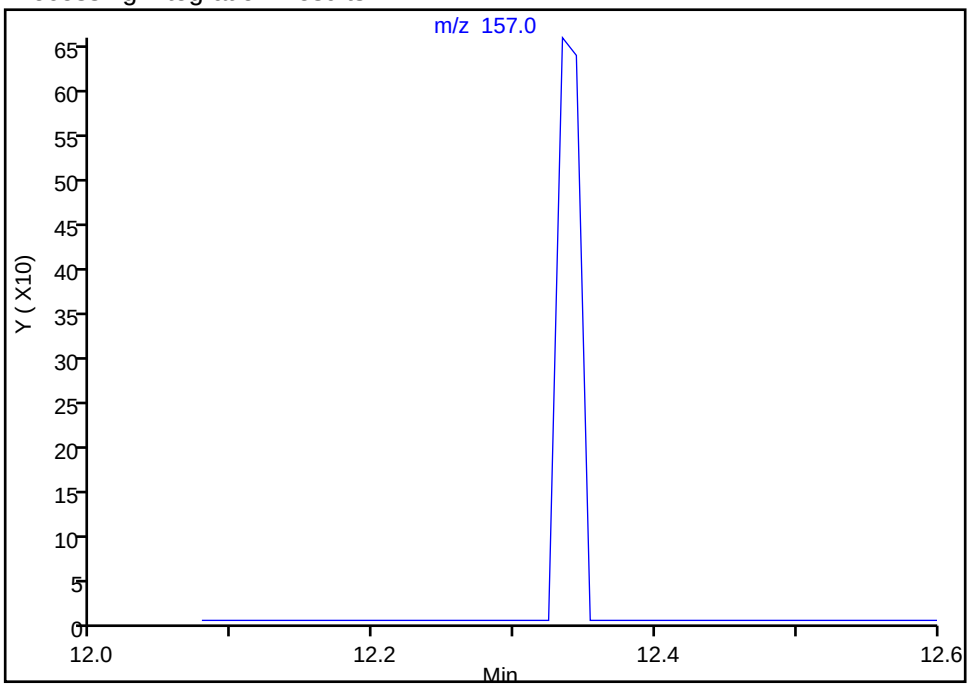
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0943.D
Injection Date: 29-Oct-2018 20:20:30 Instrument ID: VMS_G
Lims ID: STD01
Client ID:
Operator ID: newcomer ALS Bottle#: 12 Worklist Smp#: 11
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

131 1,2-Dibromo-3-Chloropropane, CAS: 96-12-8

Signal: 1

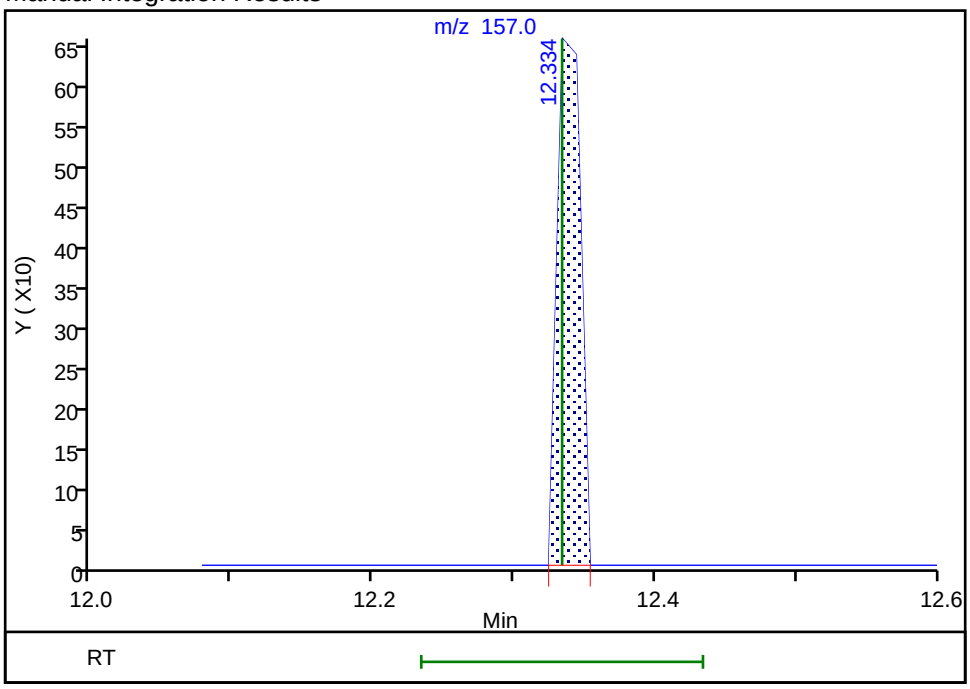
Not Detected
Expected RT: 12.33

Processing Integration Results



Manual Integration Results

RT: 12.33
Area: 767
Amount: 1.235977
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:25:26
Audit Action: Manually Integrated Audit Reason: Assign Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0944.D
Lims ID: STD02
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 29-Oct-2018 20:40:30 ALS Bottle#: 13 Worklist Smp#: 12
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: STD02
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub83

Method: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 30-Oct-2018 01:32:59 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: newcomer Date: 29-Oct-2018 21:27:53

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.457	4.466	-0.009	0	97517	250.0	250.0	
* 1 Fluorobenzene	96	6.465	6.465	0.000	97	799549	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.163	9.163	0.000	90	149302	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.290	11.290	0.000	97	205452	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.884	5.884	0.000	91	44360	2.00	1.97	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.190	6.180	0.010	0	32413	2.00	1.93	
$ 7 Toluene-d8 (Surr)	98	7.824	7.814	0.010	96	133819	2.00	1.98	
$ 8 4-Bromofluorobenzene (Surr	95	10.276	10.276	0.000	87	43456	2.00	1.98	
25 Dichlorodifluoromethane	85	2.891	2.891	0.000	99	63354	2.00	1.89	
27 Chloromethane	50	3.098	3.098	0.000	99	75526	2.00	1.96	
28 Vinyl chloride	62	3.216	3.216	0.000	83	60990	2.00	2.01	
31 Bromomethane	94	3.531	3.521	0.010	94	41400	2.00	2.00	
32 Chloroethane	64	3.580	3.570	0.010	95	29301	2.00	2.01	
33 Dichlorofluoromethane	67	3.718	3.718	0.000	98	76698	2.00	1.87	
35 Trichlorofluoromethane	101	3.836	3.826	0.010	99	76155	2.00	1.95	
38 Ethyl ether	59	3.954	3.954	0.000	94	21405	2.00	2.06	
41 Acrolein	56	4.073	4.072	0.001	96	24982	20.0	19.5	
42 Acetone	43	4.181	4.171	0.010	72	28654	8.00	8.20	
45 1,1-Dichloroethene	96	4.210	4.200	0.010	94	47165	2.00	1.96	
44 1,1,2-Trichloro-1,2,2-trif	151	4.210	4.200	0.010	70	36118	2.00	1.98	
47 Iodomethane	142	4.368	4.358	0.010	98	92918	2.00	1.95	
48 Methyl acetate	43	4.417	4.417	0.000	98	32047	4.00	3.90	
49 3-Chloro-1-propene	41	4.457	4.456	0.001	75	121229	2.00	1.97	
50 Carbon disulfide	76	4.466	4.456	0.010	97	244744	2.00	1.94	
51 2-Methyl-2-propanol	59	4.525	4.525	0.000	28	11747	20.0	19.5	
52 Methylene Chloride	84	4.545	4.545	0.000	98	49114	2.00	2.03	
53 Acrylonitrile	53	4.703	4.693	0.010	100	58190	20.0	19.9	
54 Methyl tert-butyl ether	73	4.742	4.742	0.000	98	49863	2.00	1.90	
55 trans-1,2-Dichloroethene	96	4.772	4.771	0.001	92	51347	2.00	2.01	
56 Hexane	57	4.959	4.959	0.000	94	94698	2.00	2.01	
57 Vinyl acetate	43	5.057	5.047	0.010	96	105388	4.00	3.75	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.087	5.087	0.000	97	101149	2.00	1.98	
62 2-Butanone (MEK)	43	5.490	5.480	0.010	97	33162	8.00	8.10	
66 cis-1,2-Dichloroethene	96	5.530	5.530	0.000	88	49758	2.00	2.01	
65 sec-Butyl Alcohol	45	5.550	5.549	0.001	50	32680	60.0	56.9	M
67 2,2-Dichloropropane	77	5.569	5.559	0.010	88	72588	2.00	2.02	
69 Chlorobromomethane	128	5.737	5.727	0.010	91	16732	2.00	2.01	
70 Chloroform	83	5.756	5.756	0.000	97	84022	2.00	1.97	
71 Tetrahydrofuran	42	5.766	5.766	0.000	37	8426	4.00	3.75	
73 1,1,1-Trichloroethane	97	5.983	5.973	0.010	96	73856	2.00	1.98	
72 Isobutyl alcohol	41	5.993	5.992	0.001	29	11641	50.0	47.7	M
74 Cyclohexane	56	6.062	6.052	0.010	94	112012	2.00	2.00	
75 1,1-Dichloropropene	75	6.091	6.091	0.000	91	78001	2.00	2.01	
76 Carbon tetrachloride	117	6.131	6.120	0.010	96	65538	2.00	2.00	
77 1,2-Dichloroethane	62	6.249	6.248	0.001	95	39267	2.00	1.96	
79 Benzene	78	6.278	6.268	0.010	98	180268	2.00	1.92	
13 n-Heptane	43	6.406	6.406	0.000	95	123110	2.00	1.94	
81 Trichloroethene	95	6.780	6.770	0.010	94	49671	2.00	1.95	
82 2-Pentanone	43	6.839	6.829	0.010	97	43051	8.00	7.80	
84 1,2-Dichloropropane	63	6.967	6.957	0.010	93	48144	2.00	2.04	
85 Methylcyclohexane	55	6.987	6.987	0.000	95	90479	2.00	1.96	
86 1,4-Dioxane	88	7.036	7.036	0.000	11	1715	40.0	42.1	
87 Dibromomethane	93	7.076	7.066	0.010	93	17950	2.00	1.94	
88 Dichlorobromomethane	83	7.164	7.164	0.000	97	48772	2.00	1.91	
90 2-Chloroethyl vinyl ether	63	7.371	7.361	0.010	73	2994	2.00	2.52	
91 cis-1,3-Dichloropropene	75	7.548	7.538	0.010	89	46805	2.00	1.86	
92 4-Methyl-2-pentanone (MIBK	43	7.637	7.627	0.010	96	65098	8.00	7.55	
93 Toluene	91	7.883	7.873	0.010	97	167135	2.00	1.97	
95 trans-1,3-Dichloropropene	75	8.011	8.011	0.000	96	34511	2.00	1.88	
94 Ethyl methacrylate	69	8.041	8.031	0.010	92	17245	2.00	1.90	
96 1,1,2-Trichloroethane	97	8.198	8.198	0.000	90	18091	2.00	1.89	
98 1,3-Dichloropropane	76	8.366	8.366	0.000	91	33231	2.00	1.91	
97 2-Hexanone	43	8.376	8.375	0.001	76	37383	8.00	7.30	
99 Tetrachloroethene	164	8.405	8.405	0.000	93	35967	2.00	2.01	
100 Chlorodibromomethane	129	8.602	8.592	0.010	89	25357	2.00	1.96	
102 Ethylene Dibromide	107	8.750	8.740	0.010	98	18519	2.00	1.97	
103 1-Chlorohexane	91	9.104	9.094	0.010	85	62936	2.00	1.91	
104 Chlorobenzene	112	9.193	9.193	0.000	92	93476	2.00	1.99	
105 1,1,1,2-Tetrachloroethane	131	9.252	9.242	0.010	94	30023	2.00	1.95	
106 Ethylbenzene	106	9.272	9.262	0.010	99	51367	2.00	2.00	
107 m-Xylene & p-Xylene	106	9.370	9.370	0.000	0	62169	2.00	2.02	
109 Styrene	104	9.774	9.764	0.010	79	76155	2.00	1.90	
108 o-Xylene	106	9.774	9.764	0.010	89	55046	2.00	1.96	
110 Bromoform	173	9.981	9.980	0.001	90	11361	2.00	1.86	
111 Isopropylbenzene	105	10.118	10.108	0.010	97	163110	2.00	1.99	
113 Cyclohexanone	55	10.227	10.217	0.010	98	34747	80.0	76.6	
114 1,1,2,2-Tetrachloroethane	83	10.345	10.345	0.000	91	21394	2.00	1.97	
115 trans-1,4-Dichloro-2-buten	53	10.404	10.404	0.000	5	3661	2.00	1.88	
116 1,2,3-Trichloropropane	110	10.414	10.414	0.000	83	3346	2.00	1.71	
117 Bromobenzene	156	10.453	10.453	0.000	94	32105	2.00	1.94	
118 N-Propylbenzene	120	10.493	10.492	0.001	99	41330	2.00	2.04	
120 2-Chlorotoluene	126	10.601	10.601	0.000	95	36642	2.00	2.00	
119 1,3,5-Trimethylbenzene	105	10.630	10.630	0.000	93	133451	2.00	2.01	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
121 4-Chlorotoluene	126	10.690	10.689	0.001	99	36065	2.00	2.02	
122 tert-Butylbenzene	119	10.936	10.926	0.010	93	122674	2.00	2.00	
123 1,2,4-Trimethylbenzene	105	10.965	10.965	0.000	96	128144	2.00	1.98	
124 sec-Butylbenzene	134	11.113	11.113	0.000	97	30738	2.00	2.00	
125 4-Isopropyltoluene	119	11.221	11.221	0.000	97	143353	2.00	2.00	
126 1,3-Dichlorobenzene	146	11.241	11.241	0.000	97	67110	2.00	1.96	
127 1,4-Dichlorobenzene	146	11.310	11.310	0.000	94	71731	2.00	2.05	
129 n-Butylbenzene	91	11.576	11.576	0.000	100	171076	2.00	1.99	
130 1,2-Dichlorobenzene	146	11.645	11.644	0.001	95	53321	2.00	1.94	
131 1,2-Dibromo-3-Chloropropan	157	12.334	12.334	0.000	1	1695	2.00	1.91	
132 1,2,4-Trichlorobenzene	180	13.191	13.190	0.001	93	33297	2.00	1.89	
133 Hexachlorobutadiene	225	13.358	13.348	0.010	95	30619	2.00	2.03	
134 Naphthalene	128	13.486	13.486	0.000	97	37160	2.00	1.86	
135 1,2,3-Trichlorobenzene	180	13.762	13.752	0.010	94	28672	2.00	1.94	
S 142 1,2-Dichloroethene, Total	96				0		4.00	4.03	
S 137 Xylenes, Total (URS)	1				0		4.00	3.98	
S 141 Xylenes, Total	106				0		4.00	3.98	
S 138 Total BTEX	1				0			9.87	
S 140 1,2-Dichloroethene, Total	1				0		4.00	4.03	
S 136 Trihalomethanes, Total	1				0		8.00	7.69	
S 139 1,3-Dichloropropene, Total	1				0		4.00	3.74	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL
MV-ARCH SS A_00107	Amount Added:	0.16	Units: uL
MV-MegaMainA_00002	Amount Added:	0.80	Units: uL

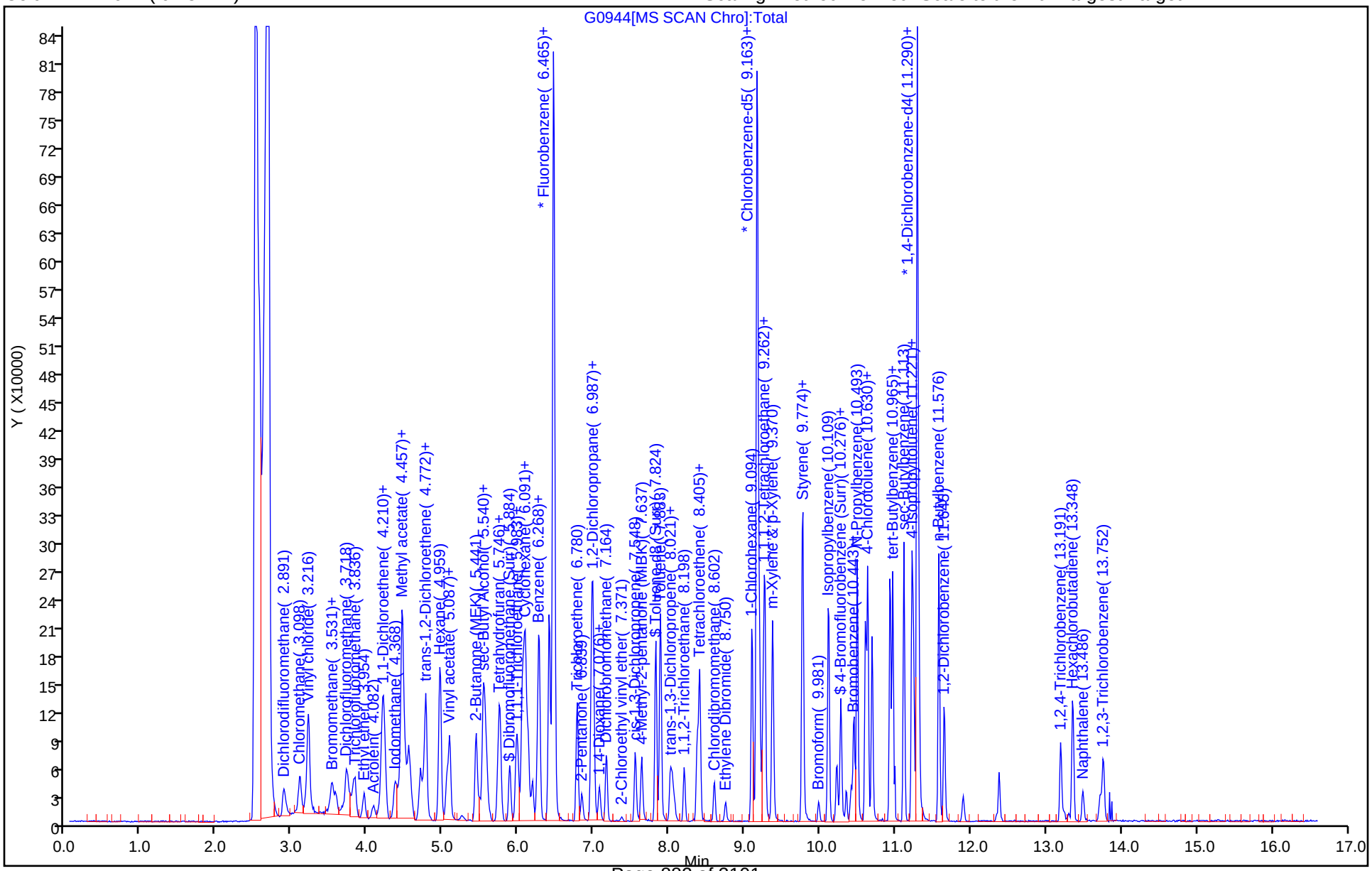
Report Date: 30-Oct-2018 01:33:00 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0944.D

Injection Date:	29-Oct-2018 20:40:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	STD02			Worklist Smp#:	12
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

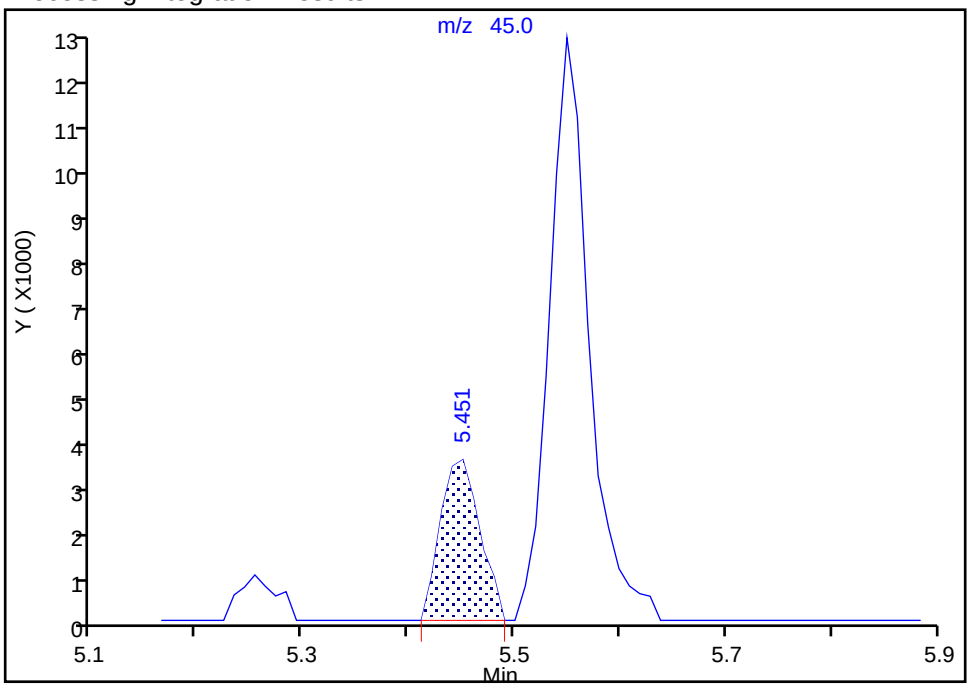
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0944.D
Injection Date: 29-Oct-2018 20:40:30 Instrument ID: VMS_G
Lims ID: STD02
Client ID:
Operator ID: newcomer ALS Bottle#: 13 Worklist Smp#: 12
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

65 sec-Butyl Alcohol, CAS: 78-92-2

Signal: 1

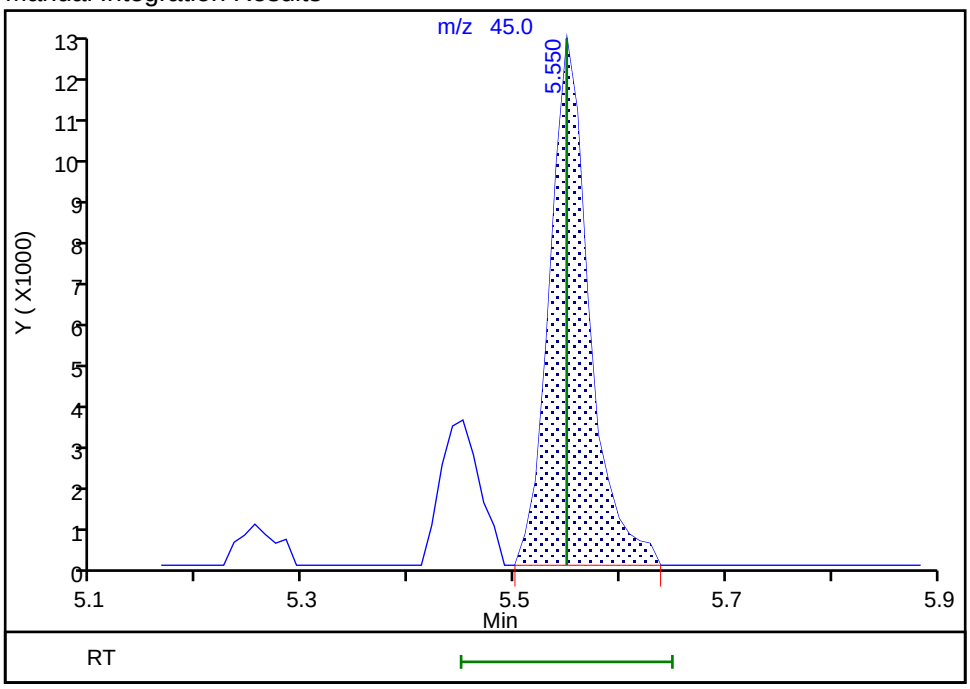
Processing Integration Results

RT: 5.45
Area: 8946
Amount: 31.301173
Amount Units: ug/l



Manual Integration Results

RT: 5.55
Area: 32680
Amount: 56.906074
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:26:04
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

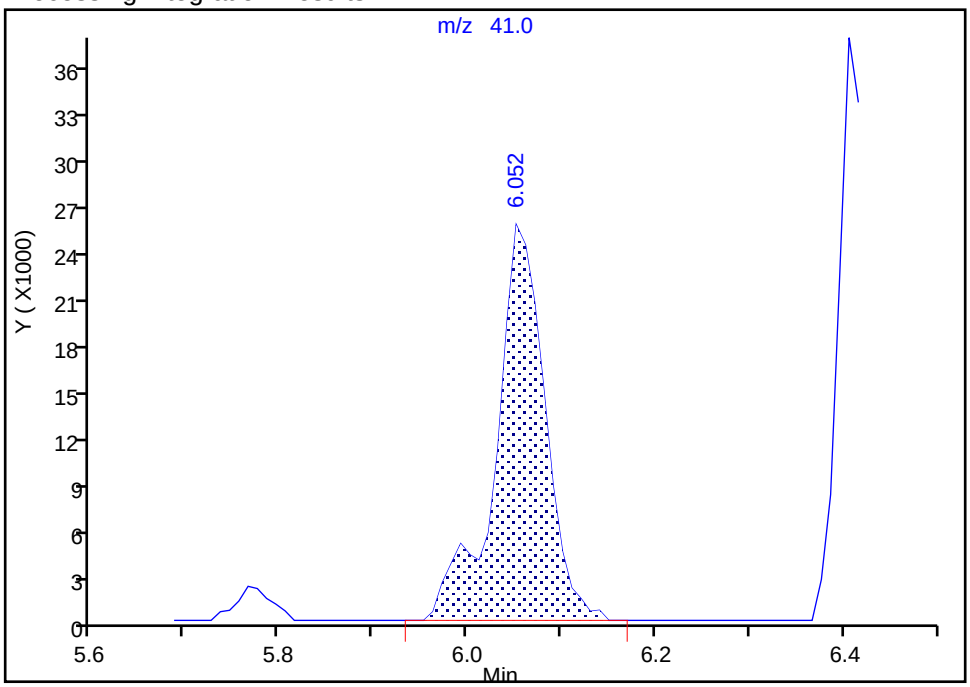
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0944.D
Injection Date: 29-Oct-2018 20:40:30 Instrument ID: VMS_G
Lims ID: STD02
Client ID:
Operator ID: newcomer ALS Bottle#: 13 Worklist Smp#: 12
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

72 Isobutyl alcohol, CAS: 78-83-1

Signal: 1

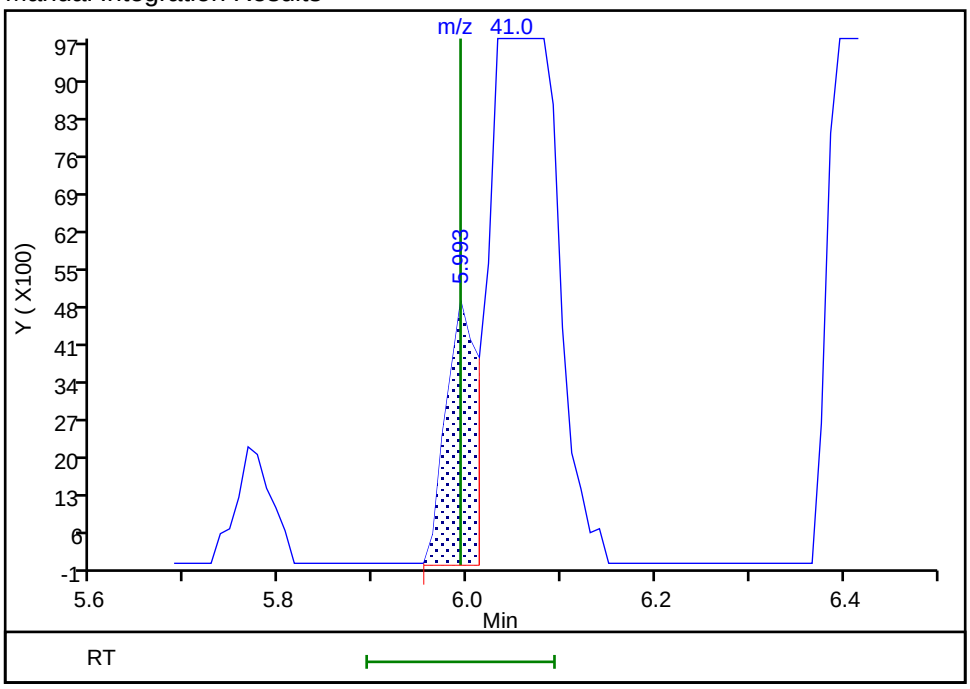
Processing Integration Results

RT: 6.05
Area: 92360
Amount: 129.6101
Amount Units: ug/l



Manual Integration Results

RT: 5.99
Area: 11641
Amount: 47.736731
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:26:26
Audit Action: Manually Integrated Audit Reason: Assign Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0945.D
Lims ID: STD05
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 29-Oct-2018 21:01:30 ALS Bottle#: 14 Worklist Smp#: 13
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: STD05
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub83

Method: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 30-Oct-2018 01:33:05 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: newcomer Date: 29-Oct-2018 21:53:46

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.467	4.466	0.001	0	95862	250.0	250.0	
* 1 Fluorobenzene	96	6.466	6.465	0.001	97	757067	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.164	9.163	0.001	91	141631	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.291	11.290	0.001	96	196130	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.885	5.884	0.001	90	103325	5.00	4.84	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.190	6.180	0.010	0	81861	5.00	5.14	
$ 7 Toluene-d8 (Surr)	98	7.815	7.814	0.001	95	314805	5.00	4.90	
$ 8 4-Bromofluorobenzene (Surr	95	10.277	10.276	0.001	86	103489	5.00	4.94	
25 Dichlorodifluoromethane	85	2.892	2.891	0.001	100	139187	5.00	4.38	
27 Chloromethane	50	3.098	3.098	0.000	100	174028	5.00	4.78	
28 Vinyl chloride	62	3.217	3.216	0.001	79	133003	5.00	4.63	
31 Bromomethane	94	3.522	3.521	0.001	93	90558	5.00	4.62	
32 Chloroethane	64	3.581	3.570	0.011	96	67663	5.00	4.90	
33 Dichlorofluoromethane	67	3.719	3.718	0.001	98	192583	5.00	4.97	
35 Trichlorofluoromethane	101	3.827	3.826	0.001	98	174225	5.00	4.72	
38 Ethyl ether	59	3.955	3.954	0.001	92	46427	5.00	4.72	
41 Acrolein	56	4.073	4.072	0.001	98	58037	50.0	47.8	
42 Acetone	43	4.172	4.171	0.001	97	55651	20.0	18.7	
45 1,1-Dichloroethene	96	4.201	4.200	0.001	93	106249	5.00	4.66	
44 1,1,2-Trichloro-1,2,2-trif	151	4.201	4.200	0.001	95	79815	5.00	4.62	
47 Iodomethane	142	4.369	4.358	0.011	98	219276	5.00	4.87	
48 Methyl acetate	43	4.418	4.417	0.001	98	70047	10.0	9.94	
49 3-Chloro-1-propene	41	4.457	4.456	0.001	87	283250	5.00	4.87	
50 Carbon disulfide	76	4.457	4.456	0.001	97	575368	5.00	4.83	
51 2-Methyl-2-propanol	59	4.526	4.525	0.001	93	28566	50.0	48.1	
52 Methylene Chloride	84	4.546	4.545	0.001	97	108438	5.00	4.74	
53 Acrylonitrile	53	4.694	4.693	0.001	99	135971	50.0	49.2	
54 Methyl tert-butyl ether	73	4.743	4.742	0.001	97	123239	5.00	4.97	
55 trans-1,2-Dichloroethene	96	4.772	4.771	0.001	93	121426	5.00	5.03	
56 Hexane	57	4.959	4.959	0.000	94	220907	5.00	4.95	
57 Vinyl acetate	43	5.048	5.047	0.001	96	260435	10.0	9.78	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.087	5.087	0.000	97	234058	5.00	4.84	
62 2-Butanone (MEK)	43	5.481	5.480	0.001	96	76420	20.0	19.7	
66 cis-1,2-Dichloroethene	96	5.531	5.530	0.000	88	116313	5.00	4.97	
65 sec-Butyl Alcohol	45	5.550	5.549	0.001	96	82723	150.0	146.5	a
67 2,2-Dichloropropane	77	5.570	5.559	0.011	90	163633	5.00	4.82	
69 Chlorobromomethane	128	5.727	5.727	0.000	90	39720	5.00	5.03	
70 Chloroform	83	5.757	5.756	0.001	98	198447	5.00	4.92	
71 Tetrahydrofuran	42	5.767	5.766	0.001	91	22524	10.0	10.6	
73 1,1,1-Trichloroethane	97	5.974	5.973	0.001	96	172322	5.00	4.88	
72 Isobutyl alcohol	41	5.993	5.992	0.001	29	29194	125.0	121.8	M
74 Cyclohexane	56	6.052	6.052	0.000	97	259166	5.00	4.89	
75 1,1-Dichloropropene	75	6.092	6.091	0.001	92	184304	5.00	5.01	
76 Carbon tetrachloride	117	6.131	6.120	0.011	96	153675	5.00	4.95	
77 1,2-Dichloroethane	62	6.249	6.248	0.001	96	94931	5.00	5.01	
79 Benzene	78	6.269	6.268	0.001	98	439450	5.00	4.94	
13 n-Heptane	43	6.407	6.406	0.001	96	299368	5.00	4.98	
81 Trichloroethene	95	6.771	6.770	0.001	94	117212	5.00	4.85	
82 2-Pentanone	43	6.840	6.829	0.011	97	107988	20.0	18.5	
84 1,2-Dichloropropane	63	6.968	6.957	0.011	92	112117	5.00	5.01	
85 Methylcyclohexane	55	6.988	6.987	0.001	96	216098	5.00	4.95	
86 1,4-Dioxane	88	7.037	7.036	0.001	85	4579	100.0	92.0	
87 Dibromomethane	93	7.067	7.066	0.001	90	44866	5.00	5.12	
88 Dichlorobromomethane	83	7.165	7.164	0.001	97	118765	5.00	4.91	
90 2-Chloroethyl vinyl ether	63	7.372	7.361	0.011	86	8071	5.00	4.56	
91 cis-1,3-Dichloropropene	75	7.549	7.538	0.011	90	121494	5.00	5.08	
92 4-Methyl-2-pentanone (MIBK	43	7.628	7.627	0.001	96	161325	20.0	19.8	
93 Toluene	91	7.884	7.873	0.011	97	408414	5.00	5.08	
95 trans-1,3-Dichloropropene	75	8.012	8.011	0.001	97	83416	5.00	4.81	
94 Ethyl methacrylate	69	8.041	8.031	0.010	97	44174	5.00	4.69	
96 1,1,2-Trichloroethane	97	8.199	8.198	0.001	92	47776	5.00	5.28	
98 1,3-Dichloropropane	76	8.366	8.366	0.000	97	84408	5.00	5.12	
97 2-Hexanone	43	8.376	8.375	0.001	96	98383	20.0	19.0	
99 Tetrachloroethene	164	8.406	8.405	0.001	94	83074	5.00	4.90	
100 Chlorodibromomethane	129	8.593	8.592	0.001	89	62472	5.00	5.09	
102 Ethylene Dibromide	107	8.741	8.740	0.001	96	45134	5.00	5.06	
103 1-Chlorohexane	91	9.095	9.094	0.001	85	160054	5.00	5.12	
104 Chlorobenzene	112	9.193	9.193	0.000	90	224021	5.00	5.03	
105 1,1,1,2-Tetrachloroethane	131	9.243	9.242	0.001	95	75026	5.00	5.14	
106 Ethylbenzene	106	9.262	9.262	0.000	99	126521	5.00	5.18	
107 m-Xylene & p-Xylene	106	9.371	9.370	0.001	0	151594	5.00	5.20	
109 Styrene	104	9.774	9.764	0.010	82	202146	5.00	5.33	
108 o-Xylene	106	9.765	9.764	0.001	88	138597	5.00	5.21	
110 Bromoform	173	9.981	9.980	0.001	92	29394	5.00	5.06	
111 Isopropylbenzene	105	10.109	10.108	0.001	97	395568	5.00	5.05	
113 Cyclohexanone	55	10.218	10.217	0.001	97	84219	200.0	195.8	
114 1,1,2,2-Tetrachloroethane	83	10.346	10.345	0.001	92	53220	5.00	5.12	
115 trans-1,4-Dichloro-2-buten	53	10.405	10.404	0.001	66	9832	5.00	4.52	
116 1,2,3-Trichloropropane	110	10.424	10.414	0.010	85	9292	5.00	4.98	
117 Bromobenzene	156	10.454	10.453	0.001	96	78958	5.00	5.00	
118 N-Propylbenzene	120	10.493	10.492	0.001	99	100479	5.00	5.21	
120 2-Chlorotoluene	126	10.602	10.601	0.001	95	87437	5.00	5.00	
119 1,3,5-Trimethylbenzene	105	10.631	10.630	0.001	93	324410	5.00	5.12	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
121 4-Chlorotoluene	126	10.690	10.689	0.001	99	88086	5.00	5.16	
122 tert-Butylbenzene	119	10.927	10.926	0.000	93	304055	5.00	5.21	
123 1,2,4-Trimethylbenzene	105	10.966	10.965	0.001	95	311818	5.00	5.05	
124 sec-Butylbenzene	134	11.114	11.113	0.001	96	73805	5.00	5.04	
125 4-Isopropyltoluene	119	11.222	11.221	0.001	97	350030	5.00	5.11	
126 1,3-Dichlorobenzene	146	11.242	11.241	0.001	96	164219	5.00	5.01	
127 1,4-Dichlorobenzene	146	11.311	11.310	0.001	93	166626	5.00	4.99	
129 n-Butylbenzene	91	11.576	11.576	0.000	99	420454	5.00	5.13	
130 1,2-Dichlorobenzene	146	11.645	11.644	0.001	96	132845	5.00	5.05	
131 1,2-Dibromo-3-Chloropropan	157	12.335	12.334	0.001	83	4946	5.00	4.40	
132 1,2,4-Trichlorobenzene	180	13.191	13.190	0.001	95	85792	5.00	5.10	
133 Hexachlorobutadiene	225	13.349	13.348	0.001	97	69950	5.00	4.85	
134 Naphthalene	128	13.487	13.486	0.001	97	94538	5.00	4.95	
135 1,2,3-Trichlorobenzene	180	13.753	13.752	0.000	93	69580	5.00	4.92	
S 142 1,2-Dichloroethene, Total	96				0		10.0	10.0	
S 137 Xylenes, Total (URS)	1				0		10.0	10.4	
S 141 Xylenes, Total	106				0		10.0	10.4	
S 138 Total BTEX	1				0			25.6	
S 140 1,2-Dichloroethene, Total	1				0		10.0	10.0	
S 136 Trihalomethanes, Total	1				0		20.0	20.0	
S 139 1,3-Dichloropropene, Total	1				0		10.0	9.89	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL
MV-ARCH SS A_00107	Amount Added:	0.40	Units: uL
MV-MegaMainA_00002	Amount Added:	2.00	Units: uL

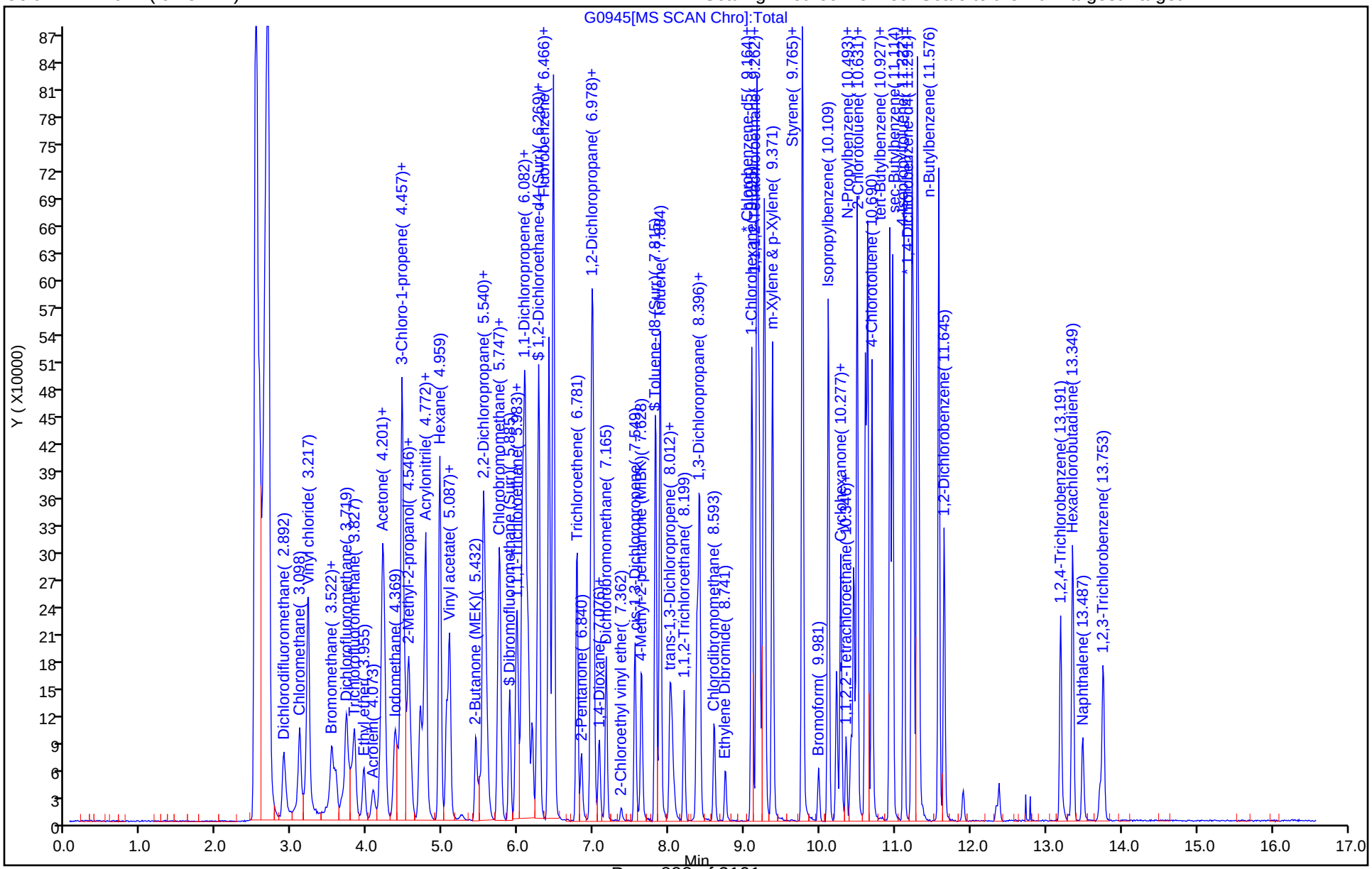
Report Date: 30-Oct-2018 01:33:06 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0945.D

Injection Date:	29-Oct-2018 21:01:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	STD05			Worklist Smp#:	13
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

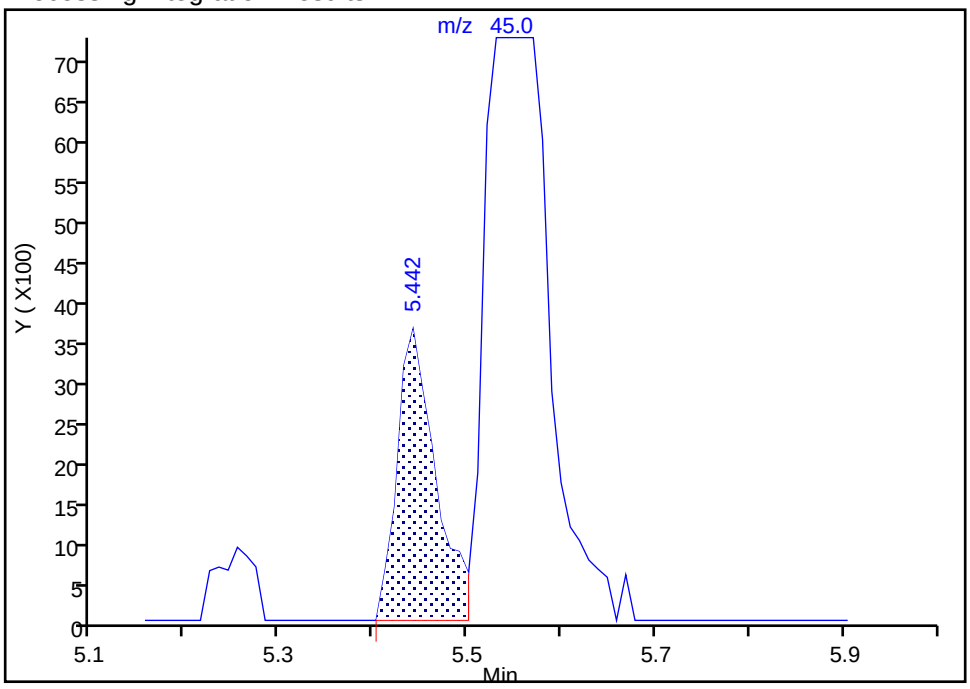
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0945.D
Injection Date: 29-Oct-2018 21:01:30 Instrument ID: VMS_G
Lims ID: STD05
Client ID:
Operator ID: newcomer ALS Bottle#: 14 Worklist Smp#: 13
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

65 sec-Butyl Alcohol, CAS: 78-92-2

Signal: 1

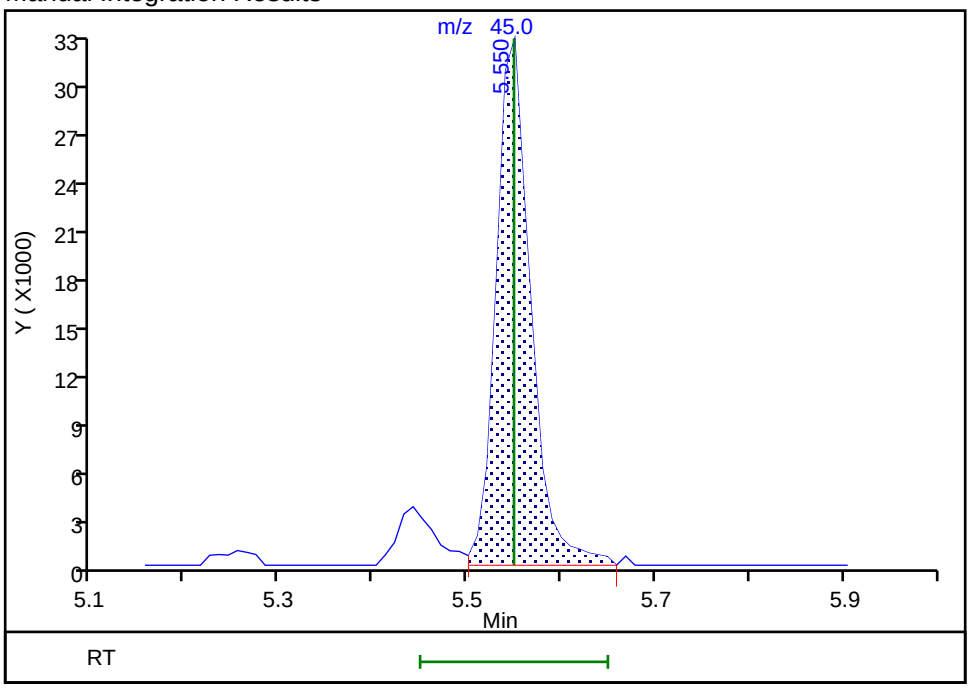
Processing Integration Results

RT: 5.44
Area: 10289
Amount: 55.714609
Amount Units: ug/l



Manual Integration Results

RT: 5.55
Area: 82723
Amount: 146.5334
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:31:00
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

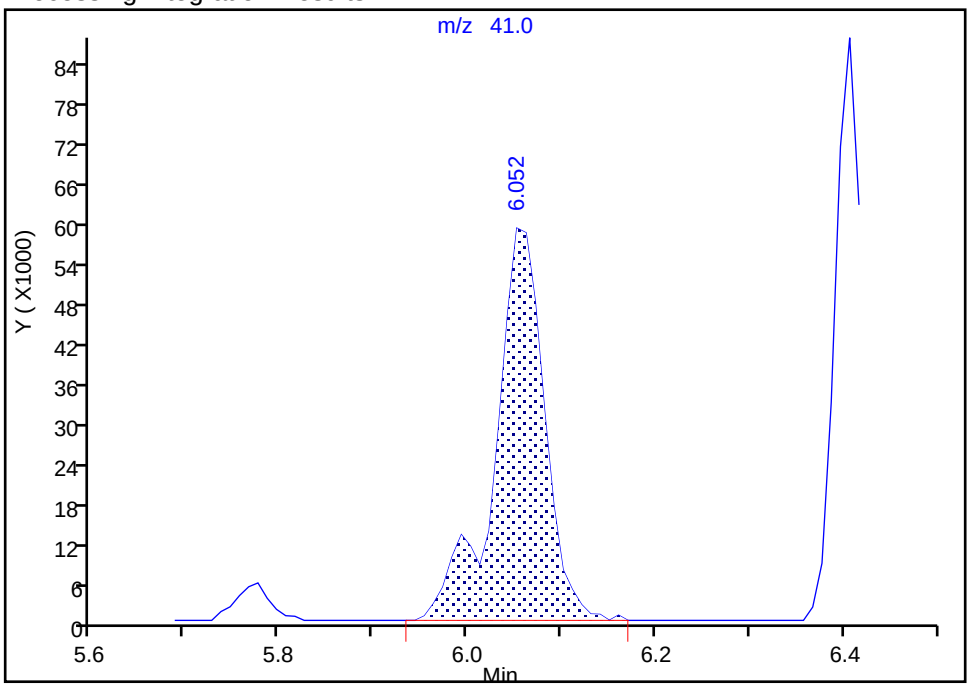
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0945.D
Injection Date: 29-Oct-2018 21:01:30 Instrument ID: VMS_G
Lims ID: STD05
Client ID:
Operator ID: newcomer ALS Bottle#: 14 Worklist Smp#: 13
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

72 Isobutyl alcohol, CAS: 78-83-1

Signal: 1

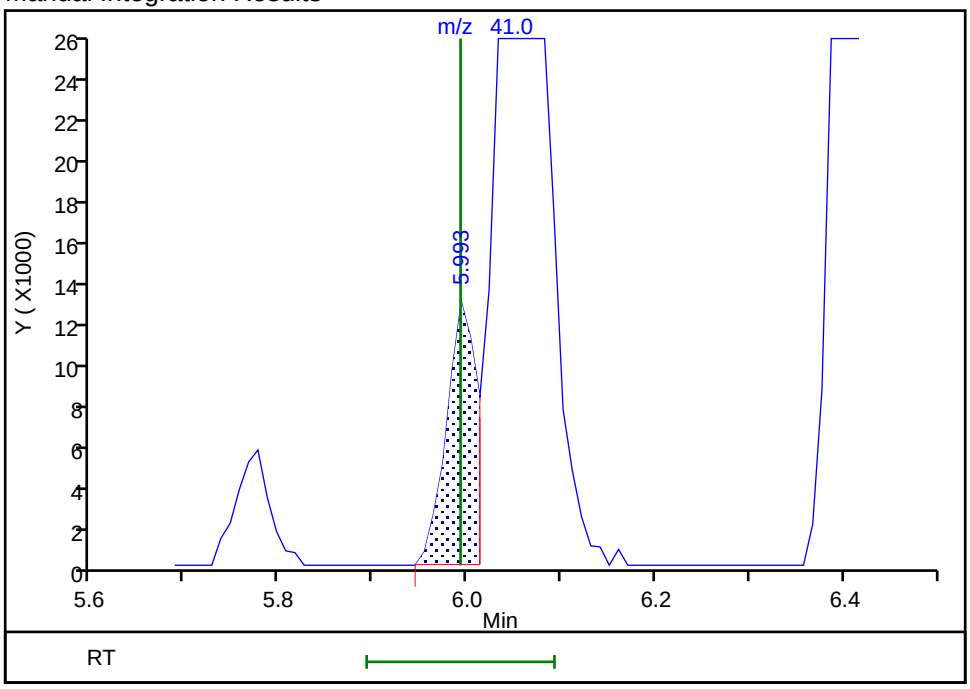
Processing Integration Results

RT: 6.05
Area: 216778
Amount: 317.5217
Amount Units: ug/l



Manual Integration Results

RT: 5.99
Area: 29194
Amount: 121.7839
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 21:31:22
Audit Action: Manually Integrated Audit Reason: Split Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0946.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 29-Oct-2018 21:21:30 ALS Bottle#: 15 Worklist Smp#: 14
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: STD10
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub83

Method: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 30-Oct-2018 01:33:12 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: newcomer Date: 29-Oct-2018 22:12:11

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.466	4.466	0.000	0	98670	250.0	250.0	
* 1 Fluorobenzene	96	6.465	6.465	0.000	98	795389	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.163	9.163	0.000	89	150141	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.290	11.290	0.000	96	211577	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.884	5.884	0.000	91	225337	10.0	10.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.180	6.180	0.000	0	177998	10.0	10.6	
$ 7 Toluene-d8 (Surr)	98	7.814	7.814	0.000	95	710539	10.0	10.4	
$ 8 4-Bromofluorobenzene (Surr	95	10.276	10.276	0.000	86	226859	10.0	10.0	
25 Dichlorodifluoromethane	85	2.891	2.891	0.000	99	362413	10.0	10.9	
27 Chloromethane	50	3.098	3.098	0.000	100	396078	10.0	10.4	
28 Vinyl chloride	62	3.216	3.216	0.000	82	321542	10.0	10.6	
31 Bromomethane	94	3.521	3.521	0.000	92	206962	10.0	10.1	
32 Chloroethane	64	3.570	3.570	0.000	97	151203	10.0	10.4	
33 Dichlorofluoromethane	67	3.718	3.718	0.000	98	430409	10.0	10.6	
35 Trichlorofluoromethane	101	3.826	3.826	0.000	99	400011	10.0	10.3	
38 Ethyl ether	59	3.954	3.954	0.000	95	111153	10.0	10.7	
41 Acrolein	56	4.072	4.072	0.000	98	126350	100.0	99.0	
42 Acetone	43	4.171	4.171	0.000	97	123625	40.0	41.6	
45 1,1-Dichloroethene	96	4.200	4.200	0.000	97	247671	10.0	10.3	
44 1,1,2-Trichloro-1,2,2-trif	151	4.200	4.200	0.000	98	188177	10.0	10.4	
47 Iodomethane	142	4.358	4.358	0.000	98	480128	10.0	10.1	
48 Methyl acetate	43	4.417	4.417	0.000	99	144708	20.0	20.2	
49 3-Chloro-1-propene	41	4.456	4.456	0.000	90	613782	10.0	10.0	
50 Carbon disulfide	76	4.456	4.456	0.000	97	1275023	10.0	10.2	
51 2-Methyl-2-propanol	59	4.525	4.525	0.000	94	61733	100.0	101.1	
52 Methylene Chloride	84	4.545	4.545	0.000	97	229711	10.0	9.55	
53 Acrylonitrile	53	4.693	4.693	0.000	97	295451	100.0	101.8	
54 Methyl tert-butyl ether	73	4.742	4.742	0.000	98	267198	10.0	10.3	
55 trans-1,2-Dichloroethene	96	4.771	4.771	0.000	93	263182	10.0	10.4	
56 Hexane	57	4.959	4.959	0.000	94	487229	10.0	10.3	
57 Vinyl acetate	43	5.047	5.047	0.000	96	556939	20.0	19.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.087	5.087	0.000	97	508858	10.0	10.0	
62 2-Butanone (MEK)	43	5.480	5.480	0.000	97	155653	40.0	38.2	
66 cis-1,2-Dichloroethene	96	5.530	5.530	0.000	89	251772	10.0	10.2	
65 sec-Butyl Alcohol	45	5.549	5.549	0.000	51	177391	300.0	305.3	a
67 2,2-Dichloropropane	77	5.559	5.559	0.000	89	354297	10.0	9.93	
69 Chlorobromomethane	128	5.727	5.727	0.000	91	86484	10.0	10.4	
70 Chloroform	83	5.756	5.756	0.000	98	427971	10.0	10.1	
71 Tetrahydrofuran	42	5.766	5.766	0.000	91	46435	20.0	20.8	
73 1,1,1-Trichloroethane	97	5.973	5.973	0.000	97	371046	10.0	10.0	
72 Isobutyl alcohol	41	5.992	5.992	0.000	93	65444	250.0	265.2	
74 Cyclohexane	56	6.052	6.052	0.000	96	572213	10.0	10.3	
75 1,1-Dichloropropene	75	6.091	6.091	0.000	92	401626	10.0	10.4	
76 Carbon tetrachloride	117	6.120	6.120	0.000	97	335539	10.0	10.3	
77 1,2-Dichloroethane	62	6.248	6.248	0.000	96	206859	10.0	10.4	
79 Benzene	78	6.268	6.268	0.000	98	962759	10.0	10.3	
13 n-Heptane	43	6.406	6.406	0.000	96	667293	10.0	10.6	
81 Trichloroethene	95	6.770	6.770	0.000	94	263490	10.0	10.4	
82 2-Pentanone	43	6.829	6.829	0.000	97	248379	40.0	38.9	
84 1,2-Dichloropropane	63	6.957	6.957	0.000	93	239556	10.0	10.2	
85 Methylcyclohexane	55	6.987	6.987	0.000	96	466620	10.0	10.2	
86 1,4-Dioxane	88	7.036	7.036	0.000	93	12207	200.0	210.6	
87 Dibromomethane	93	7.066	7.066	0.000	90	94278	10.0	10.2	
88 Dichlorobromomethane	83	7.164	7.164	0.000	97	267780	10.0	10.5	
90 2-Chloroethyl vinyl ether	63	7.361	7.361	0.000	90	19062	10.0	8.48	
91 cis-1,3-Dichloropropene	75	7.538	7.538	0.000	90	272041	10.0	10.7	
92 4-Methyl-2-pentanone (MIBK	43	7.627	7.627	0.000	96	365729	40.0	42.6	
93 Toluene	91	7.873	7.873	0.000	97	874116	10.0	10.4	
95 trans-1,3-Dichloropropene	75	8.011	8.011	0.000	98	195305	10.0	10.7	
94 Ethyl methacrylate	69	8.031	8.031	0.000	97	102768	10.0	9.97	
96 1,1,2-Trichloroethane	97	8.198	8.198	0.000	92	98799	10.0	10.4	
98 1,3-Dichloropropane	76	8.366	8.366	0.000	97	183045	10.0	10.5	
97 2-Hexanone	43	8.375	8.375	0.000	97	229989	40.0	41.0	
99 Tetrachloroethene	164	8.405	8.405	0.000	97	186097	10.0	10.3	
100 Chlorodibromomethane	129	8.592	8.592	0.000	90	137471	10.0	10.6	
102 Ethylene Dibromide	107	8.740	8.740	0.000	98	99612	10.0	10.5	
103 1-Chlorohexane	91	9.094	9.094	0.000	88	358435	10.0	10.8	
104 Chlorobenzene	112	9.193	9.193	0.000	90	479677	10.0	10.2	
105 1,1,1,2-Tetrachloroethane	131	9.242	9.242	0.000	97	159339	10.0	10.3	
106 Ethylbenzene	106	9.262	9.262	0.000	99	273345	10.0	10.6	
107 m-Xylene & p-Xylene	106	9.370	9.370	0.000	0	322272	10.0	10.4	
109 Styrene	104	9.764	9.764	0.000	79	453384	10.0	11.3	
108 o-Xylene	106	9.764	9.764	0.000	87	297710	10.0	10.6	
110 Bromoform	173	9.980	9.980	0.000	92	64074	10.0	10.4	
111 Isopropylbenzene	105	10.108	10.108	0.000	97	870005	10.0	10.3	
113 Cyclohexanone	55	10.217	10.217	0.000	98	196637	400.0	431.3	
114 1,1,2,2-Tetrachloroethane	83	10.345	10.345	0.000	94	110892	10.0	9.90	
115 trans-1,4-Dichloro-2-buten	53	10.404	10.404	0.000	85	23696	10.0	9.57	
116 1,2,3-Trichloropropane	110	10.414	10.414	0.000	85	20508	10.0	10.2	
117 Bromobenzene	156	10.453	10.453	0.000	96	177254	10.0	10.4	
118 N-Propylbenzene	120	10.492	10.492	0.000	99	219996	10.0	10.6	
120 2-Chlorotoluene	126	10.601	10.601	0.000	95	194794	10.0	10.3	
119 1,3,5-Trimethylbenzene	105	10.630	10.630	0.000	93	712392	10.0	10.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
121 4-Chlorotoluene	126	10.689	10.689	0.000	99	190303	10.0	10.3	
122 tert-Butylbenzene	119	10.926	10.926	0.000	94	661137	10.0	10.5	
123 1,2,4-Trimethylbenzene	105	10.965	10.965	0.000	96	689309	10.0	10.4	
124 sec-Butylbenzene	134	11.113	11.113	0.000	96	164606	10.0	10.4	
125 4-Isopropyltoluene	119	11.221	11.221	0.000	97	777623	10.0	10.5	
126 1,3-Dichlorobenzene	146	11.241	11.241	0.000	97	357284	10.0	10.1	
127 1,4-Dichlorobenzene	146	11.310	11.310	0.000	92	351050	10.0	9.74	
129 n-Butylbenzene	91	11.576	11.576	0.000	99	911161	10.0	10.3	
130 1,2-Dichlorobenzene	146	11.644	11.644	0.000	95	286743	10.0	10.1	
131 1,2-Dibromo-3-Chloropropan	157	12.334	12.334	0.000	80	12540	10.0	9.39	
132 1,2,4-Trichlorobenzene	180	13.190	13.190	0.000	94	193241	10.0	10.6	
133 Hexachlorobutadiene	225	13.348	13.348	0.000	96	156112	10.0	10.0	
134 Naphthalene	128	13.486	13.486	0.000	97	222722	10.0	10.8	
135 1,2,3-Trichlorobenzene	180	13.752	13.752	0.000	94	149149	10.0	9.78	
S 142 1,2-Dichloroethene, Total	96				0		20.0	20.6	
S 137 Xylenes, Total (URS)	1				0		20.0	21.0	
S 141 Xylenes, Total	106				0		20.0	21.0	
S 140 1,2-Dichloroethene, Total	1				0		20.0	20.6	
S 136 Trihalomethanes, Total	1				0		40.0	41.6	
S 139 1,3-Dichloropropene, Total	1				0		20.0	21.4	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL
MV-MegaMainA_00002	Amount Added:	4.00	Units: uL

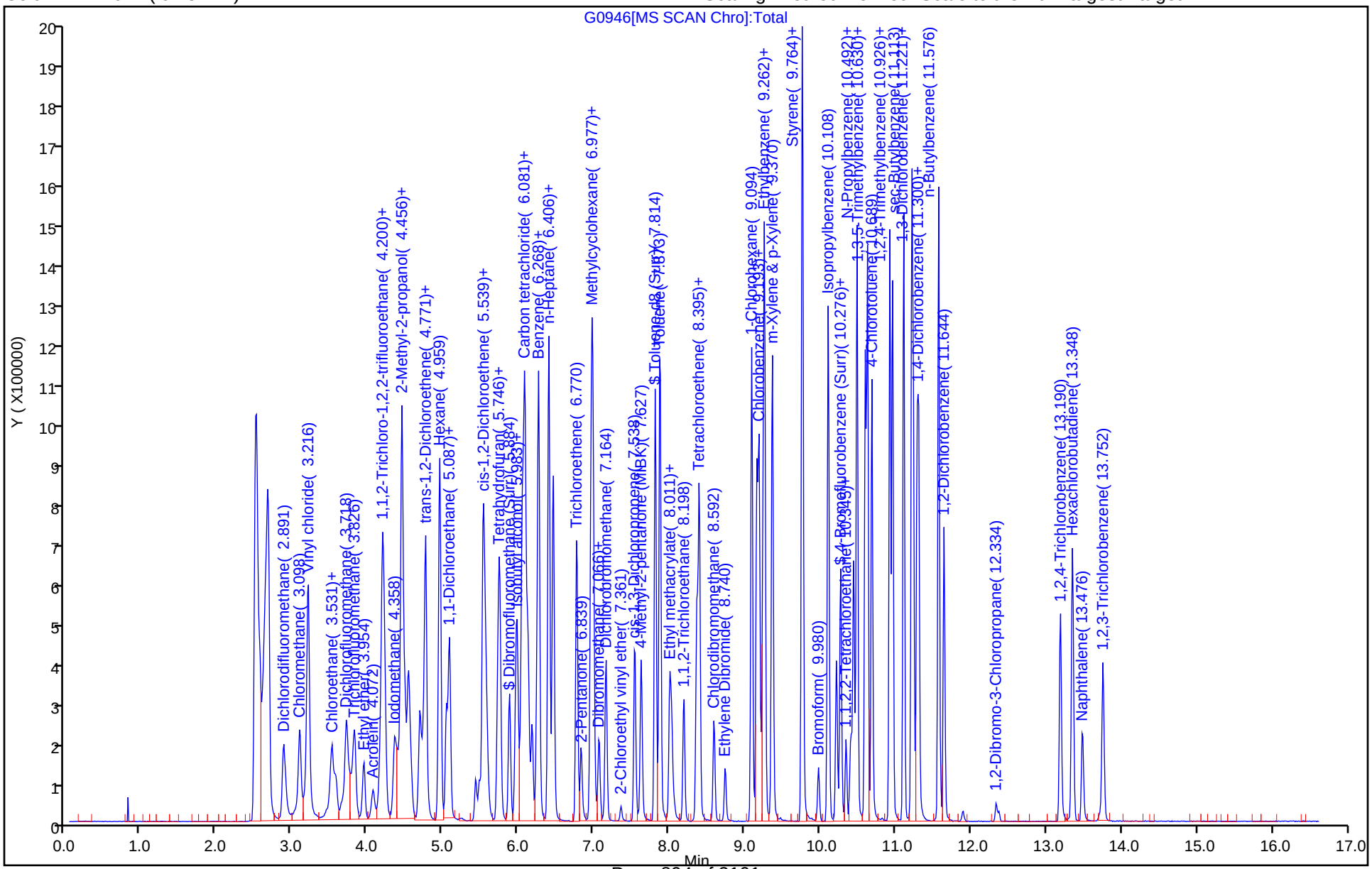
Report Date: 30-Oct-2018 01:33:13 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0946.D

Injection Date:	29-Oct-2018 21:21:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	ICIS			Worklist Smp#:	14
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

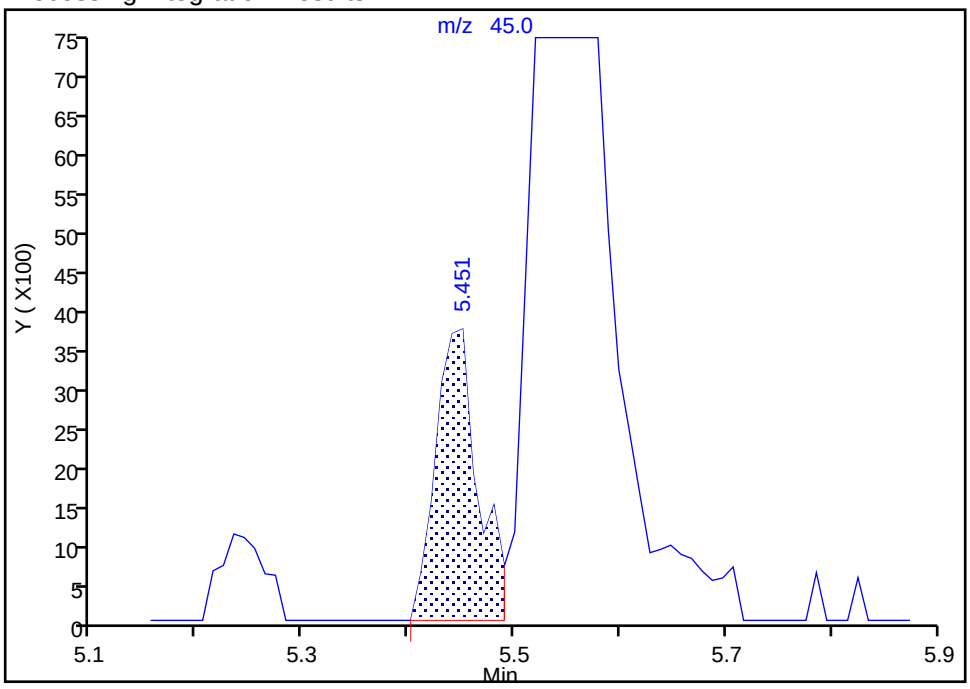
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0946.D
Injection Date: 29-Oct-2018 21:21:30 Instrument ID: VMS_G
Lims ID: ICIS
Client ID:
Operator ID: newcomer ALS Bottle#: 15 Worklist Smp#: 14
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

65 sec-Butyl Alcohol, CAS: 78-92-2

Signal: 1

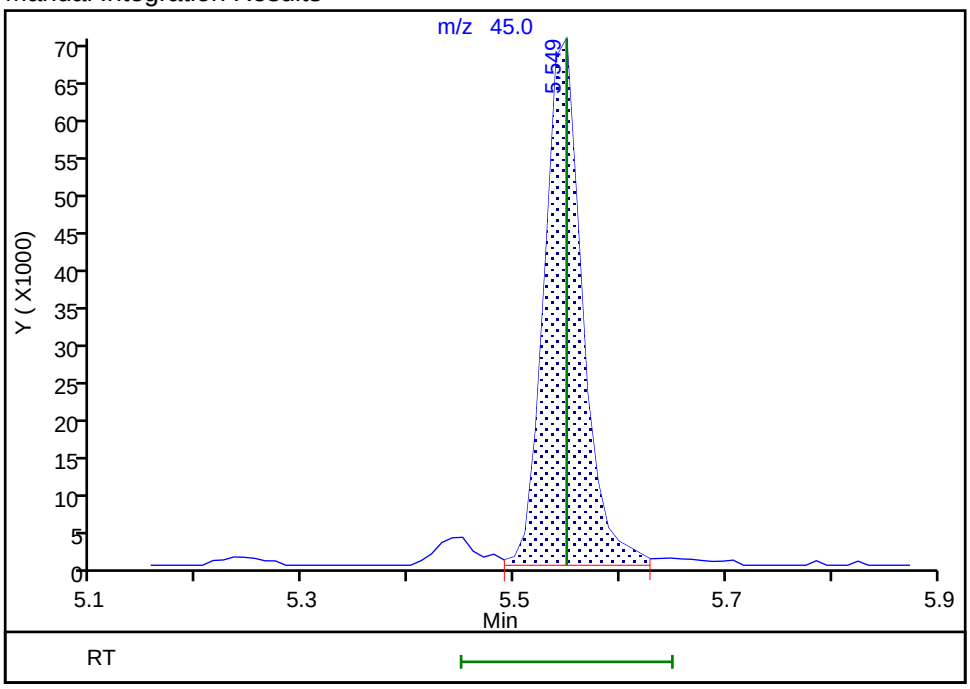
Processing Integration Results

RT: 5.45
Area: 10518
Amount: 658.8197
Amount Units: ug/l



Manual Integration Results

RT: 5.55
Area: 177391
Amount: 305.2835
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 22:15:49
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0947.D
Lims ID: STD25
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 29-Oct-2018 21:42:30 ALS Bottle#: 16 Worklist Smp#: 15
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: STD25
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub83

Method: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 30-Oct-2018 01:33:19 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: newcomer Date: 29-Oct-2018 22:17:52

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.456	4.466	-0.010	0	107885	250.0	250.0	
* 1 Fluorobenzene	96	6.465	6.465	0.000	98	839170	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.163	9.163	0.000	89	163933	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.290	11.290	0.000	96	224540	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.884	5.884	0.000	92	610553	25.0	25.8	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.180	6.180	0.000	0	441724	25.0	25.0	
$ 7 Toluene-d8 (Surr)	98	7.814	7.814	0.000	95	1868080	25.0	25.1	
$ 8 4-Bromofluorobenzene (Surr	95	10.276	10.276	0.000	86	599233	25.0	25.0	
25 Dichlorodifluoromethane	85	2.891	2.891	0.000	99	944100	25.0	26.8	
27 Chloromethane	50	3.107	3.098	0.009	99	1022833	25.0	25.3	
28 Vinyl chloride	62	3.216	3.216	0.000	77	819874	25.0	25.7	
31 Bromomethane	94	3.531	3.521	0.010	92	524053	25.0	24.1	
32 Chloroethane	64	3.580	3.570	0.010	97	387921	25.0	25.3	
33 Dichlorofluoromethane	67	3.718	3.718	0.000	98	1107704	25.0	25.8	
35 Trichlorofluoromethane	101	3.826	3.826	0.000	98	1035659	25.0	25.3	
38 Ethyl ether	59	3.954	3.954	0.000	94	293713	25.0	26.9	
41 Acrolein	56	4.072	4.072	0.000	99	359580	250.0	266.9	
42 Acetone	43	4.171	4.171	0.000	97	306683	100.0	100.2	
45 1,1-Dichloroethene	96	4.210	4.200	0.010	94	657521	25.0	26.0	
44 1,1,2-Trichloro-1,2,2-trif	151	4.200	4.200	0.000	97	487591	25.0	25.5	
47 Iodomethane	142	4.368	4.358	0.010	98	1265293	25.0	25.3	
48 Methyl acetate	43	4.407	4.417	-0.010	99	367452	50.0	49.7	
49 3-Chloro-1-propene	41	4.456	4.456	0.000	90	1631204	25.0	25.3	
50 Carbon disulfide	76	4.456	4.456	0.000	100	3405354	25.0	25.8	
51 2-Methyl-2-propanol	59	4.525	4.525	0.000	95	166690	250.0	249.6	
52 Methylene Chloride	84	4.545	4.545	0.000	96	616554	25.0	24.3	
53 Acrylonitrile	53	4.693	4.693	0.000	98	806080	250.0	263.3	
54 Methyl tert-butyl ether	73	4.742	4.742	0.000	98	730417	25.0	26.6	
55 trans-1,2-Dichloroethene	96	4.771	4.771	0.000	92	689108	25.0	25.8	
56 Hexane	57	4.959	4.959	-0.001	94	1310692	25.0	25.4	
57 Vinyl acetate	43	5.047	5.047	0.000	96	1609362	50.0	54.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.087	5.087	0.000	97	1361105	25.0	25.4	
62 2-Butanone (MEK)	43	5.480	5.480	0.000	97	429872	100.0	100.0	
66 cis-1,2-Dichloroethene	96	5.530	5.530	0.000	89	662740	25.0	25.5	
65 sec-Butyl Alcohol	45	5.539	5.549	-0.010	99	490737	750.0	772.4	a
67 2,2-Dichloropropane	77	5.569	5.559	0.010	89	931857	25.0	24.8	
69 Chlorobromomethane	128	5.727	5.727	0.000	90	231122	25.0	26.4	
70 Chloroform	83	5.756	5.756	0.000	98	1150975	25.0	25.7	
71 Tetrahydrofuran	42	5.766	5.766	0.000	92	132248	50.0	56.1	
73 1,1,1-Trichloroethane	97	5.973	5.973	0.000	97	1000044	25.0	25.6	
72 Isobutyl alcohol	41	5.992	5.992	0.000	92	184437	625.0	683.6	
74 Cyclohexane	56	6.061	6.052	0.009	96	1511678	25.0	25.8	
75 1,1-Dichloropropene	75	6.091	6.091	0.000	92	1061606	25.0	26.0	
76 Carbon tetrachloride	117	6.130	6.120	0.010	96	890309	25.0	25.9	
77 1,2-Dichloroethane	62	6.239	6.248	-0.009	96	556741	25.0	26.5	
79 Benzene	78	6.268	6.268	0.000	98	2518964	25.0	25.5	
13 n-Heptane	43	6.406	6.406	0.000	96	1747866	25.0	26.2	
81 Trichloroethene	95	6.770	6.770	0.000	94	695795	25.0	26.0	
82 2-Pentanone	43	6.829	6.829	0.000	97	689606	100.0	100.1	
84 1,2-Dichloropropane	63	6.957	6.957	0.000	93	645210	25.0	26.0	
85 Methylcyclohexane	55	6.987	6.987	0.000	96	1249033	25.0	25.8	
86 1,4-Dioxane	88	7.036	7.036	0.000	98	32387	500.0	507.3	
87 Dibromomethane	93	7.066	7.066	0.000	90	253125	25.0	26.0	
88 Dichlorobromomethane	83	7.164	7.164	0.000	98	717048	25.0	26.8	
90 2-Chloroethyl vinyl ether	63	7.361	7.361	0.000	90	61553	25.0	23.0	
91 cis-1,3-Dichloropropene	75	7.538	7.538	0.000	90	765214	25.0	27.6	
92 4-Methyl-2-pentanone (MIBK	43	7.627	7.627	0.000	96	1003529	100.0	110.8	
93 Toluene	91	7.873	7.873	0.000	97	2312568	25.0	26.0	
95 trans-1,3-Dichloropropene	75	8.011	8.011	0.000	99	540508	25.0	28.1	
94 Ethyl methacrylate	69	8.031	8.031	0.000	96	301142	25.0	26.3	
96 1,1,2-Trichloroethane	97	8.188	8.198	-0.010	92	268342	25.0	26.7	
98 1,3-Dichloropropane	76	8.365	8.366	-0.001	96	498626	25.0	26.1	
97 2-Hexanone	43	8.365	8.375	-0.010	97	659784	100.0	106.6	
99 Tetrachloroethene	164	8.395	8.405	-0.010	95	494911	25.0	25.2	
100 Chlorodibromomethane	129	8.592	8.592	0.000	90	382971	25.0	26.9	
102 Ethylene Dibromide	107	8.740	8.740	0.000	98	274242	25.0	26.6	
103 1-Chlorohexane	91	9.094	9.094	0.000	88	967325	25.0	26.7	
104 Chlorobenzene	112	9.193	9.193	0.000	90	1267094	25.0	24.6	
105 1,1,1,2-Tetrachloroethane	131	9.242	9.242	0.000	97	432148	25.0	25.6	
106 Ethylbenzene	106	9.262	9.262	0.000	99	710703	25.0	25.2	
107 m-Xylene & p-Xylene	106	9.370	9.370	0.000	0	871370	25.0	25.8	
109 Styrene	104	9.764	9.764	0.000	80	1218992	25.0	27.8	
108 o-Xylene	106	9.764	9.764	0.000	87	783298	25.0	25.4	
110 Bromoform	173	9.980	9.980	0.000	93	179732	25.0	26.7	
111 Isopropylbenzene	105	10.108	10.108	0.000	97	2375776	25.0	26.5	
113 Cyclohexanone	55	10.217	10.217	0.000	99	552931	1000.0	1110.8	
114 1,1,2,2-Tetrachloroethane	83	10.345	10.345	0.000	93	301722	25.0	25.4	
115 trans-1,4-Dichloro-2-buten	53	10.394	10.404	-0.010	86	70921	25.0	26.2	
116 1,2,3-Trichloropropane	110	10.414	10.414	0.000	87	55910	25.0	26.2	
117 Bromobenzene	156	10.443	10.453	-0.010	96	478762	25.0	26.5	
118 N-Propylbenzene	120	10.492	10.492	0.000	99	588769	25.0	26.7	
120 2-Chlorotoluene	126	10.601	10.601	0.000	95	511732	25.0	25.6	
119 1,3,5-Trimethylbenzene	105	10.630	10.630	0.000	93	1862759	25.0	25.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
121 4-Chlorotoluene	126	10.689	10.689	0.000	99	498802	25.0	25.5	
122 tert-Butylbenzene	119	10.926	10.926	0.000	94	1743280	25.0	26.1	
123 1,2,4-Trimethylbenzene	105	10.965	10.965	0.000	95	1829002	25.0	25.9	
124 sec-Butylbenzene	134	11.113	11.113	0.000	96	438151	25.0	26.1	
125 4-Isopropyltoluene	119	11.211	11.221	-0.010	97	2008203	25.0	25.6	
126 1,3-Dichlorobenzene	146	11.241	11.241	0.000	97	933293	25.0	24.9	
127 1,4-Dichlorobenzene	146	11.310	11.310	0.000	97	961899	25.0	25.1	
129 n-Butylbenzene	91	11.576	11.576	0.000	99	2395194	25.0	25.5	
130 1,2-Dichlorobenzene	146	11.644	11.644	0.000	96	774851	25.0	25.7	
131 1,2-Dibromo-3-Chloropropan	157	12.334	12.334	0.000	76	35522	25.0	23.9	
132 1,2,4-Trichlorobenzene	180	13.190	13.190	0.000	94	520400	25.0	27.0	
133 Hexachlorobutadiene	225	13.348	13.348	0.000	96	415593	25.0	25.2	
134 Naphthalene	128	13.476	13.486	-0.010	97	624895	25.0	28.6	
135 1,2,3-Trichlorobenzene	180	13.752	13.752	0.000	96	408924	25.0	25.3	
S 142 1,2-Dichloroethene, Total	96				0		50.0	51.3	
S 137 Xylenes, Total (URS)	1				0		50.0	51.2	
S 141 Xylenes, Total	106				0		50.0	51.2	
S 138 Total BTEX	1				0			127.9	
S 140 1,2-Dichloroethene, Total	1				0		50.0	51.3	
S 136 Trihalomethanes, Total	1				0		100.0	106.2	
S 139 1,3-Dichloropropene, Total	1				0		50.0	55.8	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL
MV-ARCH SS A_00107	Amount Added:	2.00	Units: uL
MV-MegaMainA_00002	Amount Added:	10.00	Units: uL

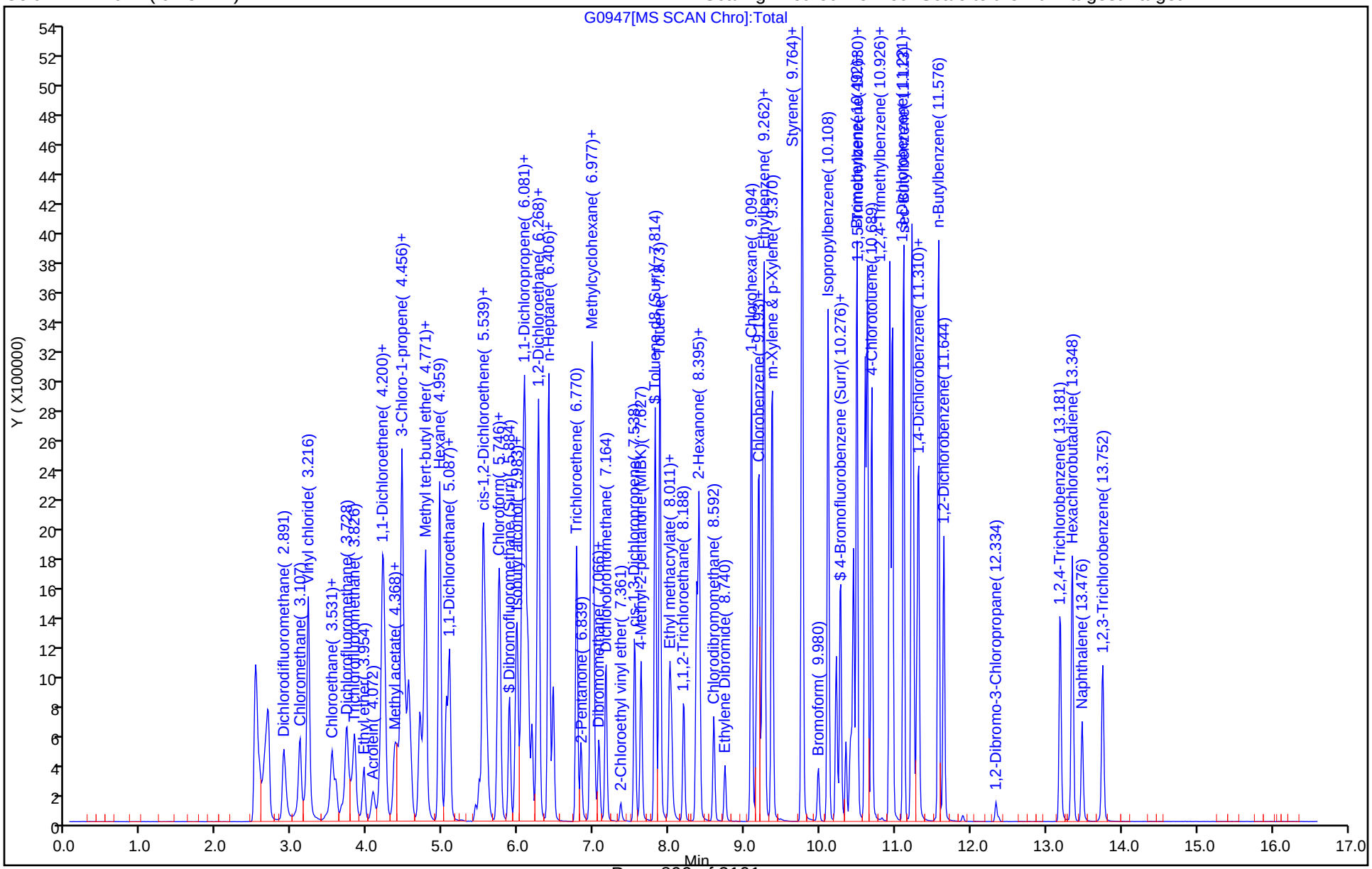
Report Date: 30-Oct-2018 01:33:20 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0947.D

Injection Date:	29-Oct-2018 21:42:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	STD25			Worklist Smp#:	15
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

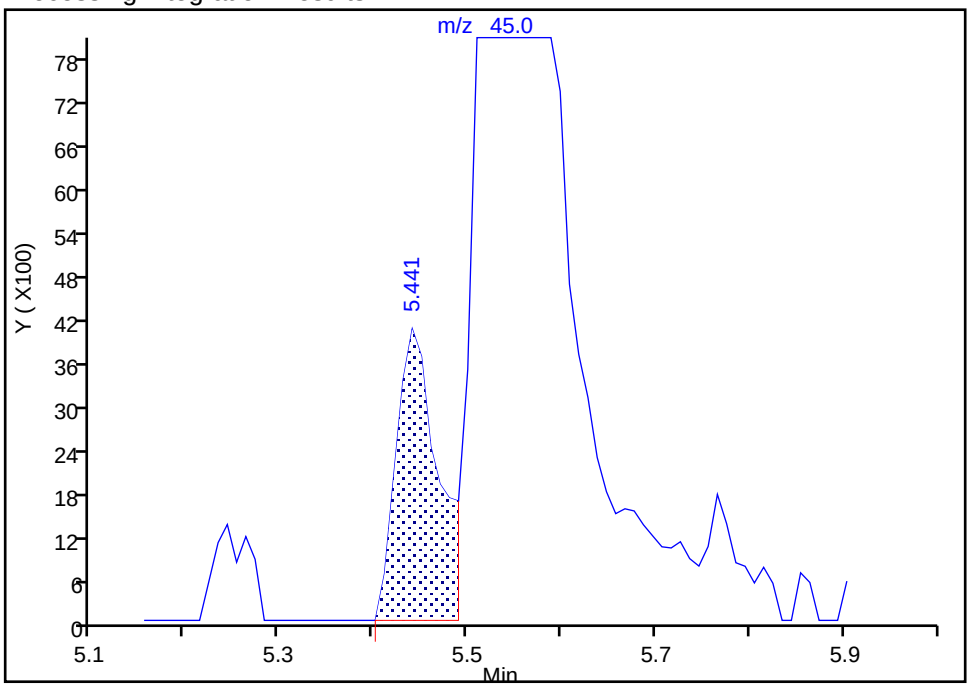
Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0947.D
Injection Date: 29-Oct-2018 21:42:30 Instrument ID: VMS_G
Lims ID: STD25
Client ID:
Operator ID: newcomer ALS Bottle#: 16 Worklist Smp#: 15
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Column: DB-624 (0.25 mm) Detector MS SCAN

65 sec-Butyl Alcohol, CAS: 78-92-2

Signal: 1

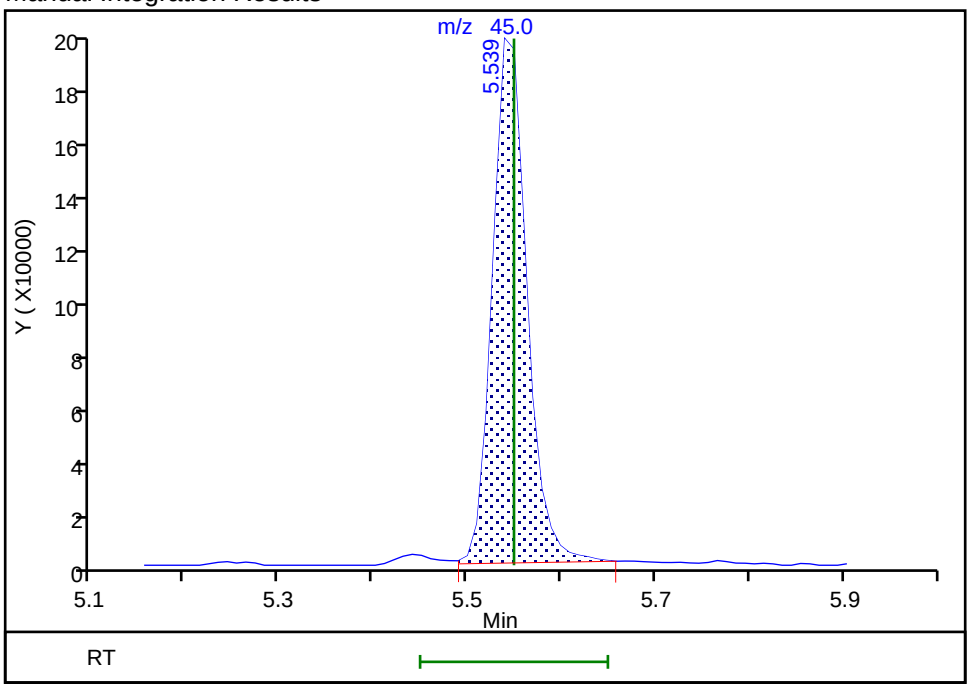
Processing Integration Results

RT: 5.44
Area: 12548
Amount: 23.548149
Amount Units: ug/l



Manual Integration Results

RT: 5.54
Area: 490737
Amount: 772.4042
Amount Units: ug/l



Reviewer: newcomer, 29-Oct-2018 22:16:11
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D
Lims ID: STD60
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 29-Oct-2018 22:02:30 ALS Bottle#: 17 Worklist Smp#: 16
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: STD60
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub83

Method: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 30-Oct-2018 01:33:26 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: newcomer Date: 29-Oct-2018 23:00:51

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.457	4.466	-0.009	0	108187	250.0	250.0	
* 1 Fluorobenzene	96	6.456	6.465	-0.009	97	838153	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.154	9.163	-0.009	90	160656	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.281	11.290	-0.009	96	213391	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.875	5.884	-0.009	91	1413118	60.0	59.7	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.180	6.180	0.000	0	1030951	60.0	58.4	
$ 7 Toluene-d8 (Surr)	98	7.815	7.814	0.001	95	4301156	60.0	59.1	
$ 8 4-Bromofluorobenzene (Surr	95	10.267	10.276	-0.009	86	1382771	60.0	60.7	
25 Dichlorodifluoromethane	85	2.892	2.891	0.001	99	2201431	60.0	62.6	
27 Chloromethane	50	3.098	3.098	0.000	100	2348854	60.0	58.3	
28 Vinyl chloride	62	3.207	3.216	-0.009	95	1758215	60.0	55.2	
31 Bromomethane	94	3.522	3.521	0.001	92	1103895	60.0	50.9	
32 Chloroethane	64	3.571	3.570	0.001	97	807775	60.0	52.8	
33 Dichlorofluoromethane	67	3.709	3.718	-0.009	98	2434070	60.0	56.7	
35 Trichlorofluoromethane	101	3.817	3.826	-0.009	99	2273426	60.0	55.6	
38 Ethyl ether	59	3.945	3.954	-0.009	94	644914	60.0	59.2	
41 Acrolein	56	4.063	4.072	-0.009	100	837071	600.1	622.1	
42 Acetone	43	4.162	4.171	-0.009	97	714004	240.0	235.9	
45 1,1-Dichloroethene	96	4.201	4.200	0.001	94	1502214	60.0	59.6	
44 1,1,2-Trichloro-1,2,2-trif	151	4.201	4.200	0.001	97	1113937	60.0	58.2	
47 Iodomethane	142	4.359	4.358	0.001	98	2969268	60.0	59.6	
48 Methyl acetate	43	4.408	4.417	-0.009	100	880480	120.0	120.2	
49 3-Chloro-1-propene	41	4.447	4.456	-0.009	90	3781854	60.0	58.7	
50 Carbon disulfide	76	4.447	4.456	-0.009	100	7885623	60.0	59.8	
51 2-Methyl-2-propanol	59	4.516	4.525	-0.009	94	389448	600.0	581.6	
52 Methylene Chloride	84	4.536	4.545	-0.009	96	1415583	60.0	55.9	
53 Acrylonitrile	53	4.684	4.693	-0.009	98	1900539	600.0	621.5	
54 Methyl tert-butyl ether	73	4.733	4.742	-0.009	98	1705233	60.0	62.1	
55 trans-1,2-Dichloroethene	96	4.762	4.771	-0.009	92	1600365	60.0	59.9	
56 Hexane	57	4.950	4.959	-0.009	94	2999386	60.0	59.2	
57 Vinyl acetate	43	5.038	5.047	-0.009	96	3677378	120.0	124.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.078	5.087	-0.009	97	3197979	60.0	59.8	
62 2-Butanone (MEK)	43	5.481	5.480	0.001	97	1063889	240.0	247.8	
66 cis-1,2-Dichloroethene	96	5.521	5.530	-0.009	89	1558561	60.0	60.1	
65 sec-Butyl Alcohol	45	5.540	5.549	-0.009	98	1213043	1800.0	1904.0	
67 2,2-Dichloropropane	77	5.560	5.559	0.001	90	2165163	60.0	57.6	
69 Chlorobromomethane	128	5.727	5.727	0.000	90	540017	60.0	61.8	
70 Chloroform	83	5.747	5.756	-0.009	98	2642141	60.0	59.1	
71 Tetrahydrofuran	42	5.767	5.766	0.001	93	303191	120.0	128.8	
73 1,1,1-Trichloroethane	97	5.974	5.973	0.001	97	2322546	60.0	59.4	
72 Isobutyl alcohol	41	5.983	5.992	-0.009	94	388705	1500.0	1436.8	
74 Cyclohexane	56	6.052	6.052	0.000	96	3434488	60.0	58.6	
75 1,1-Dichloropropene	75	6.082	6.091	-0.009	91	2401475	60.0	58.9	
76 Carbon tetrachloride	117	6.121	6.120	0.001	96	2050744	60.0	59.7	
77 1,2-Dichloroethane	62	6.239	6.248	-0.009	96	1282258	60.0	61.2	
79 Benzene	78	6.269	6.268	0.001	98	5829470	60.0	59.1	
13 n-Heptane	43	6.397	6.406	-0.009	96	4037922	60.0	60.7	
81 Trichloroethene	95	6.771	6.770	0.001	94	1616845	60.0	60.4	
82 2-Pentanone	43	6.820	6.829	-0.009	96	1680746	240.0	242.3	
84 1,2-Dichloropropane	63	6.958	6.957	0.001	93	1468752	60.0	59.2	
85 Methylcyclohexane	55	6.978	6.987	-0.009	96	2844803	60.0	58.8	
86 1,4-Dioxane	88	7.027	7.036	-0.009	96	75909	1200.0	1170.5	
87 Dibromomethane	93	7.067	7.066	0.001	90	600668	60.0	61.9	
88 Dichlorobromomethane	83	7.155	7.164	-0.009	98	1695227	60.0	63.3	
90 2-Chloroethyl vinyl ether	63	7.352	7.361	-0.009	90	176324	60.0	63.4	
91 cis-1,3-Dichloropropene	75	7.539	7.538	0.001	90	1800721	60.0	66.3	
92 4-Methyl-2-pentanone (MIBK	43	7.618	7.627	-0.009	96	2368458	240.0	261.9	
93 Toluene	91	7.874	7.873	0.001	96	5306072	60.0	59.7	
95 trans-1,3-Dichloropropene	75	8.002	8.011	-0.009	99	1280670	60.0	66.7	
94 Ethyl methacrylate	69	8.022	8.031	-0.009	95	731813	60.0	64.9	
96 1,1,2-Trichloroethane	97	8.189	8.198	-0.009	91	619437	60.0	61.8	
98 1,3-Dichloropropane	76	8.357	8.366	-0.009	96	1134760	60.0	60.7	
97 2-Hexanone	43	8.366	8.375	-0.009	97	1522296	240.0	249.9	
99 Tetrachloroethene	164	8.396	8.405	-0.009	95	1105058	60.0	57.4	
100 Chlorodibromomethane	129	8.593	8.592	0.001	90	903891	60.0	64.9	
102 Ethylene Dibromide	107	8.731	8.740	-0.009	98	643353	60.0	63.6	
103 1-Chlorohexane	91	9.085	9.094	-0.009	88	2191537	60.0	61.8	
104 Chlorobenzene	112	9.184	9.193	-0.009	90	2935465	60.0	58.1	
105 1,1,1,2-Tetrachloroethane	131	9.233	9.242	-0.009	97	971474	60.0	58.7	
106 Ethylbenzene	106	9.262	9.262	0.000	99	1570437	60.0	56.7	
107 m-Xylene & p-Xylene	106	9.361	9.370	-0.009	0	1983179	60.0	59.9	
109 Styrene	104	9.765	9.764	0.001	82	2725854	60.0	63.4	
108 o-Xylene	106	9.755	9.764	-0.009	86	1717337	60.0	56.9	
110 Bromoform	173	9.971	9.980	-0.009	93	441121	60.0	66.9	
111 Isopropylbenzene	105	10.099	10.108	-0.009	97	5346881	60.0	62.7	
113 Cyclohexanone	55	10.208	10.217	-0.009	98	1302693	2400.0	2670.4	
114 1,1,2,2-Tetrachloroethane	83	10.336	10.345	-0.009	94	692250	60.0	61.2	
115 trans-1,4-Dichloro-2-buten	53	10.395	10.404	-0.009	85	171577	60.0	66.0	
116 1,2,3-Trichloropropane	110	10.414	10.414	0.000	88	130921	60.0	64.5	
117 Bromobenzene	156	10.444	10.453	-0.009	97	1087600	60.0	63.2	
118 N-Propylbenzene	120	10.483	10.492	-0.009	99	1319729	60.0	62.9	
120 2-Chlorotoluene	126	10.602	10.601	0.001	95	1124078	60.0	59.1	
119 1,3,5-Trimethylbenzene	105	10.631	10.630	0.001	93	3989293	60.0	57.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
121 4-Chlorotoluene	126	10.680	10.689	-0.009	99	1114689	60.0	60.0	
122 tert-Butylbenzene	119	10.927	10.926	0.001	94	3907330	60.0	61.5	
123 1,2,4-Trimethylbenzene	105	10.956	10.965	-0.009	95	4104525	60.0	61.1	
124 sec-Butylbenzene	134	11.104	11.113	-0.009	96	967706	60.0	60.7	
125 4-Isopropyltoluene	119	11.212	11.221	-0.009	97	4373881	60.0	58.7	
126 1,3-Dichlorobenzene	146	11.232	11.241	-0.009	96	2052839	60.0	57.6	
127 1,4-Dichlorobenzene	146	11.301	11.310	-0.009	92	2094459	60.0	57.6	
129 n-Butylbenzene	91	11.567	11.576	-0.009	100	5452789	60.0	61.2	
130 1,2-Dichlorobenzene	146	11.645	11.644	0.001	97	1726193	60.0	60.4	
131 1,2-Dibromo-3-Chloropropan	157	12.335	12.334	0.001	80	89433	60.0	62.2	
132 1,2,4-Trichlorobenzene	180	13.181	13.190	-0.009	94	1216076	60.0	66.4	
133 Hexachlorobutadiene	225	13.349	13.348	0.001	97	942693	60.0	60.0	
134 Naphthalene	128	13.477	13.486	-0.009	97	1481945	60.0	71.3	
135 1,2,3-Trichlorobenzene	180	13.753	13.752	0.001	94	938622	60.0	61.0	
S 142 1,2-Dichloroethene, Total	96				0		120.0	120.0	
S 137 Xylenes, Total (URS)	1				0		120.0	116.8	
S 141 Xylenes, Total	106				0		120.0	116.8	
S 138 Total BTEX	1				0			292.3	
S 140 1,2-Dichloroethene, Total	1				0		120.0	120.0	
S 136 Trihalomethanes, Total	1				0		240.0	254.3	
S 139 1,3-Dichloropropene, Total	1				0		120.0	133.1	

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL
MV-ARCH SS A_00107	Amount Added:	4.80	Units: uL
MV-MegaMainA_00002	Amount Added:	24.00	Units: uL

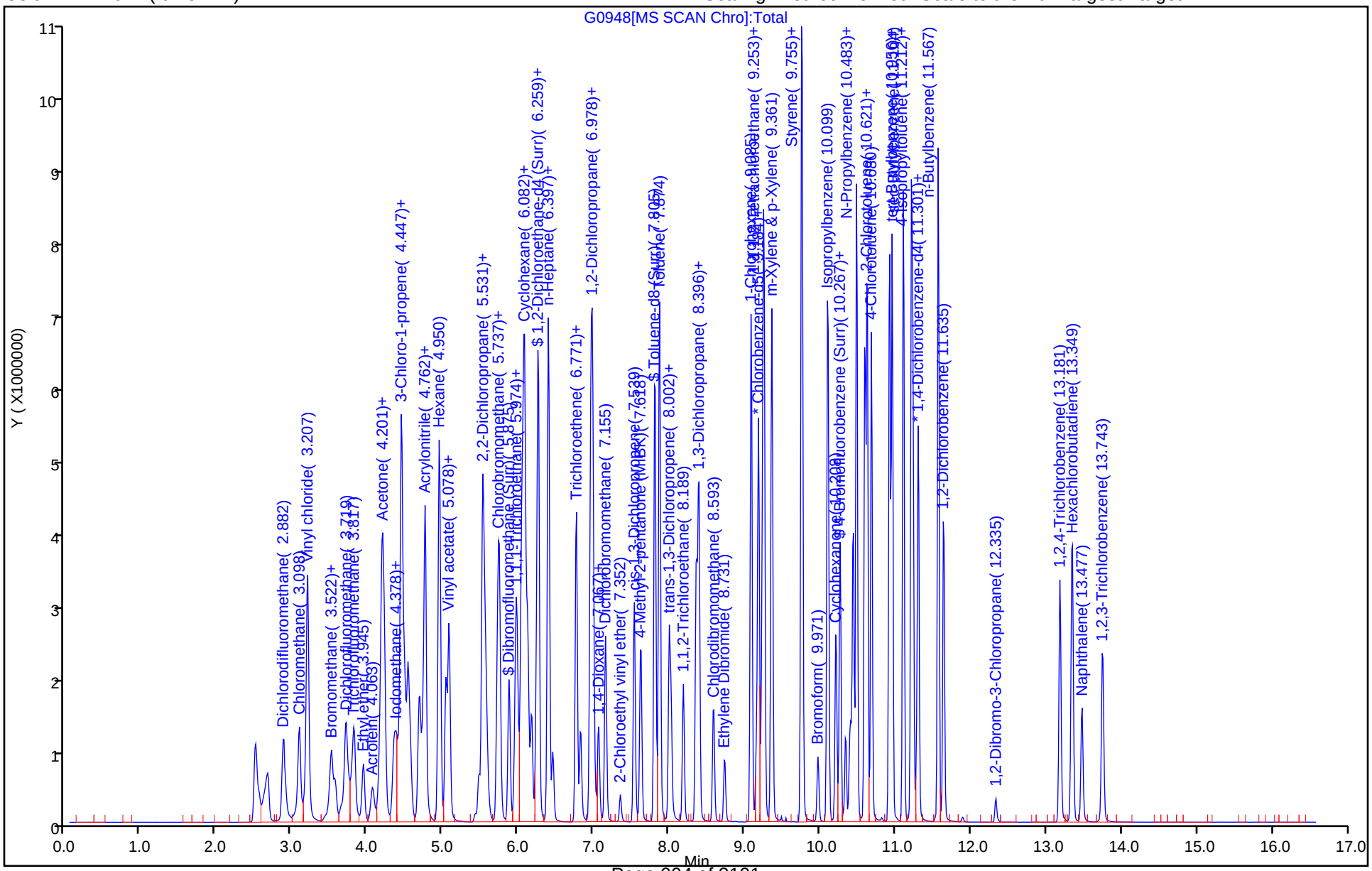
Report Date: 30-Oct-2018 01:33:28 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Injection Date:	29-Oct-2018 22:02:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	STD60			Worklist Smp#:	16
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-435406/17 Calibration Date: 10/29/2018 22:43

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G0950.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.5246	0.5825		11.1	10.0	11.0	20.0
Chloromethane	Ave	0.6014	0.5651	0.1000	9.40	10.0	-6.0	20.0
Vinyl chloride	Ave	0.4747	0.4595		9.68	10.0	-3.2	20.0
Bromomethane	Ave	0.3234	0.3027		9.36	10.0	-6.4	20.0
Chloroethane	Ave	0.2279	0.2227		9.77	10.0	-2.3	20.0
Dichlorofluoromethane	Ave	0.6401	0.6727		10.5	10.0	5.1	20.0
Trichlorofluoromethane	Ave	0.6094	0.6060		9.94	10.0	-0.6	20.0
Ethyl ether	Ave	0.1625	0.1673		10.3	10.0	3.0	20.0
Acrolein	Ave	0.0201	0.0201		100	100	0.0	20.0
Acetone	Lin2		0.0417		35.4	40.0	-11.5	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2852	0.3002		10.5	10.0	5.2	20.0
1,1-Dichloroethene	Ave	0.3761	0.4022		10.7	10.0	6.9	20.0
Iodomethane	Ave	0.7436	0.7784		10.5	10.0	4.7	20.0
Methyl acetate	Lin1		0.1108		19.7	20.0	-1.5	20.0
3-Chloro-1-propene	Ave	0.9605	0.9758		10.2	10.0	1.6	20.0
Carbon disulfide	Ave	1.968	2.048		10.4	10.0	4.1	20.0
t-Butyl alcohol	Ave	1.547	1.587		103	100	2.6	20.0
Methylene Chloride	Ave	0.3779	0.3542		9.37	10.0	-6.3	20.0
Acrylonitrile	Ave	0.0456	0.0459		101	100	0.7	20.0
Methyl tert-butyl ether	Ave	0.4093	0.4116		10.1	10.0	0.6	20.0
trans-1,2-Dichloroethene	Ave	0.3985	0.4297		10.8	10.0	7.8	20.0
Hexane	Ave	3.939	4.162		10.6	10.0	5.7	20.0
Vinyl acetate	Ave	0.4397	0.4052		18.4	20.0	-7.9	20.0
1,1-Dichloroethane	Ave	0.7981	0.8142	0.1000	10.2	10.0	2.0	20.0
2-Butanone (MEK)	Ave	0.0640	0.0594		37.1	40.0	-7.2	20.0
cis-1,2-Dichloroethene	Ave	0.3865	0.3894		10.1	10.0	0.8	20.0
sec-Butyl Alcohol	Ave	1.472	1.522		248	240	3.3	20.0
2,2-Dichloropropane	Ave	0.5607	0.5682		10.1	10.0	1.3	20.0
Bromochloromethane	Ave	0.1304	0.1305		10.0	10.0	0.0	20.0
Chloroform	Ave	0.6665	0.6817		10.2	10.0	2.3	20.0
Tetrahydrofuran	Ave	0.0351	0.0360		20.5	20.0	2.5	20.0
1,1,1-Trichloroethane	Ave	0.5830	0.5898		10.1	10.0	1.2	20.0
Isobutyl alcohol	Ave	0.6252	0.6115		245	250	-2.2	20.0
Cyclohexane	Ave	0.8743	0.8921		10.2	10.0	2.0	20.0
1,1-Dichloropropene	Ave	0.6078	0.6282		10.3	10.0	3.4	20.0
Carbon tetrachloride	Ave	0.5123	0.5169		10.1	10.0	0.9	20.0
1,2-Dichloroethane	Ave	0.3127	0.3102		9.92	10.0	-0.8	20.0
Benzene	Ave	1.470	1.469		9.99	10.0	-0.0	20.0
Trichloroethene	Ave	0.3989	0.4054		10.2	10.0	1.6	20.0
2-Pentanone	Lin1		0.0902		29.1	32.0	-9.2	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-435406/17 Calibration Date: 10/29/2018 22:43

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G0950.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dichloropropane	Ave	0.3698	0.3795		10.3	10.0	2.6	20.0
Methylcyclohexane	Ave	0.7212	0.7199		9.98	10.0	-0.2	20.0
1,4-Dioxane	Lin2		0.0008		186	200	-7.2	20.0
Dibromomethane	Ave	0.1448	0.1396		9.64	10.0	-3.6	20.0
Bromodichloromethane	Ave	0.3991	0.4027		10.1	10.0	0.9	20.0
2-Chloroethyl vinyl ether	Lin1		0.0337		9.37	10.0	-6.3	20.0
cis-1,3-Dichloropropene	Ave	2.112	2.347		11.1	10.0	11.1	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1349	0.1381		41.0	40.0	2.4	20.0
Toluene	Ave	1.326	1.353		10.2	10.0	2.0	20.0
trans-1,3-Dichloropropene	Ave	0.2863	0.2968		10.4	10.0	3.7	20.0
Ethyl methacrylate	Lin2		0.8570		9.99	10.0	-0.1	20.0
1,1,2-Trichloroethane	Ave	0.1495	0.1544		10.3	10.0	3.3	20.0
1,3-Dichloropropane	Ave	1.455	1.479		10.2	10.0	1.6	20.0
2-Hexanone	Lin2		0.4723		40.5	40.0	1.2	20.0
Tetrachloroethene	Ave	1.497	1.559		10.4	10.0	4.1	20.0
Dibromochloromethane	Ave	1.084	1.149		10.6	10.0	6.0	20.0
1,2-Dibromoethane	Ave	0.7869	0.8179		10.4	10.0	3.9	20.0
1-Chlorohexane	Ave	2.757	3.024		8.77	8.00	9.7	20.0
Chlorobenzene	Ave	3.931	3.940	0.3000	10.0	10.0	0.2	20.0
1,1,1,2-Tetrachloroethane	Ave	1.288	1.309		10.2	10.0	1.6	20.0
Ethylbenzene	Ave	2.154	2.224		10.3	10.0	3.2	20.0
m-Xylene & p-Xylene	Ave	2.574	2.653		10.3	10.0	3.1	20.0
o-Xylene	Ave	2.349	2.502		10.7	10.0	6.5	20.0
Styrene	Ave	3.347	3.704		11.1	10.0	10.7	20.0
Bromoform	Ave	0.5127	0.5166	0.1000	10.1	10.0	0.8	20.0
Isopropylbenzene	Ave	4.996	5.348		10.7	10.0	7.0	20.0
Cyclohexanone	Ave	0.0380	0.0320		337	400	-15.6	20.0
1,1,2,2-Tetrachloroethane	Ave	0.6621	0.6658	0.3000	10.1	10.0	0.6	20.0
trans-1,4-Dichloro-2-butene	Lin2		0.1576		10.7	10.0	7.2	20.0
1,2,3-Trichloropropane	Ave	0.1190	0.1252		10.5	10.0	5.3	20.0
Bromobenzene	Ave	1.007	1.070		10.6	10.0	6.2	20.0
N-Propylbenzene	Ave	1.230	1.375		11.2	10.0	11.8	20.0
2-Chlorotoluene	Ave	1.114	1.159		10.4	10.0	4.0	20.0
1,3,5-Trimethylbenzene	Ave	4.035	4.306		10.7	10.0	6.7	20.0
4-Chlorotoluene	Ave	1.089	1.150		10.6	10.0	5.6	20.0
tert-Butylbenzene	Ave	3.723	4.003		10.8	10.0	7.5	20.0
1,2,4-Trimethylbenzene	Ave	3.933	4.073		10.4	10.0	3.6	20.0
sec-Butylbenzene	Ave	0.9342	0.998		10.7	10.0	6.9	20.0
4-Isopropyltoluene	Ave	4.365	4.661		10.7	10.0	6.8	20.0
1,3-Dichlorobenzene	Ave	2.087	2.111		10.1	10.0	1.1	20.0
1,4-Dichlorobenzene	Ave	2.129	2.128		9.99	10.0	-0.0	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-435406/17 Calibration Date: 10/29/2018 22:43

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G0950.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
n-Butylbenzene	Ave	5.219	5.478		10.5	10.0	5.0	20.0
1,2-Dichlorobenzene	Ave	1.675	1.729		10.3	10.0	3.2	20.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0738		9.36	10.0	-6.4	20.0
1,2,4-Trichlorobenzene	Ave	1.073	1.233		11.5	10.0	15.0	20.0
Hexachlorobutadiene	Ave	0.9196	0.9760		10.6	10.0	6.1	20.0
Naphthalene	Ave	1.217	1.358		11.2	10.0	11.6	20.0
1,2,3-Trichlorobenzene	Ave	0.9009	0.9389		10.4	10.0	4.2	20.0
Dibromofluoromethane (Surr)	Ave	0.3528	0.3427		9.71	10.0	-2.9	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2632	0.2428		9.22	10.0	-7.8	20.0
Toluene-d8 (Surr)	Ave	5.665	5.701		10.1	10.0	0.6	20.0
4-Bromofluorobenzene (Surr)	Ave	1.334	1.311		9.83	10.0	-1.7	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0950.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 29-Oct-2018 22:43:30 ALS Bottle#: 19 Worklist Smp#: 17
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: ICV
Operator ID: newcomer Instrument ID: VMS_G
Sublist:

Method: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 30-Oct-2018 01:34:22 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: newcomer Date: 29-Oct-2018 23:13:53

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.457	4.466	-0.009	0	105013	250.0	250.0	
* 1 Fluorobenzene	96	6.456	6.465	-0.009	97	867672	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.154	9.163	-0.009	89	162862	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.281	11.290	-0.010	96	222059	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.875	5.884	-0.009	91	237895	10.0	9.71	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.170	6.180	-0.010	0	168500	10.0	9.22	
$ 7 Toluene-d8 (Surr)	98	7.805	7.814	-0.009	96	742746	10.0	10.1	
$ 8 4-Bromofluorobenzene (Surr	95	10.266	10.276	-0.010	87	232968	10.0	9.83	
25 Dichlorodifluoromethane	85	2.881	2.891	-0.010	99	404335	10.0	11.1	
27 Chloromethane	50	3.098	3.098	0.000	100	392235	10.0	9.40	
28 Vinyl chloride	62	3.206	3.216	-0.010	76	318922	10.0	9.68	
31 Bromomethane	94	3.521	3.521	0.000	93	210128	10.0	9.36	
32 Chloroethane	64	3.571	3.570	0.001	96	154570	10.0	9.77	
33 Dichlorofluoromethane	67	3.708	3.718	-0.010	98	466912	10.0	10.5	
35 Trichlorofluoromethane	101	3.817	3.826	-0.009	98	420661	10.0	9.94	
38 Ethyl ether	59	3.945	3.954	-0.009	94	116155	10.0	10.3	
41 Acrolein	56	4.063	4.072	-0.009	99	139412	100.0	100.1	
42 Acetone	43	4.171	4.171	0.000	97	115651	40.0	35.4	
45 1,1-Dichloroethene	96	4.211	4.200	0.011	94	279196	10.0	10.7	
44 1,1,2-Trichloro-1,2,2-trif	151	4.201	4.200	0.001	96	208353	10.0	10.5	
47 Iodomethane	142	4.368	4.358	0.010	98	540324	10.0	10.5	
48 Methyl acetate	43	4.407	4.417	-0.010	99	153790	20.0	19.7	
49 3-Chloro-1-propene	41	4.447	4.456	-0.009	89	677316	10.0	10.2	
50 Carbon disulfide	76	4.457	4.456	0.001	100	1421830	10.0	10.4	
51 2-Methyl-2-propanol	59	4.516	4.525	-0.009	93	66677	100.0	102.6	
52 Methylene Chloride	84	4.545	4.545	0.000	97	245827	10.0	9.37	
53 Acrylonitrile	53	4.693	4.693	0.000	98	318719	100.0	100.7	
54 Methyl tert-butyl ether	73	4.742	4.742	0.000	98	285715	10.0	10.1	
55 trans-1,2-Dichloroethene	96	4.762	4.771	-0.009	93	298253	10.0	10.8	
56 Hexane	57	4.949	4.959	-0.010	94	542329	10.0	10.6	
57 Vinyl acetate	43	5.038	5.047	-0.009	96	562475	20.0	18.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.077	5.087	-0.010	96	565191	10.0	10.2	
62 2-Butanone (MEK)	43	5.481	5.480	0.001	96	164992	40.0	37.1	
66 cis-1,2-Dichloroethene	96	5.530	5.530	0.000	89	270293	10.0	10.1	
65 sec-Butyl Alcohol	45	5.540	5.549	-0.009	97	153386	240.0	248.0	
67 2,2-Dichloropropane	77	5.560	5.559	0.001	92	394397	10.0	10.1	
69 Chlorobromomethane	128	5.717	5.727	-0.010	89	90562	10.0	10.0	
70 Chloroform	83	5.747	5.756	-0.009	98	473215	10.0	10.2	
71 Tetrahydrofuran	42	5.756	5.766	-0.010	91	49966	20.0	20.5	
73 1,1,1-Trichloroethane	97	5.973	5.973	0.000	97	409380	10.0	10.1	
72 Isobutyl alcohol	41	5.983	5.992	-0.009	95	64219	250.0	244.5	
74 Cyclohexane	56	6.052	6.052	0.000	95	619216	10.0	10.2	
75 1,1-Dichloropropene	75	6.081	6.091	-0.010	91	436065	10.0	10.3	
76 Carbon tetrachloride	117	6.121	6.120	0.001	96	358821	10.0	10.1	
77 1,2-Dichloroethane	62	6.239	6.248	-0.009	96	215338	10.0	9.92	
79 Benzene	78	6.259	6.268	-0.009	98	1019897	10.0	10.0	
13 n-Heptane	43	6.397	6.406	-0.009	96	713842	10.0	10.4	
81 Trichloroethene	95	6.771	6.770	0.001	95	281389	10.0	10.2	
82 2-Pentanone	43	6.830	6.829	0.001	96	200320	32.0	29.1	
84 1,2-Dichloropropane	63	6.958	6.957	0.001	92	263425	10.0	10.3	
85 Methylcyclohexane	55	6.977	6.987	-0.010	96	499732	10.0	9.98	
86 1,4-Dioxane	88	7.037	7.036	0.001	87	11617	200.0	185.6	
87 Dibromomethane	93	7.066	7.066	0.000	91	96874	10.0	9.64	
88 Dichlorobromomethane	83	7.155	7.164	-0.009	97	279529	10.0	10.1	
90 2-Chloroethyl vinyl ether	63	7.352	7.361	-0.009	89	23407	10.0	9.37	
91 cis-1,3-Dichloropropene	75	7.539	7.538	0.001	90	305771	10.0	11.1	
92 4-Methyl-2-pentanone (MIBK	43	7.618	7.627	-0.009	96	383407	40.0	41.0	
93 Toluene	91	7.874	7.873	0.001	97	938978	10.0	10.2	
95 trans-1,3-Dichloropropene	75	8.002	8.011	-0.009	99	206038	10.0	10.4	
94 Ethyl methacrylate	69	8.031	8.031	0.000	95	111655	10.0	9.99	
96 1,1,2-Trichloroethane	97	8.189	8.198	-0.009	91	107200	10.0	10.3	
98 1,3-Dichloropropane	76	8.356	8.366	-0.010	95	192653	10.0	10.2	
97 2-Hexanone	43	8.366	8.375	-0.009	98	246162	40.0	40.5	
99 Tetrachloroethene	164	8.395	8.405	-0.010	96	203118	10.0	10.4	
100 Chlorodibromomethane	129	8.583	8.592	-0.010	90	149702	10.0	10.6	
102 Ethylene Dibromide	107	8.730	8.740	-0.010	98	106559	10.0	10.4	
103 1-Chlorohexane	91	9.085	9.094	-0.009	87	315228	8.00	8.77	
104 Chlorobenzene	112	9.183	9.193	-0.010	90	513378	10.0	10.0	
105 1,1,1,2-Tetrachloroethane	131	9.232	9.242	-0.010	97	170597	10.0	10.2	
106 Ethylbenzene	106	9.252	9.262	-0.010	99	289710	10.0	10.3	
107 m-Xylene & p-Xylene	106	9.360	9.370	-0.010	0	345657	10.0	10.3	
109 Styrene	104	9.764	9.764	0.000	82	482617	10.0	11.1	
108 o-Xylene	106	9.754	9.764	-0.010	88	325990	10.0	10.7	
110 Bromoform	173	9.971	9.980	-0.009	92	67311	10.0	10.1	
111 Isopropylbenzene	105	10.099	10.108	-0.009	97	950101	10.0	10.7	
113 Cyclohexanone	55	10.207	10.217	-0.010	97	166881	400.0	337.5	
114 1,1,2,2-Tetrachloroethane	83	10.335	10.345	-0.010	93	118281	10.0	10.1	
115 trans-1,4-Dichloro-2-buten	53	10.394	10.404	-0.010	82	27994	10.0	10.7	
116 1,2,3-Trichloropropane	110	10.414	10.414	0.000	86	22246	10.0	10.5	
117 Bromobenzene	156	10.444	10.453	-0.009	93	190020	10.0	10.6	
118 N-Propylbenzene	120	10.483	10.492	-0.009	99	244178	10.0	11.2	
120 2-Chlorotoluene	126	10.591	10.601	-0.010	95	205908	10.0	10.4	
119 1,3,5-Trimethylbenzene	105	10.621	10.630	-0.009	93	764897	10.0	10.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
121 4-Chlorotoluene	126	10.680	10.689	-0.009	99	204306	10.0	10.6	
122 tert-Butylbenzene	119	10.926	10.926	0.000	94	711196	10.0	10.8	
123 1,2,4-Trimethylbenzene	105	10.956	10.965	-0.009	96	723611	10.0	10.4	
124 sec-Butylbenzene	134	11.103	11.113	-0.010	96	177366	10.0	10.7	
125 4-Isopropyltoluene	119	11.212	11.221	-0.009	97	827936	10.0	10.7	
126 1,3-Dichlorobenzene	146	11.231	11.241	-0.010	97	374989	10.0	10.1	
127 1,4-Dichlorobenzene	146	11.300	11.310	-0.010	96	377993	10.0	10.0	
129 n-Butylbenzene	91	11.566	11.576	-0.010	99	973166	10.0	10.5	
130 1,2-Dichlorobenzene	146	11.635	11.644	-0.009	95	307068	10.0	10.3	
131 1,2-Dibromo-3-Chloropropan	157	12.334	12.334	0.000	81	13112	10.0	9.36	
132 1,2,4-Trichlorobenzene	180	13.181	13.190	-0.009	94	219109	10.0	11.5	
133 Hexachlorobutadiene	225	13.338	13.348	-0.010	96	173382	10.0	10.6	
134 Naphthalene	128	13.476	13.486	-0.010	97	241241	10.0	11.2	
135 1,2,3-Trichlorobenzene	180	13.742	13.752	-0.010	94	166799	10.0	10.4	
S 142 1,2-Dichloroethene, Total	96				0		20.0	20.9	
S 137 Xylenes, Total (URS)	1				0		20.0	21.0	
S 141 Xylenes, Total	106				0		20.0	21.0	
S 140 1,2-Dichloroethene, Total	1				0		20.0	20.9	
S 136 Trihalomethanes, Total	1				0		40.0	41.0	
S 139 1,3-Dichloropropene, Total	1				0		20.0	21.5	

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL
MV-MegaMain B_00002	Amount Added:	4.00	Units: uL
MV-MainBaddon_00001	Amount Added:	4.00	Units: uL

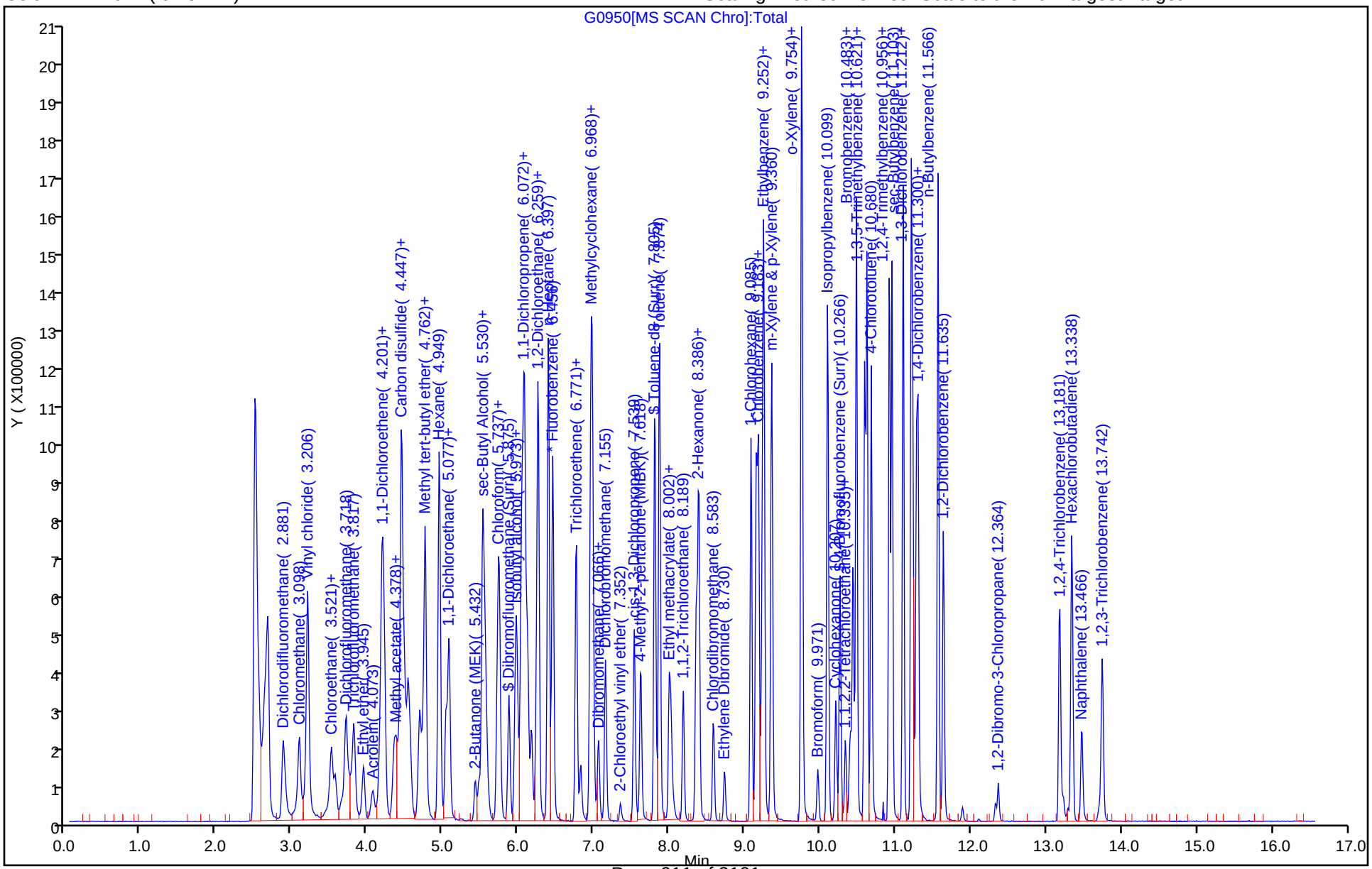
Report Date: 30-Oct-2018 01:34:26 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0950.D

Injection Date:	29-Oct-2018 22:43:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	ICV			Worklist Smp#:	17
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-436416/2 Calibration Date: 11/05/2018 23:10

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G1281.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.5246	0.4643		8.85	10.0	-11.5	20.0
Chloromethane	Ave	0.6014	0.5502	0.1000	9.15	10.0	-8.5	20.0
Vinyl chloride	Ave	0.4747	0.4459		9.39	10.0	-6.1	20.0
Bromomethane	Ave	0.3234	0.2979		9.21	10.0	-7.9	20.0
Chloroethane	Ave	0.2279	0.2190		9.61	10.0	-3.9	20.0
Dichlorofluoromethane	Ave	0.6401	0.6234		9.74	10.0	-2.6	20.0
Trichlorofluoromethane	Ave	0.6094	0.5844		9.59	10.0	-4.1	20.0
Ethyl ether	Ave	0.1625	0.1597		9.83	10.0	-1.7	20.0
Acrolein	Ave	0.0201	0.0203		101	100	1.1	20.0
Acetone	Lin2		0.0487		41.6	40.0	4.1	20.0
1,1-Dichloroethene	Ave	0.3761	0.3913		10.4	10.0	4.0	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2852	0.3025		10.6	10.0	6.1	20.0
Iodomethane	Ave	0.7436	0.7684		10.3	10.0	3.3	20.0
Methyl acetate	Lin1		0.1116		19.8	20.0	-0.8	20.0
3-Chloro-1-propene	Ave	0.9605	0.9621		10.0	10.0	0.2	20.0
Carbon disulfide	Ave	1.968	1.989		10.1	10.0	1.1	20.0
t-Butyl alcohol	Ave	1.547	1.538		99.4	100	-0.6	20.0
Methylene Chloride	Ave	0.3779	0.3726		9.86	10.0	-1.4	20.0
Acrylonitrile	Ave	0.0456	0.0475		104	100	4.1	20.0
Methyl tert-butyl ether	Ave	0.4093	0.4270		10.4	10.0	4.3	20.0
trans-1,2-Dichloroethene	Ave	0.3985	0.4083		10.2	10.0	2.5	20.0
Hexane	Ave	3.939	3.866		9.81	10.0	-1.9	20.0
Vinyl acetate	Ave	0.4397	0.4713		21.4	20.0	7.2	20.0
1,1-Dichloroethane	Ave	0.7981	0.7789	0.1000	9.76	10.0	-2.4	20.0
2-Butanone (MEK)	Ave	0.0640	0.0635		39.6	40.0	-0.9	20.0
cis-1,2-Dichloroethene	Ave	0.3865	0.3968		10.3	10.0	2.7	20.0
2,2-Dichloropropane	Ave	0.5607	0.5573		9.94	10.0	-0.6	20.0
Bromochloromethane	Ave	0.1304	0.1383		10.6	10.0	6.1	20.0
Chloroform	Ave	0.6665	0.6633		9.95	10.0	-0.5	20.0
Tetrahydrofuran	Ave	0.0351	0.0382		21.8	20.0	8.8	20.0
1,1,1-Trichloroethane	Ave	0.5830	0.5830		10.0	10.0	-0.0	20.0
Isobutyl alcohol	Ave	0.6252	0.6117		245	250	-2.2	20.0
Cyclohexane	Ave	0.8743	0.8885		10.2	10.0	1.6	20.0
1,1-Dichloropropene	Ave	0.6078	0.6133		10.1	10.0	0.9	20.0
Carbon tetrachloride	Ave	0.5123	0.5130		10.0	10.0	0.1	20.0
1,2-Dichloroethane	Ave	0.3127	0.3109		9.94	10.0	-0.6	20.0
Benzene	Ave	1.470	1.474		10.0	10.0	0.2	20.0
Trichloroethene	Ave	0.3989	0.4032		10.1	10.0	1.1	20.0
1,2-Dichloropropane	Ave	0.3698	0.3641		9.84	10.0	-1.6	20.0
Methylcyclohexane	Ave	0.7212	0.7274		10.1	10.0	0.9	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-436416/2 Calibration Date: 11/05/2018 23:10

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G1281.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Lin2		0.0010		210	200	4.9	20.0
Dibromomethane	Ave	0.1448	0.1517		10.5	10.0	4.8	20.0
Bromodichloromethane	Ave	0.3991	0.4073		10.2	10.0	2.0	20.0
2-Chloroethyl vinyl ether	Lin1		0.0396		10.7	10.0	7.4	20.0
cis-1,3-Dichloropropene	Ave	2.112	2.249		10.7	10.0	6.5	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1349	0.1537		45.6	40.0	14.0	20.0
Toluene	Ave	1.326	1.325		9.99	10.0	-0.0	20.0
trans-1,3-Dichloropropene	Ave	0.2863	0.3021		10.6	10.0	5.5	20.0
Ethyl methacrylate	Lin2		0.9002		10.5	10.0	4.8	20.0
1,1,2-Trichloroethane	Ave	0.1495	0.1618		10.8	10.0	8.2	20.0
1,3-Dichloropropane	Ave	1.455	1.505		10.3	10.0	3.4	20.0
2-Hexanone	Lin2		0.5008		42.9	40.0	7.1	20.0
Tetrachloroethene	Ave	1.497	1.555		10.4	10.0	3.9	20.0
Dibromochloromethane	Ave	1.084	1.176		10.9	10.0	8.5	20.0
1,2-Dibromoethane	Ave	0.7869	0.8275		10.5	10.0	5.2	20.0
Chlorobenzene	Ave	3.931	3.986	0.3000	10.1	10.0	1.4	20.0
1,1,1,2-Tetrachloroethane	Ave	1.288	1.333		10.3	10.0	3.5	20.0
Ethylbenzene	Ave	2.154	2.241		10.4	10.0	4.0	20.0
m-Xylene & p-Xylene	Ave	2.574	2.687		10.4	10.0	4.4	20.0
o-Xylene	Ave	2.349	2.497		10.6	10.0	6.3	20.0
Styrene	Ave	3.347	3.782		11.3	10.0	13.0	20.0
Bromoform	Ave	0.5127	0.5619	0.1000	11.0	10.0	9.6	20.0
Isopropylbenzene	Ave	4.996	5.130		10.3	10.0	2.7	20.0
Cyclohexanone	Ave	0.0380	0.0544		573	400	43.2*	20.0
1,1,2,2-Tetrachloroethane	Ave	0.6621	0.6674	0.3000	10.1	10.0	0.8	20.0
trans-1,4-Dichloro-2-butene	Lin2		0.1419		9.69	10.0	-3.1	20.0
1,2,3-Trichloropropane	Ave	0.1190	0.1201		10.1	10.0	1.0	20.0
Bromobenzene	Ave	1.007	1.061		10.5	10.0	5.4	20.0
N-Propylbenzene	Ave	1.230	1.305		10.6	10.0	6.1	20.0
2-Chlorotoluene	Ave	1.114	1.133		10.2	10.0	1.7	20.0
1,3,5-Trimethylbenzene	Ave	4.035	4.049		10.0	10.0	0.3	20.0
4-Chlorotoluene	Ave	1.089	1.145		10.5	10.0	5.2	20.0
tert-Butylbenzene	Ave	3.723	3.781		10.2	10.0	1.6	20.0
1,2,4-Trimethylbenzene	Ave	3.933	3.963		10.1	10.0	0.8	20.0
sec-Butylbenzene	Ave	0.9342	0.9544		10.2	10.0	2.2	20.0
4-Isopropyltoluene	Ave	4.365	4.367		10.0	10.0	0.0	20.0
1,3-Dichlorobenzene	Ave	2.087	2.084		9.98	10.0	-0.2	20.0
1,4-Dichlorobenzene	Ave	2.129	2.158		10.1	10.0	1.4	20.0
n-Butylbenzene	Ave	5.219	5.162		9.89	10.0	-1.1	20.0
1,2-Dichlorobenzene	Ave	1.675	1.714		10.2	10.0	2.3	20.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0788		9.95	10.0	-0.5	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-436416/2 Calibration Date: 11/05/2018 23:10

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G1281.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2,4-Trichlorobenzene	Ave	1.073	1.184		11.0	10.0	10.4	20.0
Hexachlorobutadiene	Ave	0.9196	0.9403		10.2	10.0	2.2	20.0
Naphthalene	Ave	1.217	1.463		12.0	10.0	20.2*	20.0
1,2,3-Trichlorobenzene	Ave	0.9009	0.9590		10.6	10.0	6.5	20.0
Dibromofluoromethane (Surr)	Ave	0.3528	0.3495		9.91	10.0	-0.9	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2632	0.2416		9.18	10.0	-8.2	20.0
Toluene-d8 (Surr)	Ave	5.665	5.630		9.94	10.0	-0.6	20.0
4-Bromofluorobenzene (Surr)	Ave	1.334	1.278		9.58	10.0	-4.2	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1281.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 05-Nov-2018 23:10:30 ALS Bottle#: 11 Worklist Smp#: 2
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub136

Method: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 07-Nov-2018 18:09:06 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0322

First Level Reviewer: newcomer Date: 06-Nov-2018 00:31:19

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.453	4.453	0.000	0	99986	250.0	250.0	
* 1 Fluorobenzene	96	6.462	6.462	0.000	98	713205	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.160	9.160	0.000	89	137088	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.286	11.286	0.000	96	194847	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.881	5.881	0.000	92	199425	10.0	9.91	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.176	6.176	0.000	0	137867	10.0	9.18	
$ 7 Toluene-d8 (Surr)	98	7.820	7.820	0.000	95	617485	10.0	9.94	
$ 8 4-Bromofluorobenzene (Surr	95	10.272	10.272	0.000	88	199154	10.0	9.58	
25 Dichlorodifluoromethane	85	2.887	2.887	0.000	99	264901	10.0	8.85	
27 Chloromethane	50	3.104	3.104	0.000	99	313928	10.0	9.15	
28 Vinyl chloride	62	3.212	3.212	0.000	98	254431	10.0	9.39	
31 Bromomethane	94	3.527	3.527	0.000	92	169944	10.0	9.21	
32 Chloroethane	64	3.576	3.576	0.000	97	124934	10.0	9.61	
33 Dichlorofluoromethane	67	3.714	3.714	0.000	98	355699	10.0	9.74	
35 Trichlorofluoromethane	101	3.823	3.823	0.000	99	333434	10.0	9.59	
38 Ethyl ether	59	3.951	3.951	0.000	94	91134	10.0	9.83	
41 Acrolein	56	4.069	4.069	0.000	98	115721	100.0	101.1	
42 Acetone	43	4.167	4.167	0.000	97	111041	40.0	41.6	
45 1,1-Dichloroethene	96	4.197	4.197	0.000	94	223260	10.0	10.4	
44 1,1,2-Trichloro-1,2,2-trif	151	4.207	4.207	0.000	96	172594	10.0	10.6	
47 Iodomethane	142	4.364	4.364	0.000	99	438401	10.0	10.3	
48 Methyl acetate	43	4.413	4.413	0.000	100	127356	20.0	19.8	
49 3-Chloro-1-propene	41	4.453	4.453	0.000	90	548925	10.0	10.0	
50 Carbon disulfide	76	4.453	4.453	0.000	100	1134741	10.0	10.1	
51 2-Methyl-2-propanol	59	4.522	4.522	0.000	94	61495	100.0	99.4	
52 Methylene Chloride	84	4.541	4.541	0.000	97	212601	10.0	9.86	
53 Acrylonitrile	53	4.689	4.689	0.000	97	270964	100.0	104.1	
54 Methyl tert-butyl ether	73	4.738	4.738	0.000	98	243600	10.0	10.4	
55 trans-1,2-Dichloroethene	96	4.768	4.768	0.000	93	232980	10.0	10.2	
56 Hexane	57	4.955	4.955	0.000	95	423968	10.0	9.81	
57 Vinyl acetate	43	5.044	5.044	0.000	96	537843	20.0	21.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.083	5.083	0.000	97	444437	10.0	9.76	
62 2-Butanone (MEK)	43	5.477	5.477	0.000	97	144880	40.0	39.6	
66 cis-1,2-Dichloroethene	96	5.526	5.526	0.000	88	226369	10.0	10.3	
67 2,2-Dichloropropane	77	5.565	5.565	0.000	89	317962	10.0	9.94	
69 Chlorobromomethane	128	5.723	5.723	0.000	90	78918	10.0	10.6	
70 Chloroform	83	5.753	5.753	0.000	98	378478	10.0	9.95	
71 Tetrahydrofuran	42	5.762	5.762	0.000	95	43597	20.0	21.8	
73 1,1,1-Trichloroethane	97	5.969	5.969	0.000	97	332610	10.0	10.0	
72 Isobutyl alcohol	41	5.989	5.989	0.000	95	61159	250.0	244.6	
74 Cyclohexane	56	6.058	6.058	0.000	96	506953	10.0	10.2	
75 1,1-Dichloropropene	75	6.087	6.087	0.000	93	349922	10.0	10.1	
76 Carbon tetrachloride	117	6.127	6.127	0.000	97	292679	10.0	10.0	
77 1,2-Dichloroethane	62	6.245	6.245	0.000	96	177406	10.0	9.94	
79 Benzene	78	6.265	6.265	0.000	98	840766	10.0	10.0	
13 n-Heptane	43	6.402	6.402	0.000	96	571244	10.0	10.1	
81 Trichloroethene	95	6.777	6.777	0.000	96	230066	10.0	10.1	
84 1,2-Dichloropropane	63	6.964	6.964	0.000	91	207721	10.0	9.84	
85 Methylcyclohexane	55	6.983	6.983	0.000	96	415040	10.0	10.1	
86 1,4-Dioxane	88	7.033	7.033	0.000	97	10897	200.0	209.7	
87 Dibromomethane	93	7.072	7.072	0.000	91	86573	10.0	10.5	
88 Dichlorobromomethane	83	7.161	7.161	0.000	98	232366	10.0	10.2	
90 2-Chloroethyl vinyl ether	63	7.358	7.358	0.000	90	22568	10.0	10.7	
91 cis-1,3-Dichloropropene	75	7.545	7.545	0.000	91	246703	10.0	10.7	
92 4-Methyl-2-pentanone (MIBK	43	7.623	7.623	0.000	96	350705	40.0	45.6	
93 Toluene	91	7.879	7.879	0.000	97	756279	10.0	10.0	
95 trans-1,3-Dichloropropene	75	8.007	8.007	0.000	99	172380	10.0	10.6	
94 Ethyl methacrylate	69	8.027	8.027	0.000	96	98723	10.0	10.5	
96 1,1,2-Trichloroethane	97	8.195	8.195	0.000	91	92338	10.0	10.8	
98 1,3-Dichloropropane	76	8.362	8.362	0.000	98	165016	10.0	10.3	
97 2-Hexanone	43	8.372	8.372	0.000	97	219682	40.0	42.9	
99 Tetrachloroethene	164	8.401	8.401	0.000	96	170591	10.0	10.4	
100 Chlorodibromomethane	129	8.598	8.598	0.000	90	128989	10.0	10.9	
102 Ethylene Dibromide	107	8.736	8.736	0.000	98	90747	10.0	10.5	
104 Chlorobenzene	112	9.189	9.189	0.000	91	437185	10.0	10.1	
105 1,1,1,2-Tetrachloroethane	131	9.238	9.238	0.000	98	146217	10.0	10.3	
106 Ethylbenzene	106	9.268	9.268	0.000	99	245744	10.0	10.4	
107 m-Xylene & p-Xylene	106	9.366	9.366	0.000	0	294636	10.0	10.4	
108 o-Xylene	106	9.760	9.760	0.000	87	273863	10.0	10.6	
109 Styrene	104	9.770	9.770	0.000	82	414766	10.0	11.3	
110 Bromoform	173	9.977	9.977	0.000	93	61623	10.0	11.0	
111 Isopropylbenzene	105	10.105	10.105	0.000	97	799633	10.0	10.3	
113 Cyclohexanone	55	10.213	10.213	0.000	98	238492	400.0	572.9	
114 1,1,2,2-Tetrachloroethane	83	10.341	10.341	0.000	94	104027	10.0	10.1	
115 trans-1,4-Dichloro-2-buten	53	10.400	10.400	0.000	83	22112	10.0	9.69	
116 1,2,3-Trichloropropane	110	10.420	10.420	0.000	85	18727	10.0	10.1	
117 Bromobenzene	156	10.449	10.449	0.000	92	165413	10.0	10.5	
118 N-Propylbenzene	120	10.489	10.489	0.000	99	203468	10.0	10.6	
120 2-Chlorotoluene	126	10.607	10.607	0.000	96	176662	10.0	10.2	
119 1,3,5-Trimethylbenzene	105	10.627	10.627	0.000	93	631139	10.0	10.0	
121 4-Chlorotoluene	126	10.686	10.686	0.000	99	178515	10.0	10.5	
122 tert-Butylbenzene	119	10.932	10.932	0.000	93	589409	10.0	10.2	
123 1,2,4-Trimethylbenzene	105	10.961	10.961	0.000	95	617810	10.0	10.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
124 sec-Butylbenzene	134	11.109	11.109	0.000	96	148776	10.0	10.2	
125 4-Isopropyltoluene	119	11.217	11.217	0.000	97	680723	10.0	10.0	
126 1,3-Dichlorobenzene	146	11.237	11.237	0.000	97	324846	10.0	9.98	
127 1,4-Dichlorobenzene	146	11.306	11.306	0.000	92	336449	10.0	10.1	
129 n-Butylbenzene	91	11.572	11.572	0.000	99	804634	10.0	9.89	
130 1,2-Dichlorobenzene	146	11.651	11.651	0.000	97	267156	10.0	10.2	
131 1,2-Dibromo-3-Chloropropan	157	12.340	12.340	0.000	75	12286	10.0	9.95	
132 1,2,4-Trichlorobenzene	180	13.187	13.187	0.000	95	184582	10.0	11.0	
133 Hexachlorobutadiene	225	13.354	13.354	0.000	97	146566	10.0	10.2	
134 Naphthalene	128	13.482	13.482	0.000	97	228022	10.0	12.0	
135 1,2,3-Trichlorobenzene	180	13.758	13.758	0.000	94	149487	10.0	10.6	
S 142 1,2-Dichloroethene, Total	96				0		20.0	20.5	
S 137 Xylenes, Total (URS)	1				0		20.0	21.1	
S 141 Xylenes, Total	106				0		20.0	21.1	
S 140 1,2-Dichloroethene, Total	1				0		20.0	20.5	
S 136 Trihalomethanes, Total	1				0		40.0	42.0	
S 139 1,3-Dichloropropene, Total	1				0		20.0	21.2	

Reagents:

MV-MegaMainA_00005	Amount Added:	4.00	Units: uL	
MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

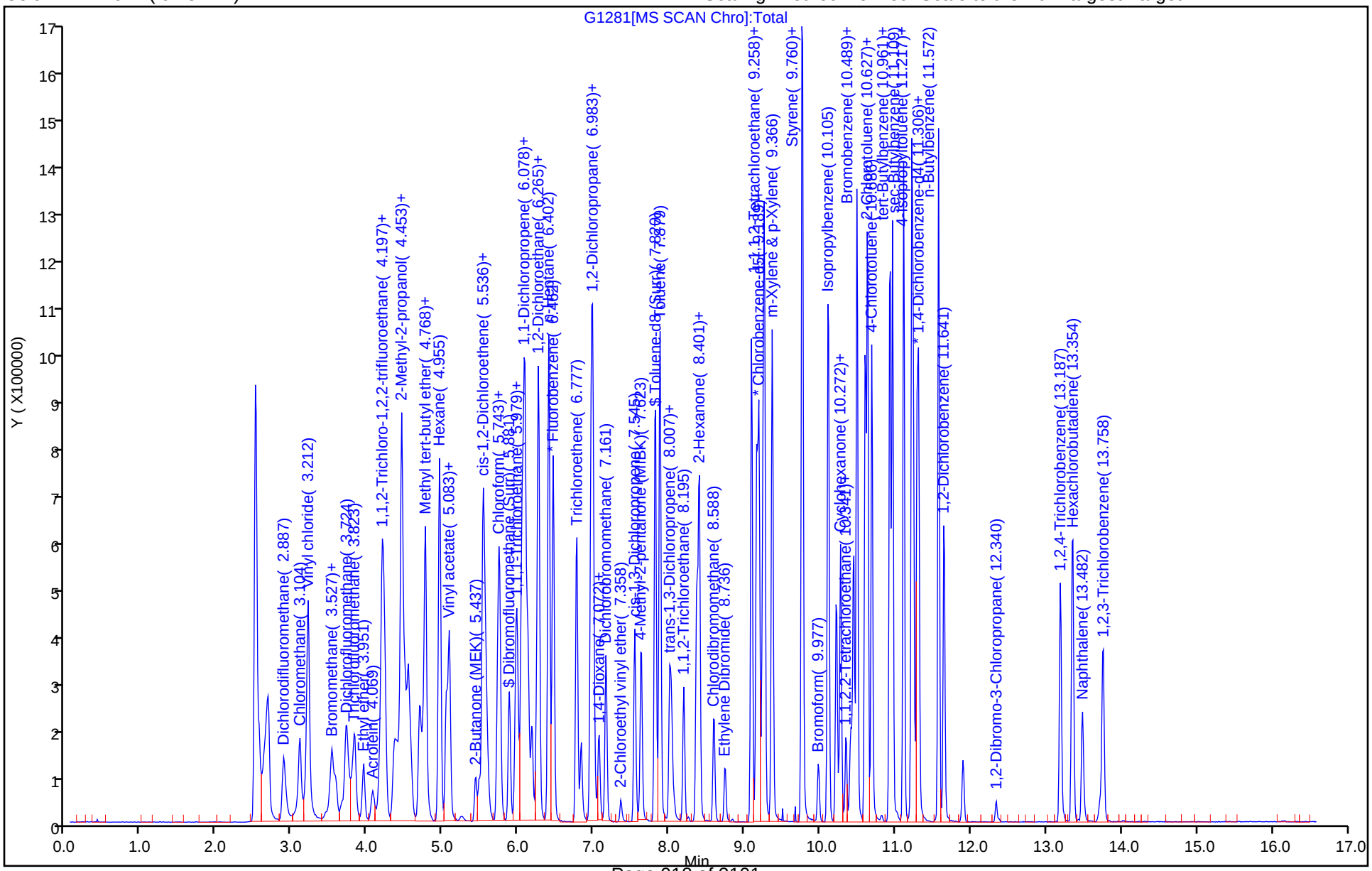
Report Date: 07-Nov-2018 18:09:07 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1281.D

Injection Date:	05-Nov-2018 23:10:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	CCV			Worklist Smp#:	2
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCVC 280-436416/30 Calibration Date: 11/06/2018 07:16

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G1305.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.5246	0.4186		7.98	10.0	-20.2	50.0
Chloromethane	Ave	0.6014	0.5272	0.1000	8.77	10.0	-12.3	50.0
Vinyl chloride	Ave	0.4747	0.4287		9.03	10.0	-9.7	50.0
Bromomethane	Ave	0.3234	0.3035		9.38	10.0	-6.2	50.0
Chloroethane	Ave	0.2279	0.2171		9.52	10.0	-4.8	50.0
Dichlorofluoromethane	Ave	0.6401	0.6416		10.0	10.0	0.2	50.0
Trichlorofluoromethane	Ave	0.6094	0.5830		9.57	10.0	-4.3	50.0
Ethyl ether	Ave	0.1625	0.1771		10.9	10.0	9.0	50.0
Acrolein	Ave	0.0201	0.0186		92.8	100	-7.2	50.0
Acetone	Lin2		0.0471		40.2	40.0	0.6	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2852	0.2677		9.39	10.0	-6.1	50.0
1,1-Dichloroethene	Ave	0.3761	0.3533		9.39	10.0	-6.1	50.0
Iodomethane	Ave	0.7436	0.7031		9.46	10.0	-5.4	50.0
Methyl acetate	Lin1		0.1139		20.3	20.0	1.3	50.0
3-Chloro-1-propene	Ave	0.9605	0.8977		9.35	10.0	-6.5	50.0
Carbon disulfide	Ave	1.968	1.855		9.42	10.0	-5.8	50.0
t-Butyl alcohol	Ave	1.547	1.466		94.8	100	-5.2	50.0
Methylene Chloride	Ave	0.3779	0.3711		9.82	10.0	-1.8	50.0
Acrylonitrile	Ave	0.0456	0.0477		105	100	4.6	50.0
Methyl tert-butyl ether	Ave	0.4093	0.4216		10.3	10.0	3.0	50.0
trans-1,2-Dichloroethene	Ave	0.3985	0.3777		9.48	10.0	-5.2	50.0
Hexane	Ave	3.939	3.422		8.69	10.0	-13.1	50.0
Vinyl acetate	Ave	0.4397	0.3685		16.8	20.0	-16.2	50.0
1,1-Dichloroethane	Ave	0.7981	0.7751	0.1000	9.71	10.0	-2.9	50.0
2-Butanone (MEK)	Ave	0.0640	0.0618		38.6	40.0	-3.5	50.0
cis-1,2-Dichloroethene	Ave	0.3865	0.3841		9.94	10.0	-0.6	50.0
2,2-Dichloropropane	Ave	0.5607	0.4671		8.33	10.0	-16.7	50.0
Bromochloromethane	Ave	0.1304	0.1327		10.2	10.0	1.8	50.0
Chloroform	Ave	0.6665	0.6816		10.2	10.0	2.3	50.0
Tetrahydrofuran	Ave	0.0351	0.0365		20.8	20.0	3.9	50.0
1,1,1-Trichloroethane	Ave	0.5830	0.5673		9.73	10.0	-2.7	50.0
Isobutyl alcohol	Ave	0.6252	0.6493		260	250	3.9	50.0
Cyclohexane	Ave	0.8743	0.8043		9.20	10.0	-8.0	50.0
1,1-Dichloropropene	Ave	0.6078	0.5859		9.64	10.0	-3.6	50.0
Carbon tetrachloride	Ave	0.5123	0.4979		9.72	10.0	-2.8	50.0
1,2-Dichloroethane	Ave	0.3127	0.3281		10.5	10.0	4.9	50.0
Benzene	Ave	1.470	1.407		9.57	10.0	-4.3	50.0
Trichloroethene	Ave	0.3989	0.3862		9.68	10.0	-3.2	50.0
1,2-Dichloropropane	Ave	0.3698	0.3706		10.0	10.0	0.2	50.0
Methylcyclohexane	Ave	0.7212	0.6629		9.19	10.0	-8.1	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCVC 280-436416/30 Calibration Date: 11/06/2018 07:16

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G1305.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Lin2		0.0009		206	200	3.2	50.0
Dibromomethane	Ave	0.1448	0.1533		10.6	10.0	5.9	50.0
Bromodichloromethane	Ave	0.3991	0.4221		10.6	10.0	5.7	50.0
2-Chloroethyl vinyl ether	Lin1		0.0336		9.34	10.0	-6.6	50.0
cis-1,3-Dichloropropene	Ave	2.112	2.089		9.89	10.0	-1.1	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1349	0.1508		44.7	40.0	11.8	50.0
Toluene	Ave	1.326	1.267		9.55	10.0	-4.5	50.0
trans-1,3-Dichloropropene	Ave	0.2863	0.3047		10.6	10.0	6.5	50.0
Ethyl methacrylate	Lin2		0.8831		10.3	10.0	2.8	50.0
1,1,2-Trichloroethane	Ave	0.1495	0.1622		10.8	10.0	8.5	50.0
1,3-Dichloropropane	Ave	1.455	1.517		10.4	10.0	4.2	50.0
2-Hexanone	Lin2		0.4769		40.9	40.0	2.1	50.0
Tetrachloroethene	Ave	1.497	1.300		8.68	10.0	-13.2	50.0
Dibromochloromethane	Ave	1.084	1.133		10.5	10.0	4.5	50.0
1,2-Dibromoethane	Ave	0.7869	0.7890		10.0	10.0	0.3	50.0
Chlorobenzene	Ave	3.931	3.647	0.3000	9.28	10.0	-7.2	50.0
1,1,1,2-Tetrachloroethane	Ave	1.288	1.254		9.74	10.0	-2.6	50.0
Ethylbenzene	Ave	2.154	1.921		8.92	10.0	-10.8	50.0
m-Xylene & p-Xylene	Ave	2.574	2.421		9.41	10.0	-5.9	50.0
o-Xylene	Ave	2.349	2.272		9.67	10.0	-3.3	50.0
Styrene	Ave	3.347	3.461		10.3	10.0	3.4	50.0
Bromoform	Ave	0.5127	0.5193	0.1000	10.1	10.0	1.3	50.0
Isopropylbenzene	Ave	4.996	4.516		9.04	10.0	-9.6	50.0
Cyclohexanone	Ave	0.0380	0.0452		476	400	19.1	50.0
1,1,2,2-Tetrachloroethane	Ave	0.6621	0.6424	0.3000	9.70	10.0	-3.0	50.0
trans-1,4-Dichloro-2-butene	Lin2		0.1318		9.03	10.0	-9.7	50.0
1,2,3-Trichloropropane	Ave	0.1190	0.1256		10.6	10.0	5.5	50.0
Bromobenzene	Ave	1.007	0.9656		9.59	10.0	-4.1	50.0
N-Propylbenzene	Ave	1.230	1.132		9.21	10.0	-7.9	50.0
2-Chlorotoluene	Ave	1.114	1.012		9.08	10.0	-9.2	50.0
1,3,5-Trimethylbenzene	Ave	4.035	3.660		9.07	10.0	-9.3	50.0
4-Chlorotoluene	Ave	1.089	1.022		9.39	10.0	-6.1	50.0
tert-Butylbenzene	Ave	3.723	3.346		8.99	10.0	-10.1	50.0
1,2,4-Trimethylbenzene	Ave	3.933	3.603		9.16	10.0	-8.4	50.0
sec-Butylbenzene	Ave	0.9342	0.8283		8.87	10.0	-11.3	50.0
4-Isopropyltoluene	Ave	4.365	3.823		8.76	10.0	-12.4	50.0
1,3-Dichlorobenzene	Ave	2.087	1.906		9.13	10.0	-8.7	50.0
1,4-Dichlorobenzene	Ave	2.129	1.842		8.65	10.0	-13.5	50.0
n-Butylbenzene	Ave	5.219	4.496		8.61	10.0	-13.9	50.0
1,2-Dichlorobenzene	Ave	1.675	1.556		9.29	10.0	-7.1	50.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0715		9.09	10.0	-9.1	50.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCVC 280-436416/30 Calibration Date: 11/06/2018 07:16

Instrument ID: VMS_G Calib Start Date: 10/29/2018 20:00

GC Column: DB-624 v1 ID: 32.00(um) Calib End Date: 10/29/2018 22:02

Lab File ID: G1305.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2,4-Trichlorobenzene	Ave	1.073	0.9772		9.11	10.0	-8.9	50.0
Hexachlorobutadiene	Ave	0.9196	0.7558		8.22	10.0	-17.8	50.0
Naphthalene	Ave	1.217	1.225		10.1	10.0	0.7	50.0
1,2,3-Trichlorobenzene	Ave	0.9009	0.8182		9.08	10.0	-9.2	50.0
Dibromofluoromethane (Surr)	Ave	0.3528	0.3612		10.2	10.0	2.4	50.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2632	0.2748		10.4	10.0	4.4	50.0
Toluene-d8 (Surr)	Ave	5.665	5.572		9.84	10.0	-1.6	50.0
4-Bromofluorobenzene (Surr)	Ave	1.334	1.310		9.81	10.0	-1.9	50.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1305.D
Lims ID: CCVC
Client ID:
Sample Type: CCVC
Inject. Date: 06-Nov-2018 07:16:30 ALS Bottle#: 35 Worklist Smp#: 30
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: CCVC
Operator ID: newcomer Instrument ID: VMS_G
Sublist: chrom-AQ_VMSG_8260*sub136

Method: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 07-Nov-2018 18:09:51 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0322

First Level Reviewer: seifertj Date: 06-Nov-2018 07:43:08

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.456	4.453	0.003	0	94756	250.0	250.0	
* 1 Fluorobenzene	96	6.455	6.462	-0.007	97	651227	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.163	9.160	0.003	90	127071	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.280	11.286	-0.006	97	179412	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.874	5.881	-0.007	91	188192	10.0	10.2	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.180	6.176	0.004	0	143150	10.0	10.4	
$ 7 Toluene-d8 (Surr)	98	7.814	7.820	-0.006	96	566475	10.0	9.84	
$ 8 4-Bromofluorobenzene (Surr	95	10.266	10.272	-0.006	85	187959	10.0	9.81	
25 Dichlorodifluoromethane	85	2.881	2.887	-0.006	99	218106	10.0	7.98	
27 Chloromethane	50	3.098	3.104	-0.006	99	274659	10.0	8.77	
28 Vinyl chloride	62	3.216	3.212	0.004	83	223323	10.0	9.03	
31 Bromomethane	94	3.521	3.527	-0.006	92	158107	10.0	9.38	
32 Chloroethane	64	3.570	3.576	-0.006	97	113101	10.0	9.52	
33 Dichlorofluoromethane	67	3.718	3.714	0.004	98	334269	10.0	10.0	
35 Trichlorofluoromethane	101	3.826	3.823	0.003	98	303716	10.0	9.57	
38 Ethyl ether	59	3.944	3.951	-0.007	94	92282	10.0	10.9	
41 Acrolein	56	4.072	4.069	0.003	98	97064	100.0	92.8	
42 Acetone	43	4.171	4.167	0.004	97	98122	40.0	40.2	
45 1,1-Dichloroethene	96	4.210	4.197	0.013	94	184063	10.0	9.39	
44 1,1,2-Trichloro-1,2,2-trif	151	4.200	4.207	-0.007	96	139480	10.0	9.39	
47 Iodomethane	142	4.368	4.364	0.004	97	366317	10.0	9.46	
48 Methyl acetate	43	4.407	4.413	-0.006	98	118665	20.0	20.3	
49 3-Chloro-1-propene	41	4.456	4.453	0.003	82	467700	10.0	9.35	
50 Carbon disulfide	76	4.456	4.453	0.003	100	966386	10.0	9.42	
51 2-Methyl-2-propanol	59	4.525	4.522	0.003	94	55575	100.0	94.8	
52 Methylene Chloride	84	4.545	4.541	0.004	97	193310	10.0	9.82	
53 Acrylonitrile	53	4.693	4.689	0.004	98	248602	100.0	104.6	
54 Methyl tert-butyl ether	73	4.742	4.738	0.004	98	219667	10.0	10.3	
55 trans-1,2-Dichloroethene	96	4.772	4.768	0.004	92	196780	10.0	9.48	
56 Hexane	57	4.949	4.955	-0.006	93	347889	10.0	8.69	
57 Vinyl acetate	43	5.037	5.044	-0.007	96	383911	20.0	16.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
59 1,1-Dichloroethane	63	5.087	5.083	0.004	97	403801	10.0	9.71	
62 2-Butanone (MEK)	43	5.481	5.477	0.004	97	128778	40.0	38.6	
66 cis-1,2-Dichloroethene	96	5.530	5.526	0.004	89	200110	10.0	9.94	
67 2,2-Dichloropropane	77	5.559	5.565	-0.006	88	243360	10.0	8.33	
69 Chlorobromomethane	128	5.727	5.723	0.004	90	69143	10.0	10.2	
70 Chloroform	83	5.746	5.753	-0.007	98	355074	10.0	10.2	
71 Tetrahydrofuran	42	5.766	5.762	0.004	90	38004	20.0	20.8	
73 1,1,1-Trichloroethane	97	5.973	5.969	0.004	97	295571	10.0	9.73	
72 Isobutyl alcohol	41	5.983	5.989	-0.006	96	61523	250.0	259.6	
74 Cyclohexane	56	6.052	6.058	-0.006	95	419040	10.0	9.20	
75 1,1-Dichloropropene	75	6.081	6.087	-0.006	91	305248	10.0	9.64	
76 Carbon tetrachloride	117	6.121	6.127	-0.006	96	259398	10.0	9.72	
77 1,2-Dichloroethane	62	6.239	6.245	-0.006	96	170908	10.0	10.5	
79 Benzene	78	6.268	6.265	0.003	98	733060	10.0	9.57	
13 n-Heptane	43	6.396	6.402	-0.006	96	465165	10.0	9.00	
81 Trichloroethene	95	6.770	6.777	-0.007	93	201195	10.0	9.68	
84 1,2-Dichloropropane	63	6.958	6.964	-0.006	92	193098	10.0	10.0	
85 Methylcyclohexane	55	6.977	6.983	-0.006	96	345375	10.0	9.19	
86 1,4-Dioxane	88	7.036	7.033	0.003	85	9776	200.0	206.3	
87 Dibromomethane	93	7.066	7.072	-0.006	87	79869	10.0	10.6	
88 Dichlorobromomethane	83	7.154	7.161	-0.007	98	219889	10.0	10.6	
90 2-Chloroethyl vinyl ether	63	7.361	7.358	0.003	90	17505	10.0	9.34	
91 cis-1,3-Dichloropropene	75	7.539	7.545	-0.007	89	212349	10.0	9.89	
92 4-Methyl-2-pentanone (MIBK	43	7.627	7.623	0.004	96	314199	40.0	44.7	
93 Toluene	91	7.873	7.879	-0.006	97	659863	10.0	9.55	
95 trans-1,3-Dichloropropene	75	8.011	8.007	0.004	98	158763	10.0	10.6	
94 Ethyl methacrylate	69	8.031	8.027	0.004	94	89777	10.0	10.3	
96 1,1,2-Trichloroethane	97	8.188	8.195	-0.007	92	84524	10.0	10.8	
98 1,3-Dichloropropane	76	8.356	8.362	-0.006	97	154164	10.0	10.4	
97 2-Hexanone	43	8.366	8.372	-0.006	96	193928	40.0	40.9	
99 Tetrachloroethene	164	8.395	8.401	-0.006	92	132197	10.0	8.68	
100 Chlorodibromomethane	129	8.592	8.598	-0.006	90	115156	10.0	10.5	
102 Ethylene Dibromide	107	8.740	8.736	0.004	98	80209	10.0	10.0	
104 Chlorobenzene	112	9.193	9.189	0.004	90	370712	10.0	9.28	
105 1,1,1,2-Tetrachloroethane	131	9.242	9.238	0.004	95	127507	10.0	9.74	
106 Ethylbenzene	106	9.262	9.268	-0.006	99	195320	10.0	8.92	
107 m-Xylene & p-Xylene	106	9.360	9.366	-0.006	0	246149	10.0	9.41	
108 o-Xylene	106	9.764	9.760	0.004	87	230922	10.0	9.67	
109 Styrene	104	9.764	9.770	-0.006	80	351791	10.0	10.3	
110 Bromoform	173	9.980	9.977	0.003	92	52793	10.0	10.1	
111 Isopropylbenzene	105	10.109	10.105	0.003	97	648113	10.0	9.04	
113 Cyclohexanone	55	10.217	10.213	0.004	97	183757	400.0	476.2	
114 1,1,2,2-Tetrachloroethane	83	10.345	10.341	0.004	94	92204	10.0	9.70	
115 trans-1,4-Dichloro-2-buten	53	10.394	10.400	-0.006	77	18915	10.0	9.03	
116 1,2,3-Trichloropropane	110	10.414	10.420	-0.006	84	18020	10.0	10.6	
117 Bromobenzene	156	10.443	10.449	-0.006	96	138594	10.0	9.59	
118 N-Propylbenzene	120	10.493	10.489	0.004	99	162516	10.0	9.21	
120 2-Chlorotoluene	126	10.601	10.607	-0.006	95	145226	10.0	9.08	
119 1,3,5-Trimethylbenzene	105	10.630	10.627	0.003	93	525296	10.0	9.07	
121 4-Chlorotoluene	126	10.689	10.686	0.003	99	146709	10.0	9.39	
122 tert-Butylbenzene	119	10.926	10.932	-0.006	93	480302	10.0	8.99	
123 1,2,4-Trimethylbenzene	105	10.955	10.961	-0.006	98	517135	10.0	9.16	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
124 sec-Butylbenzene	134	11.113	11.109	0.004	96	118892	10.0	8.87	
125 4-Isopropyltoluene	119	11.211	11.217	-0.006	97	548746	10.0	8.76	
126 1,3-Dichlorobenzene	146	11.231	11.237	-0.006	96	273504	10.0	9.13	
127 1,4-Dichlorobenzene	146	11.310	11.306	0.004	92	264356	10.0	8.65	
129 n-Butylbenzene	91	11.566	11.572	-0.006	99	645281	10.0	8.61	
130 1,2-Dichlorobenzene	146	11.645	11.651	-0.006	95	223344	10.0	9.29	
131 1,2-Dibromo-3-Chloropropan	157	12.334	12.340	-0.006	78	10266	10.0	9.09	
132 1,2,4-Trichlorobenzene	180	13.181	13.187	-0.006	94	140257	10.0	9.11	
133 Hexachlorobutadiene	225	13.348	13.354	-0.006	96	108477	10.0	8.22	
134 Naphthalene	128	13.476	13.482	-0.006	97	175841	10.0	10.1	
135 1,2,3-Trichlorobenzene	180	13.752	13.758	-0.006	94	117435	10.0	9.08	
S 142 1,2-Dichloroethene, Total	96				0		20.0	19.4	
S 137 Xylenes, Total (URS)	1				0		20.0	19.1	
S 141 Xylenes, Total	106				0		20.0	19.1	
S 138 Total BTEX	1				0			47.1	
S 140 1,2-Dichloroethene, Total	1				0		20.0	19.4	
S 136 Trihalomethanes, Total	1				0		40.0	41.4	
S 139 1,3-Dichloropropene, Total	1				0		20.0	20.5	

Reagents:

MV-MegaMainA_00005	Amount Added:	4.00	Units: uL	
MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

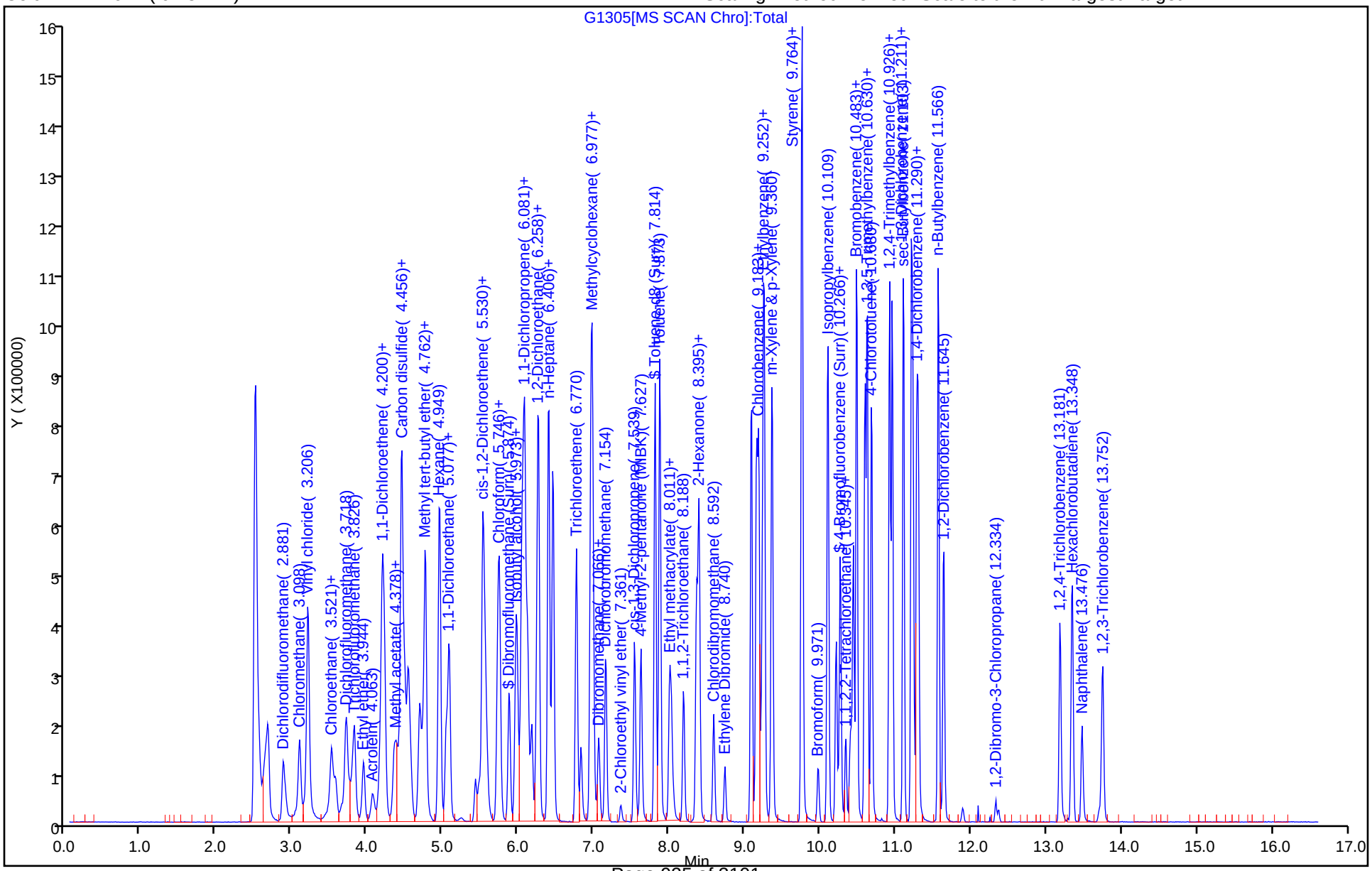
Report Date: 07-Nov-2018 18:09:52 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1305.D

Injection Date:	06-Nov-2018 07:16:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	CCVC			Worklist Smp#:	30
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	35
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20180928-74500.b\G9554.D
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 28-Sep-2018 10:25:30 ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 1.0 uL Dil. Factor: 1.0000
Sample Info: BFB
Operator ID: SEIFERTJ Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20180928-74500.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 29-Sep-2018 09:05:32 Calib Date: 28-Sep-2018 16:19:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20180928-74500.b\G9571.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0311

First Level Reviewer: seifertj Date: 29-Sep-2018 09:05:32

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 4 BFB	95	3.607	3.607	0.000	79	44358	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

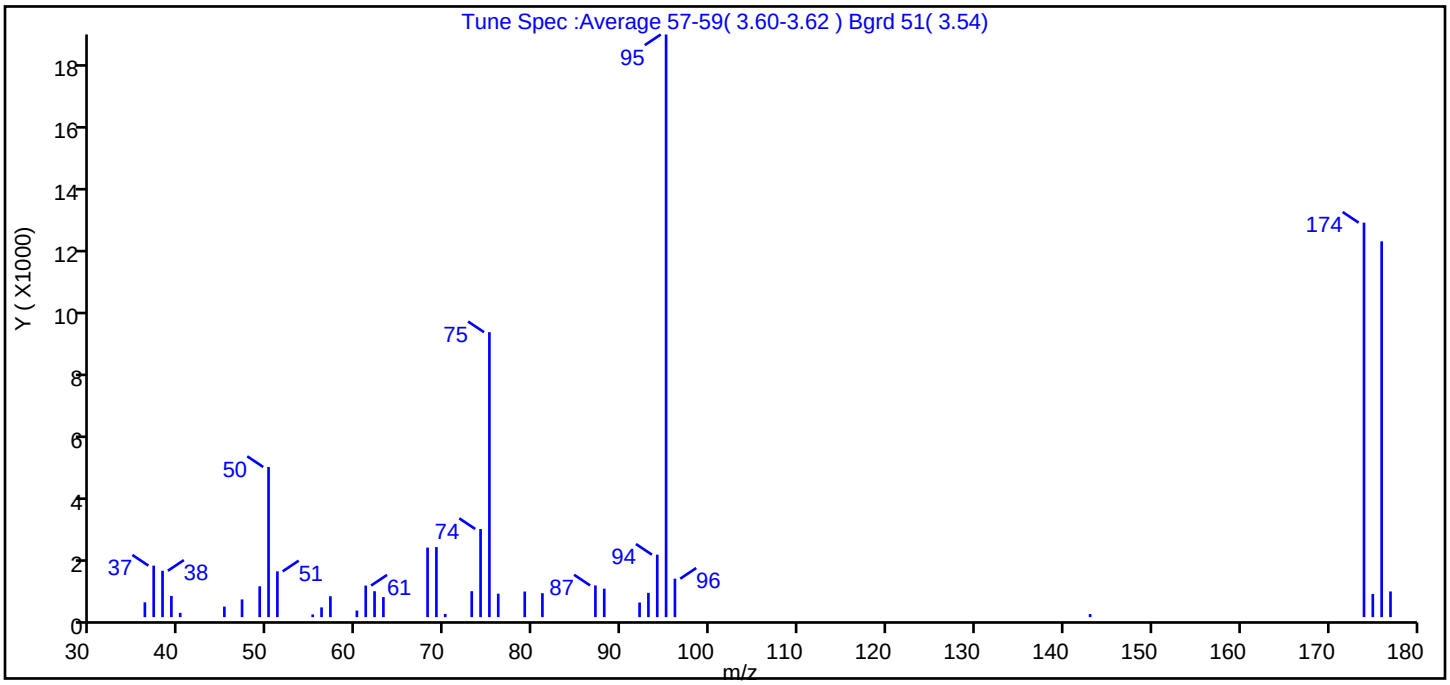
MV-BFB_00026 Amount Added: 1.00 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20180928-74500.b\G9554.D
Injection Date: 28-Sep-2018 10:25:30 Instrument ID: VMS_G
Lims ID: BFB
Client ID:
Operator ID: SEIFERTJ ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 1.0 uL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Tune Method: BFB Method 8260

$ 4 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	25.8
75	30 to 60% of m/z 95	48.9
96	5 to 9% of m/z 95	6.6
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	67.7
175	5 to 9% of m/z 174	4.0 (5.9)
176	Greater than 95% but less than 101% of m/z 174	64.5 (95.3)
177	5 to 9% of m/z 176	4.4 (6.8)

Data File: \\ChromNA\Denver\ChromData\VMS_G\20180928-74500.b\G9554.D\AQ_VMSG_8260.rslt\spectra.d
Injection Date: 28-Sep-2018 10:25:30
Spectrum: Tune Spec :Average 57-59(3.60-3.62) Bgrd 51(3.54)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 38

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	462	55.00	84	73.00	809	94.00	1946
37.00	1605	56.00	304	74.00	2746	95.00	18152
38.00	1445	57.00	652	75.00	8877	96.00	1198
39.00	661	60.00	205	76.00	731	143.00	98
40.00	134	61.00	983	79.00	798	174.00	12289
45.00	330	62.00	808	81.00	746	175.00	722
47.00	552	63.00	625	87.00	988	176.00	11708
49.00	963	68.00	2167	88.00	887	177.00	801
50.00	4678	69.00	2183	92.00	456		
51.00	1427	70.00	100	93.00	756		

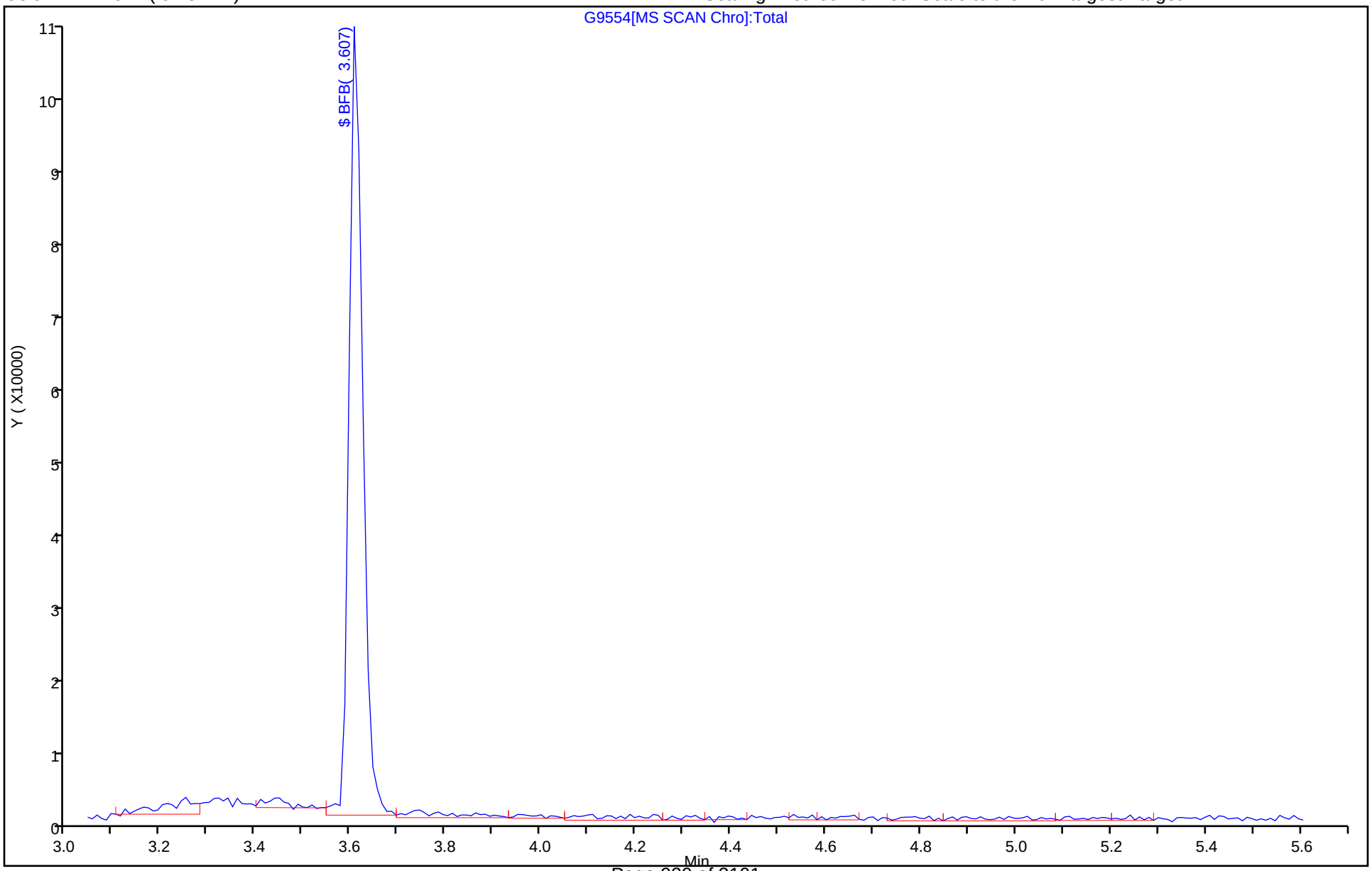
Report Date: 29-Sep-2018 09:05:37 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20180928-74500.b\G9554.D

Injection Date:	28-Sep-2018 10:25:30	Instrument ID:	VMS_G	Operator ID:	SEIFERTJ
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	100
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0940.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	29-Oct-2018 19:13:30	ALS Bottle#:	100	Worklist Smp#:	1
Injection Vol:	1.0 uL	Dil. Factor:	1.0000		
Sample Info:	BFB				
Operator ID:	newcomer	Instrument ID:	VMS_G		
Method:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\AQ_VMSG_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	30-Oct-2018 01:34:22	Calib Date:	29-Oct-2018 22:02:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D				
Column 1 :	DB-624 (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0323				

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 4 BFB	95	3.631	3.631	0.000	84	142007	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

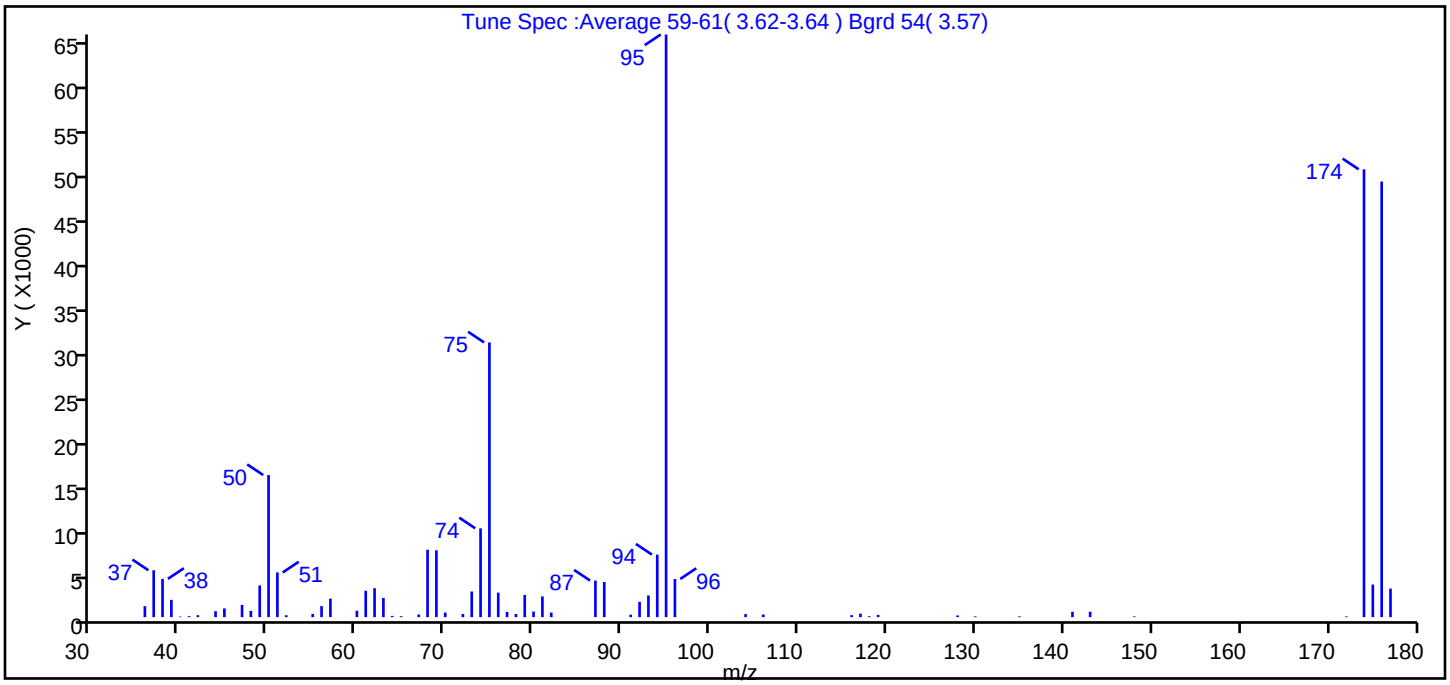
MV-BFB_00027 Amount Added: 1.00 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0940.D
Injection Date: 29-Oct-2018 19:13:30 Instrument ID: VMS_G
Lims ID: BFB
Client ID:
Operator ID: newcomer ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 1.0 uL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Tune Method: BFB Method 8260

$ 4 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	24.4
75	30 to 60% of m/z 95	47.1
96	5 to 9% of m/z 95	6.6
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	76.9
175	5 to 9% of m/z 174	5.6 (7.3)
176	Greater than 95% but less than 101% of m/z 174	74.8 (97.3)
177	5 to 9% of m/z 176	4.9 (6.6)

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0940.D\AQ_VMSG_8260.rslt\spectra.d
Injection Date: 29-Oct-2018 19:13:30
Spectrum: Tune Spec :Average 59-61(3.62-3.64) Bgrd 54(3.57)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 64

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1241	56.00	1244	76.00	2774	106.00	303
37.00	5310	57.00	2093	77.00	598	116.00	226
38.00	4332	60.00	724	78.00	352	117.00	397
39.00	1956	61.00	2980	79.00	2514	118.00	102
40.00	64	62.00	3272	80.00	632	119.00	253
41.00	112	63.00	2175	81.00	2344	128.00	193
42.00	221	64.00	144	82.00	523	130.00	88
44.00	675	65.00	109	87.00	4137	135.00	92
45.00	991	67.00	298	88.00	3978	141.00	606
47.00	1382	68.00	7628	91.00	282	143.00	612
48.00	710	69.00	7566	92.00	1740	148.00	84
49.00	3587	70.00	521	93.00	2457	172.00	86
50.00	16082	72.00	358	94.00	7079	174.00	50688
51.00	5058	73.00	2902	95.00	65952	175.00	3688
52.00	214	74.00	10053	96.00	4320	176.00	49304
55.00	355	75.00	31096	104.00	343	177.00	3231

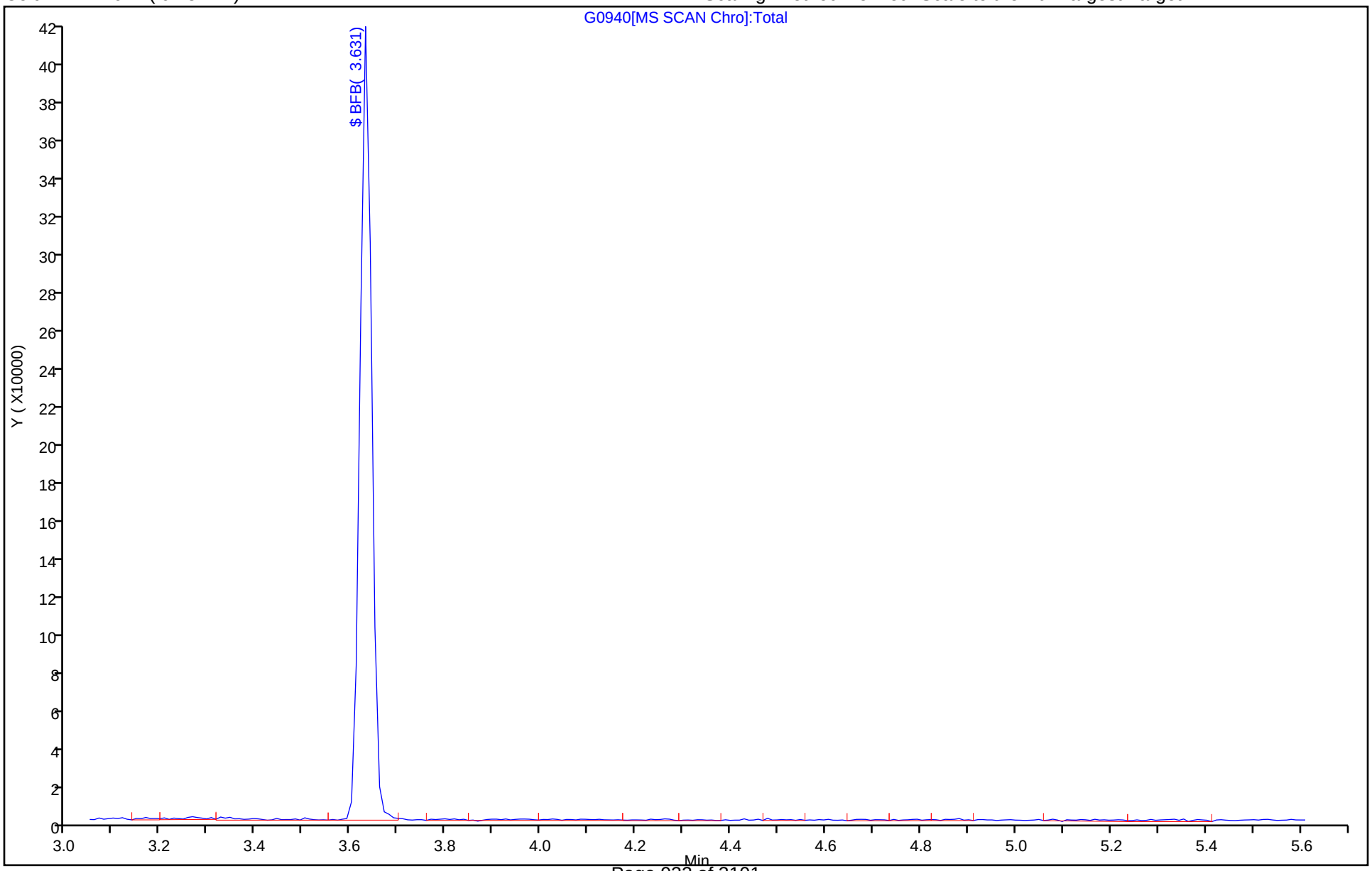
Report Date: 30-Oct-2018 01:34:23 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0940.D

Injection Date:	29-Oct-2018 19:13:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	100
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1279.D
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 05-Nov-2018 22:25:30 ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 1.0 uL Dil. Factor: 1.0000
Sample Info: BFB
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 07-Nov-2018 18:09:04 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0322

First Level Reviewer: newcomer Date: 05-Nov-2018 22:52:07

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 4 BFB	95	3.625	3.625	0.000	84	151926	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

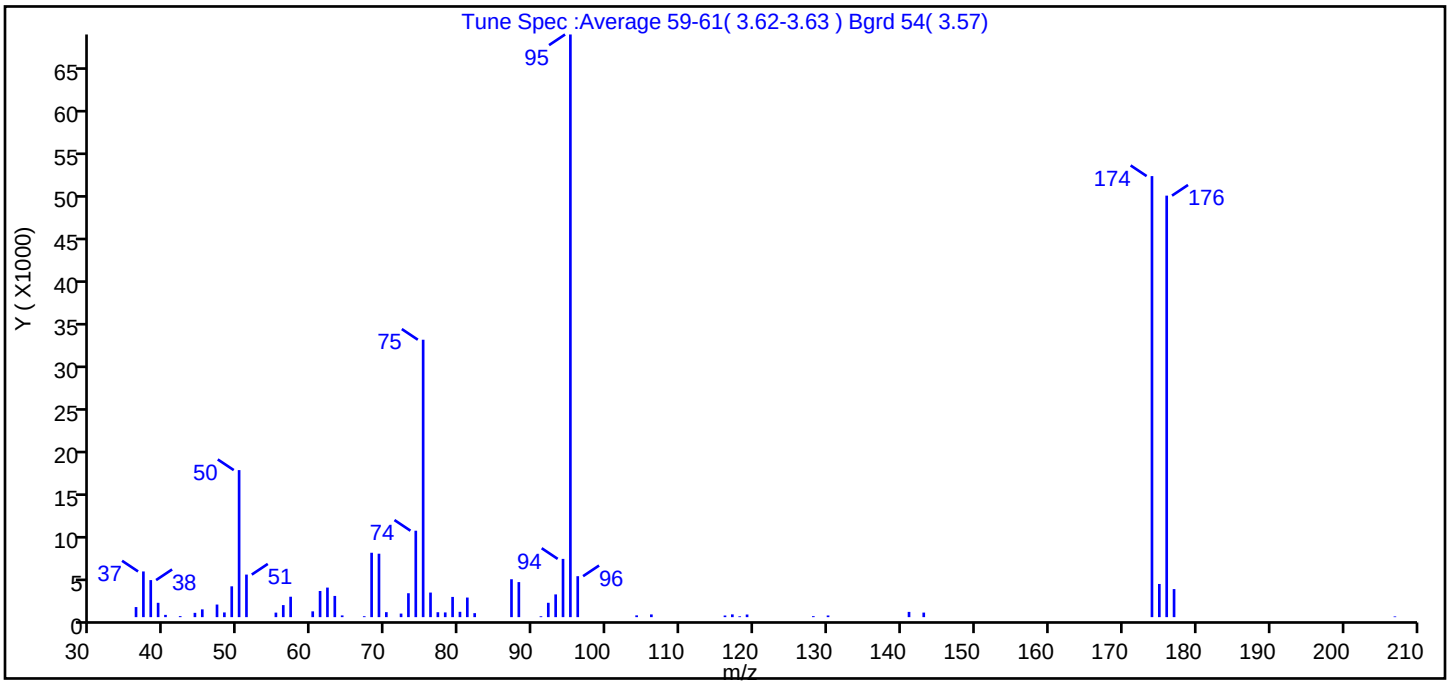
MV-BFB_00027 Amount Added: 1.00 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1279.D
Injection Date: 05-Nov-2018 22:25:30 Instrument ID: VMS_G
Lims ID: BFB
Client ID:
Operator ID: newcomer ALS Bottle#: 100 Worklist Smp#: 1
Injection Vol: 1.0 uL Dil. Factor: 1.0000
Method: AQ_VMSG_8260 Limit Group: MSV - 8260B Water and Solid
Tune Method: BFB Method 8260

$ 4 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	25.2
75	30 to 60% of m/z 95	47.6
96	5 to 9% of m/z 95	7.0
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	75.7
175	5 to 9% of m/z 174	5.7 (7.5)
176	Greater than 95% but less than 101% of m/z 174	72.3 (95.6)
177	5 to 9% of m/z 176	4.8 (6.7)

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1279.D\AQ_VMSG_8260.rslt\spectra.d
Injection Date: 05-Nov-2018 22:25:30
Spectrum: Tune Spec :Average 59-61(3.62-3.63) Bgrd 54(3.57)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 59

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1177	57.00	2384	77.00	574	106.00	317
37.00	5336	60.00	677	78.00	551	116.00	190
38.00	4326	61.00	3053	79.00	2361	117.00	322
39.00	1673	62.00	3451	80.00	622	118.00	96
40.00	265	63.00	2477	81.00	2289	119.00	306
42.00	117	64.00	201	82.00	466	128.00	113
44.00	502	67.00	106	87.00	4426	130.00	193
45.00	909	68.00	7519	88.00	4091	141.00	613
47.00	1471	69.00	7407	91.00	101	143.00	532
48.00	549	70.00	582	92.00	1675	174.00	51496
49.00	3599	72.00	416	93.00	2655	175.00	3873
50.00	17168	73.00	2793	94.00	6802	176.00	49216
51.00	4969	74.00	10092	95.00	68032	177.00	3277
55.00	529	75.00	32392	96.00	4783	207.00	83
56.00	1406	76.00	2870	104.00	208		

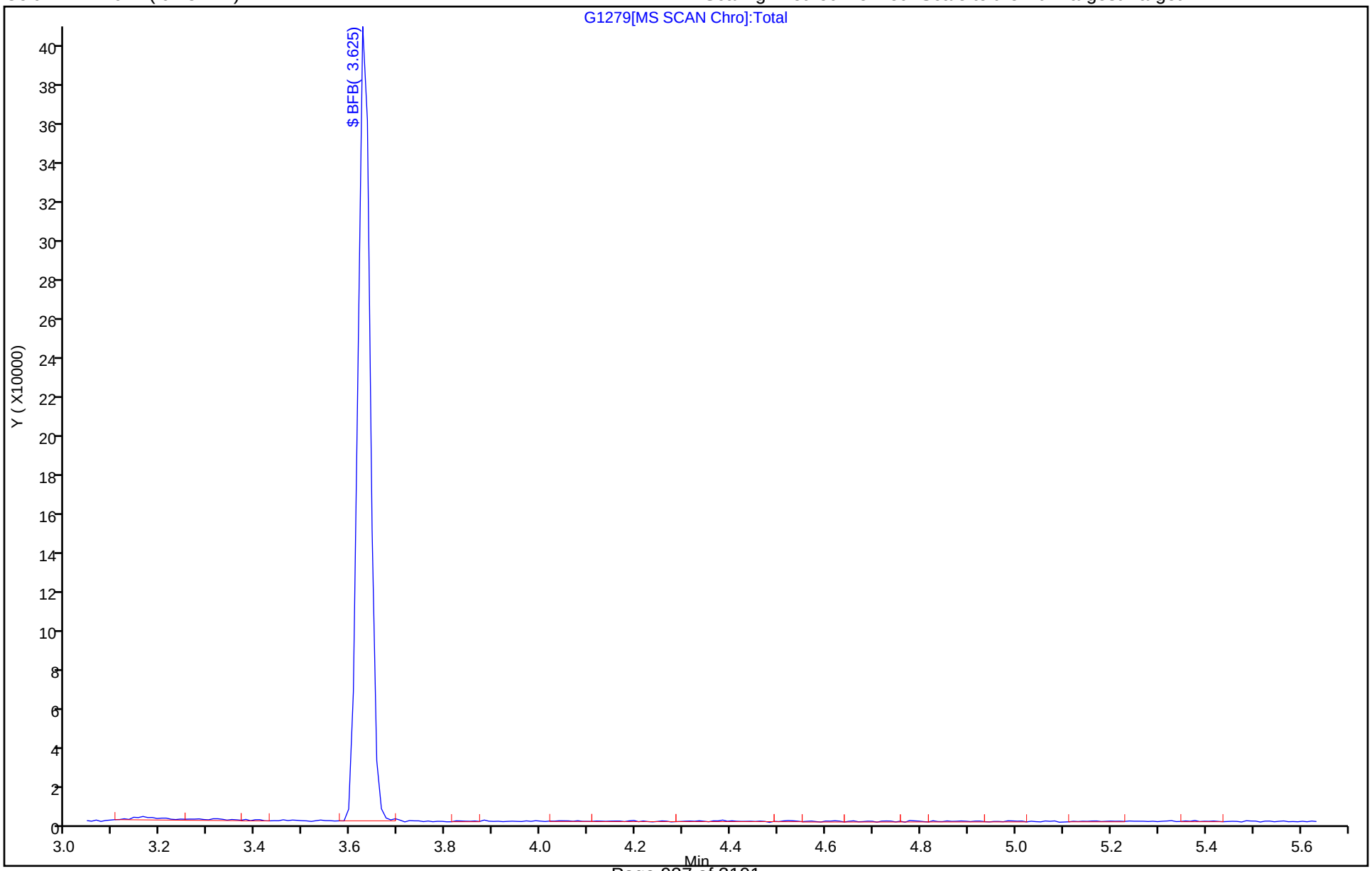
Report Date: 07-Nov-2018 18:09:05 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1279.D

Injection Date:	05-Nov-2018 22:25:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	100
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-436416/4

Matrix: Water | Lab File ID: G1283.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 20(mL) | Date Analyzed: 11/05/2018 23:51

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 436416 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	0.40	U	1.0	0.40	0.16
79-34-5	1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	0.80	U	1.0	0.80	0.22
75-35-4	1,1-Dichloroethene	0.80	U	1.0	0.80	0.23
106-93-4	1,2-Dibromoethane	0.40	U	1.0	0.40	0.18
107-06-2	1,2-Dichloroethane	0.40	U	1.0	0.40	0.13
540-59-0	1,2-Dichloroethene, Total	0.20	U	1.0	0.20	0.24
78-87-5	1,2-Dichloropropane	0.40	U	1.0	0.40	0.18
78-93-3	2-Butanone (MEK)	4.0	U	6.0	4.0	2.0
591-78-6	2-Hexanone	4.0	U	5.0	4.0	1.7
108-10-1	4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98
67-64-1	Acetone	6.4	U	10	6.4	1.9
71-43-2	Benzene	0.40	U	1.0	0.40	0.16
108-86-1	Bromobenzene	0.40	U	1.0	0.40	0.17
74-97-5	Bromochloromethane	0.20	U	1.0	0.20	0.10
75-27-4	Bromodichloromethane	0.40	U	1.0	0.40	0.17
75-25-2	Bromoform	0.40	U	1.0	0.40	0.19
74-83-9	Bromomethane	0.80	U	2.0	0.80	0.21
75-15-0	Carbon disulfide	1.6	U	2.0	1.6	0.45
56-23-5	Carbon tetrachloride	0.40	U	2.0	0.40	0.19
108-90-7	Chlorobenzene	0.40	U	1.0	0.40	0.17
75-00-3	Chloroethane	1.6	U	2.0	1.6	0.41
67-66-3	Chloroform	0.40	U	1.0	0.40	0.16
74-87-3	Chloromethane	0.80	U	2.0	0.80	0.30
10061-01-5	cis-1,3-Dichloropropene	0.40	U	1.0	0.40	0.16
124-48-1	Dibromochloromethane	0.40	U	1.0	0.40	0.17
100-41-4	Ethylbenzene	0.40	U	1.0	0.40	0.16
75-09-2	Methylene Chloride	0.80	U	5.0	0.80	0.32
100-42-5	Styrene	0.40	U	1.0	0.40	0.17
127-18-4	Tetrachloroethene	0.40	U	1.0	0.40	0.20
108-88-3	Toluene	0.40	U	1.0	0.40	0.17
10061-02-6	trans-1,3-Dichloropropene	0.40	U	1.0	0.40	0.19
79-01-6	Trichloroethene	0.40	U	1.0	0.40	0.16
75-01-4	Vinyl chloride	0.20	U	1.5	0.20	0.10
1330-20-7	Xylenes, Total	0.80	U	1.0	0.80	0.19

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-436416/4

Matrix: Water | Lab File ID: G1283.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 20(mL) | Date Analyzed: 11/05/2018 23:51

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 436416 | Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		81-118
460-00-4	4-Bromofluorobenzene (Surr)	98		85-114
1868-53-7	Dibromofluoromethane (Surr)	101		80-119
2037-26-5	Toluene-d8 (Surr)	101		89-112

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1283.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 05-Nov-2018 23:51:30 ALS Bottle#: 13 Worklist Smp#: 4
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: MB
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 07-Nov-2018 18:09:09 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0322

First Level Reviewer: newcomer Date: 06-Nov-2018 00:38:39

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.462	4.453	0.009	0	91527	250.0	250.0	
* 149 1,4-Dioxane-d8	96		4.687					ND	
* 1 Fluorobenzene	96	6.461	6.462	-0.001	97	665561	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.159	9.160	-0.001	90	125236	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.286	11.286	0.000	97	169947	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.880	5.881	-0.001	92	188940	10.0	10.1	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.176	6.176	0.000	0	133153	10.0	9.50	
$ 7 Toluene-d8 (Surr)	98	7.820	7.820	0.000	95	573949	10.0	10.1	
$ 8 4-Bromofluorobenzene (Surr	95	10.272	10.272	0.000	88	178421	10.0	9.84	
$ 151 Trifluorotoluene (Surr)	1		0.000					ND	
$ 4 BFB	95		3.625					ND	
25 Dichlorodifluoromethane	85		2.887					ND	
27 Chloromethane	50		3.104					ND	
28 Vinyl chloride	62		3.212					ND	
30 Ethylene oxide	43		3.463					ND	
31 Bromomethane	94		3.527					ND	
32 Chloroethane	64		3.576					ND	
33 Dichlorofluoromethane	67		3.714					ND	
34 Ethanol	45		3.807					ND	
35 Trichlorofluoromethane	101		3.823					ND	
38 Ethyl ether	59		3.951					ND	
24 Chlorotrifluoroethene	116		3.956					ND	
39 Propene oxide	58		4.034					ND	
41 Acrolein	56		4.069					ND	
42 Acetone	43		4.167					ND	
26 1,2-Dichloro-1,1,2,2-tetra	85		4.173					ND	
45 1,1-Dichloroethene	96		4.197					ND	
43 Isopropyl alcohol	45		4.201					ND	
44 1,1,2-Trichloro-1,2,2-trif	151		4.207					ND	
47 Iodomethane	142		4.364					ND	
46 Acetonitrile	41		4.388					ND	
48 Methyl acetate	43		4.413					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
29 2-Chloro-1,1,1-Trifluoroet	118		4.429					ND	
49 3-Chloro-1-propene	41		4.453					ND	
50 Carbon disulfide	76		4.453					ND	
51 2-Methyl-2-propanol	59		4.522					ND	
52 Methylene Chloride	84	4.551	4.541	0.010	86	3079		0.1530	
53 Acrylonitrile	53		4.689					ND	
54 Methyl tert-butyl ether	73		4.738					ND	
55 trans-1,2-Dichloroethene	96		4.768					ND	
56 Hexane	57		4.955					ND	
57 Vinyl acetate	43		5.044					ND	
58 Isopropyl ether	87		5.078					ND	
59 1,1-Dichloroethane	63		5.083					ND	
60 2-Chloro-1,3-butadiene	53		5.156					ND	
36 1,2-Dichloro-1,1,2-trifluo	117		5.267					ND	
37 1,1,1-Trifluoro-2,2-dichlo	83		5.297					ND	
61 Tert-butyl ethyl ether	59		5.363					ND	
62 2-Butanone (MEK)	43		5.477					ND	
63 Ethyl acetate	43		5.491					ND	
66 cis-1,2-Dichloroethene	96		5.526					ND	
64 Propionitrile	54		5.531					ND	
65 sec-Butyl Alcohol	45		5.550					ND	
67 2,2-Dichloropropane	77		5.565					ND	
68 Methacrylonitrile	41		5.668					ND	
69 Chlorobromomethane	128		5.723					ND	
70 Chloroform	83		5.753					ND	
71 Tetrahydrofuran	42		5.762					ND	
73 1,1,1-Trichloroethane	97		5.969					ND	
72 Isobutyl alcohol	41		5.989					ND	
74 Cyclohexane	56		6.058					ND	
75 1,1-Dichloropropene	75		6.087					ND	
76 Carbon tetrachloride	117		6.127					ND	
77 1,2-Dichloroethane	62		6.245					ND	
79 Benzene	78		6.265					ND	
78 Tert-amyl methyl ether	73		6.289					ND	
13 n-Heptane	43		6.402					ND	
80 n-Butanol	56		6.535					ND	U
81 Trichloroethene	95		6.777					ND	
82 2-Pentanone	43		6.830					ND	
83 Methyl methacrylate	100		6.958					ND	
84 1,2-Dichloropropane	63		6.964					ND	
85 Methylcyclohexane	55		6.983					ND	
86 1,4-Dioxane	88		7.033					ND	
87 Dibromomethane	93		7.072					ND	
88 Dichlorobromomethane	83		7.161					ND	
89 2-Nitropropane	41		7.323					ND	
90 2-Chloroethyl vinyl ether	63		7.358					ND	
91 cis-1,3-Dichloropropene	75		7.545					ND	
92 4-Methyl-2-pentanone (MIBK	43		7.623					ND	
93 Toluene	91		7.879					ND	
95 trans-1,3-Dichloropropene	75		8.007					ND	
94 Ethyl methacrylate	69		8.027					ND	
96 1,1,2-Trichloroethane	97		8.195					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
98 1,3-Dichloropropane	76		8.362					ND	
97 2-Hexanone	43		8.372					ND	
99 Tetrachloroethene	164		8.401					ND	
100 Chlorodibromomethane	129		8.598					ND	
101 Tetrahydrothiophene	60		8.642					ND	
102 Ethylene Dibromide	107		8.736					ND	
103 1-Chlorohexane	91		9.094					ND	
104 Chlorobenzene	112		9.189					ND	
105 1,1,1,2-Tetrachloroethane	131		9.238					ND	
106 Ethylbenzene	106		9.268					ND	
107 m-Xylene & p-Xylene	106		9.366					ND	
108 o-Xylene	106		9.760					ND	
109 Styrene	104		9.770					ND	
110 Bromoform	173		9.977					ND	
111 Isopropylbenzene	105		10.105					ND	
112 cis-1,4-Dichloro-2-butene	53		10.139					ND	
113 Cyclohexanone	55		10.213					ND	
114 1,1,2,2-Tetrachloroethane	83		10.341					ND	
115 trans-1,4-Dichloro-2-buten	53		10.400					ND	
116 1,2,3-Trichloropropane	110		10.420					ND	
117 Bromobenzene	156		10.449					ND	
118 N-Propylbenzene	120		10.489					ND	
120 2-Chlorotoluene	126		10.607					ND	
119 1,3,5-Trimethylbenzene	105		10.627					ND	
121 4-Chlorotoluene	126		10.686					ND	
122 tert-Butylbenzene	119		10.932					ND	
123 1,2,4-Trimethylbenzene	105		10.961					ND	
124 sec-Butylbenzene	134		11.109					ND	
125 4-Isopropyltoluene	119		11.217					ND	
126 1,3-Dichlorobenzene	146		11.237					ND	
127 1,4-Dichlorobenzene	146		11.306					ND	
128 1,2,3-Trimethylbenzene	105		11.330					ND	
129 n-Butylbenzene	91		11.572					ND	
130 1,2-Dichlorobenzene	146		11.651					ND	
131 1,2-Dibromo-3-Chloropropan	157		12.340					ND	
11 1,3,5-Trichlorobenzene	180		12.551					ND	
132 1,2,4-Trichlorobenzene	180		13.187					ND	
133 Hexachlorobutadiene	225		13.354					ND	
134 Naphthalene	128		13.482					ND	
135 1,2,3-Trichlorobenzene	180		13.758					ND	
21 2-Methylhexane	1		0.000					ND	
158 1-Chlorohexane TIC	1		0.000					ND	
10 2,2-Dimethylpentane	1		0.000					ND	
160 Cyclohexane TIC	1		0.000					ND	
15 3-Ethylpentane	1		0.000					ND	
16 3-Methylhexane	1		0.000					ND	
9 2,2,3-Trimethylbutane	1		0.000					ND	
19 2,4-Dimethylpentane	1		0.000					ND	
143 Pentachloroethane	167		0.000					ND	
159 Methyl cyclohexane TIC	1		0.000					ND	
12 n-Nonyl Aldehyde	1		0.000					ND	
17 Dimethyl disulfide	1		0.000					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
18 3,3-Dimethylpentane	1		0.000				ND		
14 2,3-Dimethylpentane	1		0.000				ND		
161 1-Chloro-1-fluoroethane TI	1		0.000				ND		
S 142 1,2-Dichloroethene, Total	96		2.000				ND		
S 137 Xylenes, Total (URS)	1		0.000				ND		
S 141 Xylenes, Total	106		0.000				ND		
S 138 Total BTEX	1		0.000				ND		
S 140 1,2-Dichloroethene, Total	1		0.000				ND		
S 156 TAH	1				0			0	7
S 136 Trihalomethanes, Total	1		0.000				ND		
S 139 1,3-Dichloropropene, Total	1		0.000				ND		

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

U - Marked Undetected

Reagents:

MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

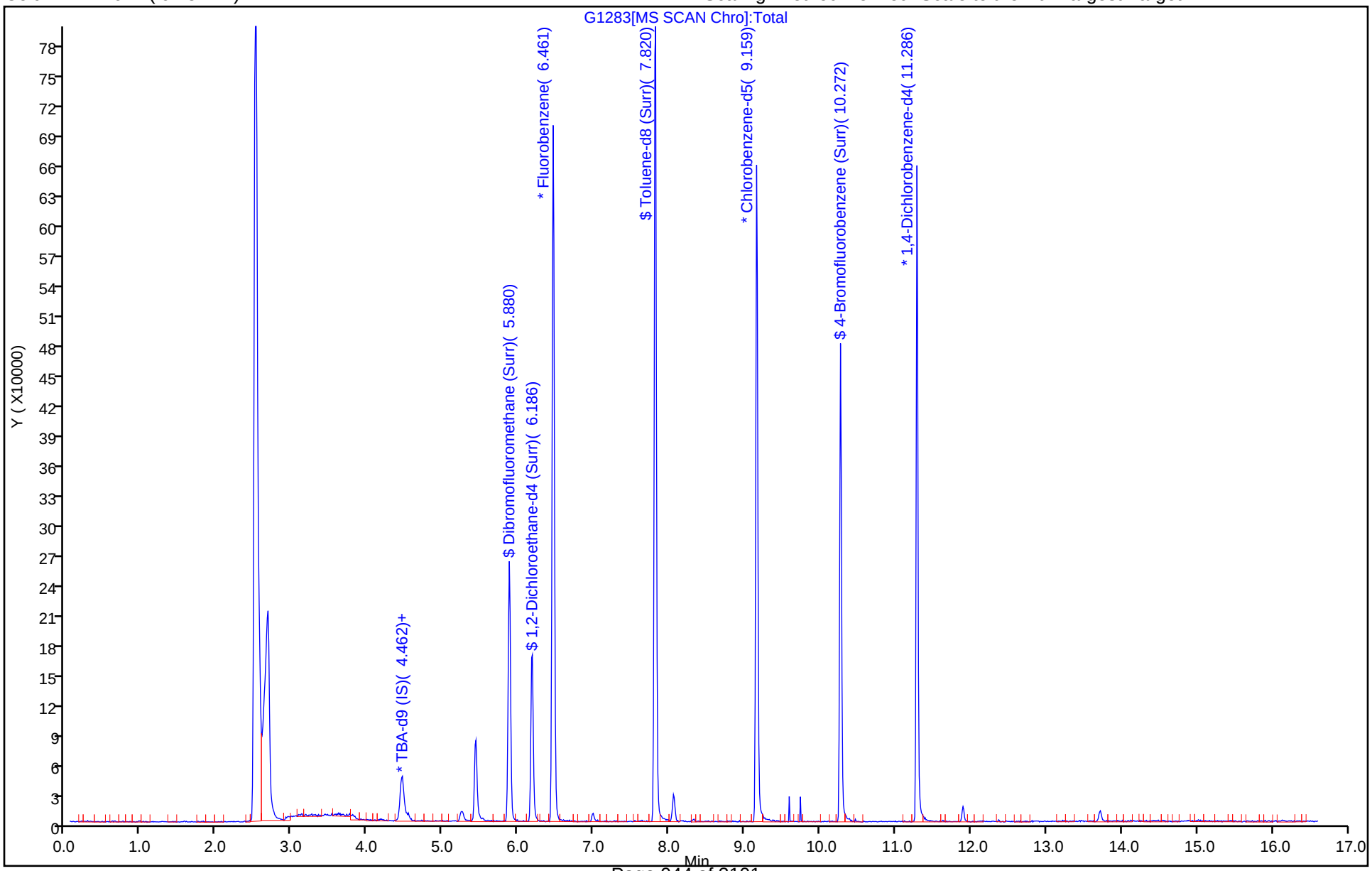
Report Date: 07-Nov-2018 18:09:12 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1283.D

Injection Date:	05-Nov-2018 23:51:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	MB			Worklist Smp#:	4
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1283.D				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	05-Nov-2018 23:51:30	ALS Bottle#:	13	Worklist Smp#:	4
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	MB				
Operator ID:	newcomer	Instrument ID:	VMS_G		
Method:	\\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\AQ_VMSG_8260.m				
Limit Group:	MSV - 8260B Water and Solid				
Last Update:	07-Nov-2018 18:09:09	Calib Date:	29-Oct-2018 22:02:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D				
Column 1 :	DB-624 (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0322				

First Level Reviewer: newcomer Date: 06-Nov-2018 00:38:39

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	10.0	10.1	100.57
$ 6 1,2-Dichloroethane-d4 (Surr)	10.0	9.50	95.01
$ 7 Toluene-d8 (Surr)	10.0	10.1	101.13
$ 8 4-Bromofluorobenzene (Surr)	10.0	9.84	98.36

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-436416/5

Matrix: Water | Lab File ID: G1284.D

Analysis Method: 8260B | Date Collected:

Sample wt/vol: 20(mL) | Date Analyzed: 11/06/2018 00:11

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-624 v1 ID: 32(um)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 436416 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
71-55-6	1,1,1-Trichloroethane	5.00		1.0	0.40	0.16
79-34-5	1,1,2,2-Tetrachloroethane	5.54		1.0	0.80	0.21
79-00-5	1,1,2-Trichloroethane	5.59		1.0	0.80	0.27
75-34-3	1,1-Dichloroethane	5.15		1.0	0.80	0.22
75-35-4	1,1-Dichloroethene	4.76		1.0	0.80	0.23
106-93-4	1,2-Dibromoethane	5.19		1.0	0.40	0.18
107-06-2	1,2-Dichloroethane	5.06		1.0	0.40	0.13
540-59-0	1,2-Dichloroethene, Total	10.7		1.0	0.20	0.24
78-87-5	1,2-Dichloropropane	5.39		1.0	0.40	0.18
78-93-3	2-Butanone (MEK)	21.3		6.0	4.0	2.0
591-78-6	2-Hexanone	20.1		5.0	4.0	1.7
108-10-1	4-Methyl-2-pentanone (MIBK)	21.9		5.0	3.2	0.98
67-64-1	Acetone	18.0		10	6.4	1.9
71-43-2	Benzene	5.24		1.0	0.40	0.16
108-86-1	Bromobenzene	5.31		1.0	0.40	0.17
74-97-5	Bromochloromethane	5.36		1.0	0.20	0.10
75-27-4	Bromodichloromethane	5.27		1.0	0.40	0.17
75-25-2	Bromoform	5.39		1.0	0.40	0.19
74-83-9	Bromomethane	4.67		2.0	0.80	0.21
75-15-0	Carbon disulfide	4.65		2.0	1.6	0.45
56-23-5	Carbon tetrachloride	5.04		2.0	0.40	0.19
108-90-7	Chlorobenzene	5.17		1.0	0.40	0.17
75-00-3	Chloroethane	4.68		2.0	1.6	0.41
67-66-3	Chloroform	5.14		1.0	0.40	0.16
74-87-3	Chloromethane	4.65		2.0	0.80	0.30
10061-01-5	cis-1,3-Dichloropropene	5.56		1.0	0.40	0.16
124-48-1	Dibromochloromethane	5.47		1.0	0.40	0.17
100-41-4	Ethylbenzene	5.31		1.0	0.40	0.16
75-09-2	Methylene Chloride	4.50	J	5.0	0.80	0.32
100-42-5	Styrene	5.53		1.0	0.40	0.17
127-18-4	Tetrachloroethene	5.13		1.0	0.40	0.20
108-88-3	Toluene	5.40		1.0	0.40	0.17
10061-02-6	trans-1,3-Dichloropropene	5.43		1.0	0.40	0.19
79-01-6	Trichloroethene	5.23		1.0	0.40	0.16
75-01-4	Vinyl chloride	4.83		1.5	0.20	0.10
1330-20-7	Xylenes, Total	10.8		1.0	0.80	0.19

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 280-436416/5

Matrix: Water Lab File ID: G1284.D

Analysis Method: 8260B Date Collected:

Sample wt/vol: 20(mL) Date Analyzed: 11/06/2018 00:11

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 v1 ID: 32(um)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 436416 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		81-118
460-00-4	4-Bromofluorobenzene (Surr)	96		85-114
1868-53-7	Dibromofluoromethane (Surr)	98		80-119
2037-26-5	Toluene-d8 (Surr)	100		89-112

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1284.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 06-Nov-2018 00:11:30 ALS Bottle#: 14 Worklist Smp#: 5
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: LCS
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 07-Nov-2018 18:09:09 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0322

First Level Reviewer: newcomer Date: 06-Nov-2018 02:47:23

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 150 TBA-d9 (IS)	65	4.454	4.453	0.001	0	92337	250.0	250.0	
* 1 Fluorobenzene	96	6.462	6.462	0.000	98	739494	12.5	12.5	
* 2 Chlorobenzene-d5	119	9.160	9.160	0.000	90	140970	12.5	12.5	
* 3 1,4-Dichlorobenzene-d4	152	11.287	11.286	0.001	96	195956	12.5	12.5	
$ 5 Dibromofluoromethane (Surr	111	5.882	5.881	0.001	92	205263	10.0	9.83	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.177	6.176	0.001	0	148749	10.0	9.55	
$ 7 Toluene-d8 (Surr)	98	7.811	7.820	-0.009	95	638995	10.0	10.0	
$ 8 4-Bromofluorobenzene (Surr	95	10.273	10.272	0.001	87	200678	10.0	9.59	
25 Dichlorodifluoromethane	85	2.878	2.887	-0.009	99	137772	5.00	4.44	
27 Chloromethane	50	3.095	3.104	-0.009	100	165534	5.00	4.65	
28 Vinyl chloride	62	3.203	3.212	-0.009	80	135609	5.00	4.83	
31 Bromomethane	94	3.508	3.527	-0.019	93	89257	5.00	4.67	
32 Chloroethane	64	3.568	3.576	-0.008	97	63073	5.00	4.68	
33 Dichlorofluoromethane	67	3.715	3.714	0.001	98	196372	5.00	5.19	
35 Trichlorofluoromethane	101	3.814	3.823	-0.009	99	168457	5.00	4.67	
38 Ethyl ether	59	3.942	3.951	-0.009	91	48856	5.00	5.08	
41 Acrolein	56	4.070	4.069	0.001	99	56621	50.0	47.7	
42 Acetone	43	4.168	4.167	0.001	67	52447	20.0	18.0	
45 1,1-Dichloroethene	96	4.198	4.197	0.001	93	105824	5.00	4.76	
44 1,1,2-Trichloro-1,2,2-trif	151	4.198	4.207	-0.009	67	77477	5.00	4.59	
47 Iodomethane	142	4.355	4.364	-0.009	98	203572	5.00	4.63	
48 Methyl acetate	43	4.405	4.413	-0.009	98	67986	10.0	9.87	
49 3-Chloro-1-propene	41	4.454	4.453	0.001	91	276399	5.00	4.86	
50 Carbon disulfide	76	4.454	4.453	0.001	97	541359	5.00	4.65	
51 2-Methyl-2-propanol	59	4.513	4.522	-0.009	28	28733	50.0	50.3	
52 Methylene Chloride	84	4.542	4.541	0.001	97	100538	5.00	4.50	
53 Acrylonitrile	53	4.690	4.689	0.001	97	136274	50.0	50.5	
54 Methyl tert-butyl ether	73	4.739	4.738	0.001	97	122177	5.00	5.05	
55 trans-1,2-Dichloroethene	96	4.769	4.768	0.001	93	125192	5.00	5.31	
56 Hexane	57	4.956	4.955	0.001	95	232459	5.00	5.23	
57 Vinyl acetate	43	5.045	5.044	0.001	96	277842	10.0	10.7	
59 1,1-Dichloroethane	63	5.084	5.083	0.001	97	243000	5.00	5.15	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
62 2-Butanone (MEK)	43	5.478	5.477	0.001	97	80674	20.0	21.3	
66 cis-1,2-Dichloroethene	96	5.527	5.526	0.001	89	123302	5.00	5.39	
67 2,2-Dichloropropane	77	5.557	5.565	-0.008	91	171118	5.00	5.16	
69 Chlorobromomethane	128	5.724	5.723	0.001	90	41357	5.00	5.36	
70 Chloroform	83	5.744	5.753	-0.009	98	202758	5.00	5.14	
71 Tetrahydrofuran	42	5.763	5.762	0.001	87	23524	10.0	11.3	
73 1,1,1-Trichloroethane	97	5.970	5.969	0.001	96	172400	5.00	5.00	
72 Isobutyl alcohol	41	5.980	5.989	-0.009	96	33434	125.0	144.8	
74 Cyclohexane	56	6.049	6.058	-0.009	95	263881	5.00	5.10	
75 1,1-Dichloropropene	75	6.088	6.087	0.001	93	187358	5.00	5.21	
76 Carbon tetrachloride	117	6.118	6.127	-0.009	97	152852	5.00	5.04	
77 1,2-Dichloroethane	62	6.246	6.245	0.001	95	93683	5.00	5.06	
79 Benzene	78	6.266	6.265	0.001	98	456180	5.00	5.24	
13 n-Heptane	43	6.403	6.402	0.001	96	308744	5.00	5.26	
81 Trichloroethene	95	6.768	6.777	-0.009	95	123312	5.00	5.23	
84 1,2-Dichloropropane	63	6.955	6.964	-0.009	94	117977	5.00	5.39	
85 Methylcyclohexane	55	6.984	6.983	0.001	96	208876	5.00	4.90	
86 1,4-Dioxane	88	7.034	7.033	0.001	88	5228	100.0	105.0	
87 Dibromomethane	93	7.063	7.072	-0.009	90	44669	5.00	5.21	
88 Dichlorobromomethane	83	7.162	7.161	0.001	97	124491	5.00	5.27	
90 2-Chloroethyl vinyl ether	63	7.359	7.358	0.001	89	10385	5.00	5.56	
91 cis-1,3-Dichloropropene	75	7.546	7.545	0.001	90	132320	5.00	5.56	
92 4-Methyl-2-pentanone (MIBK	43	7.624	7.623	0.001	96	174666	20.0	21.9	
93 Toluene	91	7.880	7.879	0.001	96	423563	5.00	5.40	
95 trans-1,3-Dichloropropene	75	8.008	8.007	0.001	97	91872	5.00	5.43	
94 Ethyl methacrylate	69	8.028	8.027	0.001	96	52190	5.00	5.51	
96 1,1,2-Trichloroethane	97	8.195	8.195	0.000	91	49466	5.00	5.59	
98 1,3-Dichloropropane	76	8.363	8.362	0.001	97	85084	5.00	5.18	
97 2-Hexanone	43	8.373	8.372	0.001	95	104031	20.0	20.1	
99 Tetrachloroethene	164	8.402	8.401	0.001	96	86672	5.00	5.13	
100 Chlorodibromomethane	129	8.589	8.598	-0.009	90	66808	5.00	5.47	
102 Ethylene Dibromide	107	8.737	8.736	0.001	98	46039	5.00	5.19	
104 Chlorobenzene	112	9.190	9.189	0.001	91	229079	5.00	5.17	
105 1,1,1,2-Tetrachloroethane	131	9.239	9.238	0.001	96	76620	5.00	5.27	
106 Ethylbenzene	106	9.259	9.268	-0.009	99	129051	5.00	5.31	
107 m-Xylene & p-Xylene	106	9.367	9.366	0.001	0	157830	5.00	5.44	
108 o-Xylene	106	9.761	9.760	0.001	88	142173	5.00	5.37	
109 Styrene	104	9.761	9.770	-0.009	79	208875	5.00	5.53	
110 Bromoform	173	9.978	9.977	0.001	92	31160	5.00	5.39	
111 Isopropylbenzene	105	10.106	10.105	0.001	97	411172	5.00	5.25	
113 Cyclohexanone	55	10.214	10.213	0.001	98	85190	200.0	199.0	
114 1,1,2,2-Tetrachloroethane	83	10.342	10.341	0.001	92	57539	5.00	5.54	
115 trans-1,4-Dichloro-2-buten	53	10.391	10.400	-0.009	71	11815	5.00	5.35	
116 1,2,3-Trichloropropane	110	10.421	10.420	0.001	82	9898	5.00	5.31	
117 Bromobenzene	156	10.450	10.449	0.001	95	83919	5.00	5.31	
118 N-Propylbenzene	120	10.490	10.489	0.001	99	105622	5.00	5.48	
120 2-Chlorotoluene	126	10.598	10.607	-0.009	95	97688	5.00	5.59	
119 1,3,5-Trimethylbenzene	105	10.628	10.627	0.001	93	333095	5.00	5.27	
121 4-Chlorotoluene	126	10.687	10.686	0.001	99	93901	5.00	5.50	
122 tert-Butylbenzene	119	10.923	10.932	-0.009	93	312427	5.00	5.35	
123 1,2,4-Trimethylbenzene	105	10.962	10.961	0.001	96	320111	5.00	5.19	
124 sec-Butylbenzene	134	11.110	11.109	0.001	96	79860	5.00	5.45	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
125 4-Isopropyltoluene	119	11.218	11.217	0.001	97	362852	5.00	5.30	
126 1,3-Dichlorobenzene	146	11.238	11.237	0.001	98	171914	5.00	5.25	
127 1,4-Dichlorobenzene	146	11.307	11.306	0.001	94	172514	5.00	5.17	
129 n-Butylbenzene	91	11.573	11.572	0.001	99	415544	5.00	5.08	
130 1,2-Dichlorobenzene	146	11.642	11.651	-0.009	96	139841	5.00	5.32	
131 1,2-Dibromo-3-Chloropropan	157	12.341	12.340	0.001	75	6044	5.00	5.22	
132 1,2,4-Trichlorobenzene	180	13.188	13.187	0.001	93	92656	5.00	5.51	
133 Hexachlorobutadiene	225	13.355	13.354	0.001	96	73230	5.00	5.08	
134 Naphthalene	128	13.483	13.482	0.001	97	100585	5.00	5.27	
135 1,2,3-Trichlorobenzene	180	13.759	13.758	0.001	94	73130	5.00	5.18	
S 142 1,2-Dichloroethene, Total	96				0		10.0	10.7	
S 137 Xylenes, Total (URS)	1				0		10.0	10.8	
S 141 Xylenes, Total	106				0		10.0	10.8	
S 140 1,2-Dichloroethene, Total	1				0		10.0	10.7	
S 136 Trihalomethanes, Total	1				0		20.0	21.3	
S 139 1,3-Dichloropropene, Total	1				0		10.0	11.0	

Reagents:

MV-MegaMain B_00003	Amount Added:	2.00	Units: uL	
MV-568718-D_00014	Amount Added:	1.00	Units: uL	Run Reagent
MV-ARCH SS A_00107	Amount Added:	0.80	Units: uL	Run Reagent

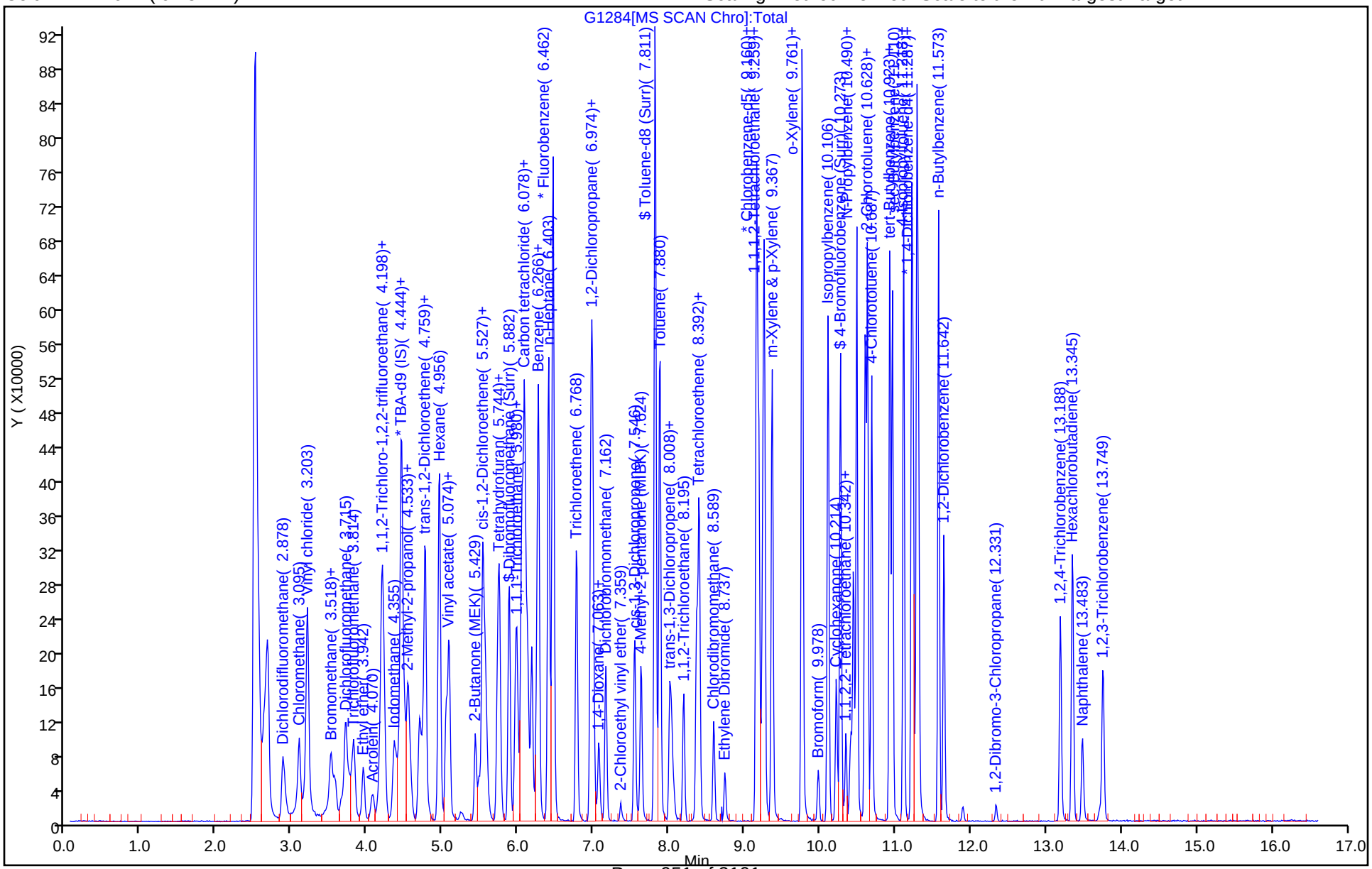
Report Date: 07-Nov-2018 18:09:14 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1284.D

Injection Date:	06-Nov-2018 00:11:30	Instrument ID:	VMS_G	Operator ID:	newcomer
Lims ID:	LCS			Worklist Smp#:	5
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	AQ_VMSG_8260	Limit Group:	MSV - 8260B Water and Solid		

Column: DB-624 (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\G1284.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 06-Nov-2018 00:11:30 ALS Bottle#: 14 Worklist Smp#: 5
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: LCS
Operator ID: newcomer Instrument ID: VMS_G

Method: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b\AQ_VMSG_8260.m
Limit Group: MSV - 8260B Water and Solid
Last Update: 07-Nov-2018 18:09:09 Calib Date: 29-Oct-2018 22:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b\G0948.D

Column 1 : DB-624 (0.25 mm) Det: MS SCAN
Process Host: CTX0322

First Level Reviewer: newcomer Date: 06-Nov-2018 02:47:23

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	10.0	9.83	98.34
$ 6 1,2-Dichloroethane-d4 (Surr)	10.0	9.55	95.53
$ 7 Toluene-d8 (Surr)	10.0	10.0	100.02
$ 8 4-Bromofluorobenzene (Surr)	10.0	9.59	95.94

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: VMS_G Start Date: 09/28/2018 10:25

Analysis Batch Number: 431341 End Date: 09/28/2018 17:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-431341/1		09/28/2018 10:25	1	G9554.D	DB-624 v1 32(um)
STD050 280-431341/10 IC		09/28/2018 11:33	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 11:33	1		DB-624 v1 32(um)
STD010 280-431341/11 IC		09/28/2018 11:54	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 11:54	1		DB-624 v1 32(um)
STD020 280-431341/12 IC		09/28/2018 12:14	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 12:14	1		DB-624 v1 32(um)
STD050 280-431341/13 IC		09/28/2018 12:35	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 12:35	1		DB-624 v1 32(um)
STD10 280-431341/14 IC		09/28/2018 12:55	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 12:55	1		DB-624 v1 32(um)
STD25 280-431341/15 IC		09/28/2018 13:15	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 13:15	1		DB-624 v1 32(um)
STD60 280-431341/16 IC		09/28/2018 13:36	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 13:36	1		DB-624 v1 32(um)
ICV 280-431341/17		09/28/2018 14:17	1		DB-624 v1 32(um)
STD010 280-431341/18 IC		09/28/2018 14:37	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 14:37	1		DB-624 v1 32(um)
STD020 280-431341/19 IC		09/28/2018 14:57	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 14:57	1		DB-624 v1 32(um)
STD050 280-431341/20 IC		09/28/2018 15:18	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 15:18	1		DB-624 v1 32(um)
ICIS 280-431341/21		09/28/2018 15:38	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 15:38	1		DB-624 v1 32(um)
STD30 280-431341/22 IC		09/28/2018 15:58	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 15:58	1		DB-624 v1 32(um)
STD60 280-431341/23 IC		09/28/2018 16:19	1		DB-624 v1 32(um)
ZZZZZ		09/28/2018 16:19	1		DB-624 v1 32(um)
ICV 280-431341/24		09/28/2018 17:00	1	G9573.D	DB-624 v1 32(um)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: VMS_G Start Date: 10/29/2018 19:13

Analysis Batch Number: 435406 End Date: 10/30/2018 06:49

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-435406/1		10/29/2018 19:13	1	G0940.D	DB-624 v1 32(um)
STD005 280-435406/10 IC		10/29/2018 20:00	1	G0942.D	DB-624 v1 32(um)
STD01 280-435406/11 IC		10/29/2018 20:20	1	G0943.D	DB-624 v1 32(um)
STD02 280-435406/12 IC		10/29/2018 20:40	1	G0944.D	DB-624 v1 32(um)
STD05 280-435406/13 IC		10/29/2018 21:01	1	G0945.D	DB-624 v1 32(um)
ICIS 280-435406/14		10/29/2018 21:21	1	G0946.D	DB-624 v1 32(um)
STD25 280-435406/15 IC		10/29/2018 21:42	1	G0947.D	DB-624 v1 32(um)
STD60 280-435406/16 IC		10/29/2018 22:02	1	G0948.D	DB-624 v1 32(um)
CCV 280-435406/3		10/29/2018 22:22	1		DB-624 v1 32(um)
ICV 280-435406/17		10/29/2018 22:43	1	G0950.D	DB-624 v1 32(um)
ZZZZZ		10/29/2018 23:03	1		DB-624 v1 32(um)
ZZZZZ		10/29/2018 23:23	40		DB-624 v1 32(um)
ZZZZZ		10/29/2018 23:43	20		DB-624 v1 32(um)
ZZZZZ		10/30/2018 00:04	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 00:24	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 00:44	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 01:05	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 01:25	20		DB-624 v1 32(um)
ZZZZZ		10/30/2018 01:45	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 02:06	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 02:26	4		DB-624 v1 32(um)
ZZZZZ		10/30/2018 02:46	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 03:06	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 03:27	2		DB-624 v1 32(um)
ZZZZZ		10/30/2018 03:47	2		DB-624 v1 32(um)
ZZZZZ		10/30/2018 04:07	2		DB-624 v1 32(um)
ZZZZZ		10/30/2018 04:27	20		DB-624 v1 32(um)
ZZZZZ		10/30/2018 04:48	2		DB-624 v1 32(um)
ZZZZZ		10/30/2018 05:08	20		DB-624 v1 32(um)
ZZZZZ		10/30/2018 05:28	1		DB-624 v1 32(um)
ZZZZZ		10/30/2018 05:48	2		DB-624 v1 32(um)
ZZZZZ		10/30/2018 06:09	20		DB-624 v1 32(um)
CCVC 280-435406/40		10/30/2018 06:29	1		DB-624 v1 32(um)
CCVC 280-435406/41		10/30/2018 06:49	1		DB-624 v1 32(um)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: VMS_G Start Date: 11/05/2018 22:25

Analysis Batch Number: 436416 End Date: 11/06/2018 07:16

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-436416/1		11/05/2018 22:25	1	G1279.D	DB-624 v1 32(um)
CCV 280-436416/2		11/05/2018 23:10	1	G1281.D	DB-624 v1 32(um)
CCV 280-436416/3		11/05/2018 23:30	1	G1282.D	DB-624 v1 32(um)
MB 280-436416/4		11/05/2018 23:51	1	G1283.D	DB-624 v1 32(um)
LCS 280-436416/5		11/06/2018 00:11	1	G1284.D	DB-624 v1 32(um)
ZZZZZ		11/06/2018 00:31	1		DB-624 v1 32(um)
ZZZZZ		11/06/2018 00:52	1		DB-624 v1 32(um)
ZZZZZ		11/06/2018 01:12	1		DB-624 v1 32(um)
ZZZZZ		11/06/2018 01:32	1		DB-624 v1 32(um)
ZZZZZ		11/06/2018 01:52	1		DB-624 v1 32(um)
ZZZZZ		11/06/2018 02:13	1		DB-624 v1 32(um)
ZZZZZ		11/06/2018 02:33	1		DB-624 v1 32(um)
ZZZZZ		11/06/2018 02:53	1		DB-624 v1 32(um)
ZZZZZ		11/06/2018 03:13	1		DB-624 v1 32(um)
ZZZZZ		11/06/2018 03:33	1		DB-624 v1 32(um)
ZZZZZ		11/06/2018 03:54	1		DB-624 v1 32(um)
280-115950-4		11/06/2018 04:14	1	G1296.D	DB-624 v1 32(um)
280-115950-5		11/06/2018 04:34	1	G1297.D	DB-624 v1 32(um)
280-115950-6		11/06/2018 04:54	1	G1298.D	DB-624 v1 32(um)
ZZZZZ		11/06/2018 05:15	1		DB-624 v1 32(um)
ZZZZZ		11/06/2018 05:35	1		DB-624 v1 32(um)
ZZZZZ		11/06/2018 05:55	1		DB-624 v1 32(um)
ZZZZZ		11/06/2018 06:16	1		DB-624 v1 32(um)
ZZZZZ		11/06/2018 06:36	1		DB-624 v1 32(um)
ZZZZZ		11/06/2018 06:56	1		DB-624 v1 32(um)
CCVC 280-436416/30		11/06/2018 07:16	1	G1305.D	DB-624 v1 32(um)

Sequence Name: C:\HPCHEM\1\SEQUENCE\110518pm.S
Comment:
Operator: newcomer
Data Path: C:\HPCHEM\1\DATA\110518pm\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

est America Denver
rument: G
V-MS-0010 (8260B/624) (Circle)
urge Volume: (20mL/5mL/5g)
(Circle)
une Time: 2225-0716
436416

RSN
11/6/18

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	100	G1278	BFBTUN	BFB
2	Sample	100	G1279	BFBTUN	BFB
3	Sample	10	G1280	8260	Blank
4	Sample	11	G1281	8260	CCV
5	Sample	12	G1282	8260	CCV
6	Sample	13	G1283	8260	MB
7	Sample	14	G1284	8260	LCS
8	Sample	15	G1285	8260	280-116541-G-1 pH 7
9	Sample	16	G1286	8260	280-116541-H-1 MS pH 7
10	Sample	17	G1287	8260	280-116541-H-1 MSD pH 7
11	Sample	18	G1288	8260	280-116541-H-2 pH 7
12	Sample	19	G1289	8260	280-116541-I-3 pH 7
13	Sample	20	G1290	8260	280-116541-H-4 pH 7
14	Sample	21	G1291	8260	280-116541-H-5 pH 7
15	Sample	22	G1292	8260	280-116541-G-6 pH 7
16	Sample	23	G1293	8260	280-116541-G-7 pH 7
17	Sample	24	G1294	8260	280-116541-H-8 pH 5
18	Sample	25	G1295	8260	280-116541-H-9 pH 5
19	Sample	26	G1296	8260	280-115950-K-4 pH<2
20	Sample	27	G1297	8260	280-115950-M-5 pH<2
21	Sample	28	G1298	8260	280-115950-A-6 pH<2
22	Sample	29	G1299	8260	280-116012-A-11 pH<2
23	Sample	30	G1300	8260	280-116060-A-1 pH<2
24	Sample	31	G1301	8260	280-116287-A-20 pH<2
25	Sample	32	G1302	8260	280-116287-A-21 pH<2
26	Sample	33	G1303	8260	280-116163-E-1 pH<2
27	Sample	34	G1304	8260	280-116163-A-2 pH<2
28	Sample	35	G1305	8260	CCVC
29	Sample	36	G1306	8260S	primer

Preliminary Report

TestAmerica Laboratories
Qc Batch Report

Data Path: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b

Worklist Name:	110518pm	Worklist Num:	75865
Instrument:	VMS_G	Method:	AQ_VMSG_8260
Analysis Type:	VOA	Creator:	Newcome, Robin S
Inj Volume:	20	Inj Vol Units:	mL
QC Batching:	Disabled	Limit Group Batching:	Disabled

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 436416
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 MB	# 4 MB
# 5 LCS	# 5 LCS
# 6 LCSD	# 6 LCSD
# 7 280-108595-A-1	# 7 280-108595-A-1
# 8 280-108595-A-2	# 8 280-108595-A-2
# 9 280-108595-A-3	# 9 280-108595-A-3
# 10 280-116541-G-1	# 10 280-116541-G-1
# 11 280-116541-H-1 MS	# 11 280-116541-H-1 MS
# 12 280-116541-H-1 MSD	# 12 280-116541-H-1 MSD
# 13 280-116541-H-2	# 13 280-116541-H-2
# 14 280-116541-I-3	# 14 280-116541-I-3
# 15 280-116541-H-4	# 15 280-116541-H-4
# 16 280-116541-H-5	# 16 280-116541-H-5
# 17 280-116541-G-6	# 17 280-116541-G-6
# 18 280-116541-G-7	# 18 280-116541-G-7
# 19 280-116541-H-8	# 19 280-116541-H-8
# 20 280-116541-H-9	# 20 280-116541-H-9
# 21 280-115950-K-4	# 21 280-115950-K-4
# 22 280-115950-M-5	# 22 280-115950-M-5
# 23 280-115950-A-6	# 23 280-115950-A-6
# 24 280-116012-A-11	# 24 280-116012-A-11
# 25 280-116060-A-1	# 25 280-116060-A-1

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 436416
# 26 280-116287-A-20	# 26 280-116287-A-20
# 27 280-116287-A-21	# 27 280-116287-A-21
# 28 280-116163-E-1	# 28 280-116163-E-1
# 29 280-116163-A-2	# 29 280-116163-A-2
# 30 CCVC	# 30 CCVC
# 31 Samp 31	# 31 Samp 31

TestAmerica Laboratories
Worklist Report

Worklist Name: 110518pm
Instrument Name: VMS_G
Purge Volume: 20.00
Analysis Type: VOA
Batch Directory: \\ChromNA\Denver\ChromData\VMS_G\20181105-75865.b
Upload Directory: \\Corptalsapp16\280-DN-RawData\Organics\MS\VMS_G_T
Run Reagent: MV-568718-D_00014
Run Reagent: MV-ARCH SS A_00107

Worklist Number: 75865
Chrom Method: AQ_VMSG_8260
Units: mL
Amount Added: 1.000, Units: uL
Amount Added: 0.800, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0075865-001	# 1 BFB	MV-BFB_00027	BFB	voaWater	1.000	uL	1.000
280-0075865-002	# 2 CCV	MV-MegaMainA_00005	CCV	voaWater	20.00	mL	1.000
280-0075865-003	# 3 CCV	MV-568718-D_00014 MV-Supp A_00031	CCV	voaWater	20.00	mL	1.000
280-0075865-004	# 4 MB		MB	voaWater	20.00	mL	1.000
280-0075865-005	# 5 LCS	MV-MegaMain B_00003	LCS	voaWater	20.00	mL	1.000
280-0075865-006	# 6 LCSD	MV-MegaMain B_00003	LCSD	voaWater	20.00	mL	1.000
280-0075865-007	# 7 280-108595-A-1		Client	voaWater	20.00	mL	1.000
280-0075865-008	# 8 280-108595-A-2		Client	voaWater	20.00	mL	1.000
280-0075865-009	# 9 280-108595-A-3		Client	voaWater	20.00	mL	1.000
280-0075865-010	#10 280-116541-G-1		Client	voaWater	20.00	mL	1.000
280-0075865-011	#11 280-116541-H-1 MS	MV-MegaMain B_00003	MS	voaWater	20.00	mL	1.000
280-0075865-012	#12 280-116541-H-1 MSD	MV-MegaMain B_00003	MSD	voaWater	20.00	mL	1.000
280-0075865-013	#13 280-116541-H-2		Client	voaWater	20.00	mL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0075865-014	#14 280-116541-I-3		Client	voaWater	20.00	mL	1.000
280-0075865-015	#15 280-116541-H-4		Client	voaWater	20.00	mL	1.000
280-0075865-016	#16 280-116541-H-5		Client	voaWater	20.00	mL	1.000
280-0075865-017	#17 280-116541-G-6		Client	voaWater	20.00	mL	1.000
280-0075865-018	#18 280-116541-G-7		Client	voaWater	20.00	mL	1.000
280-0075865-019	#19 280-116541-H-8		Client	voaWater	20.00	mL	1.000
280-0075865-020	#20 280-116541-H-9		Client	voaWater	20.00	mL	1.000
280-0075865-021	#21 280-115950-K-4		Client	voaWater	20.00	mL	1.000
280-0075865-022	#22 280-115950-M-5		Client	voaWater	20.00	mL	1.000
280-0075865-023	#23 280-115950-A-6		Client	voaWater	20.00	mL	1.000
280-0075865-024	#24 280-116012-A-11		Client	voaWater	20.00	mL	1.000
280-0075865-025	#25 280-116060-A-1		Client	voaWater	20.00	mL	1.000
280-0075865-026	#26 280-116287-A-20		Client	voaWater	20.00	mL	1.000
280-0075865-027	#27 280-116287-A-21		Client	voaWater	20.00	mL	1.000
280-0075865-028	#28 280-116163-E-1		Client	voaWater	20.00	mL	1.000
280-0075865-029	#29 280-116163-A-2		Client	voaWater	20.00	mL	1.000
280-0075865-030	#30 CCVC	MV-MegaMainA_00005	CCVC	voaWater	20.00	mL	1.000
280-0075865-031	#31 Samp 31		Client	voaWater	20.00	mL	1.000

Sample Request Form: 51470

RSN 11/5/18

G

den_msvoa_totalbacklog 11/5/2018 11:39:55 PM Assigned to:Newcome, Robin S

Sample	Client Sample ID	Container (VOA)	Method	Analytical Method (PH)	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-116541-1	MW-03M	20	8260B	8260B 7	11/03 23:59	11/20/18	BAS	HI	WC Dpt & 51 & MS-Strge & Mtls-Strge	Unconfirmed
M 3-day HT required by client.										
280-116541-2	MW-07	20	8260B	8260B 7	11/03 23:59	11/20/18	BAS	HI	WC Dpt & 51 & MS-Strge & Mtls-Strge	Unconfirmed
M 3-day HT required by client.										
280-116541-3	MW-10	20	8260B	8260B 7	11/03 23:59	11/20/18	BAS	HI	51 & WC Dpt & MS-Strge & Mtls-Strge	Unconfirmed
M 3-day HT required by client.										
280-116541-4	MW-13	20	8260B	8260B 7	11/03 23:59	11/20/18	BAS	HI	51 & Mtls-Strge & WC Dpt & MS-Strge	Unconfirmed
M 3-day HT required by client.										
280-116541-5	MW-14	20	8260B	8260B 7	11/03 23:59	11/20/18	BAS	HI	WC Dpt & MS-Strge & Mtls-Strge & 51	Unconfirmed
M 3-day HT required by client.										
280-116541-6	MW-16	20	8260B	8260B 7	11/03 23:59	11/20/18	BAS	HI	51 & WC Dpt & Mtls-Strge & MS-Strge	Unconfirmed
M 3-day HT required by client.										
280-116541-7	DUP	20	8260B	8260B 7	11/03 23:59	11/20/18	BAS	HI	Mtls-Strge & 51 & WC Dpt & MS-Strge	Unconfirmed
M 3-day HT required by client.										
280-116541-8	FB	20	8260B	8260B 5	11/03 23:59	11/20/18	BAS	HI	51 & WC Dpt & Mtls-Strge & MS-Strge	Unconfirmed
M 3-day HT required by client.										
280-116541-9	TRIP BLANK	20	8260B	8260B 5	11/03 23:59	11/20/18	BAS	HI	MS-Strge	Unconfirmed
M 3-day HT required by client.										

Sample Request Form: 51469

RSN 11/5/18 G

den_msvoa_totalbacklog 11/5/2018 11:38:44 PM Assigned to:Newcome, Robin S

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-115936-3 MIA	SB28-TB-4	20	8260B_DOD5	8260B_DOD5	11/05 23:59	11/08/18	PJM	OK	MS-Strge	Unconfirmed
M Q5.1_TechSpecApproved_DIL1										
280-115950-4 HS	RQLmw-007-181001-GW	20	8260B_DOD5	8260B_DOD5	11/05 23:59	11/08/18	DRR	OH	Mtls-Strge & MS-Strge & 231	Unconfirmed
M Q5.0_DIL1										
280-115950-5	RQLmw-008-181001-GW	20	8260B_DOD5	8260B_DOD5	11/05 23:59	11/08/18	DRR	OH	231 & Mtls-Strge & MS-Strge	Unconfirmed
M Q5.0_DIL1										
280-115950-6	FWGTB-181001-TB	20	8260B_DOD5	8260B_DOD5	11/05 23:59	11/08/18	DRR	OH	MS-Strge	Unconfirmed
M Q5.0_DIL1										
280-116012-11	TRIP BLANK-102318	20	8260B	8260B	11/05 23:59	11/09/18	PJM	KS	MS-Strge	Unconfirmed
M DIL3										
280-116060-1	TRIPBLANK-CMPSC-102318	20	8260B_DOD5	8260B_DOD5	11/05 23:59	11/09/18	DRB	KS	MS-Strge	Unconfirmed
M Q5.1										
280-116115-3	TRIP BLANK	20	8260B	8260B	11/05 23:59	11/12/18	DMH	NC	MS-Strge	Unconfirmed
M see NC QAS. 8260B-must support in the ICAL low RLs for MeCl2,CH3Cl,trans-1,3-DCP,TCFM, 1,2,3-TCP										
280-116287-20	FEW4-TB-20181026	20	8260B_DOD5	8260B_DOD5	11/05 23:59	11/08/18	DRR	CO	MS-Strge	Unconfirmed
M Q5REV572014_										
280-116287-21	FEW4-TB-20181027	20	8260B_DOD5	8260B_DOD5	11/05 23:59	11/08/18	DRR	CO	MS-Strge	Unconfirmed
M Q5REV572014_										

Sample Request Form: 51476

den_msvoa_totalbacklog 11/6/2018 1:27:39 AM Assigned to: Nwanguma, Frankline C

RSN 11/6/18

P

Sample	Client Sample ID	Container (NOL)	Method	Analytical Method (PH)	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-116163-1	BM-15E2	20	8260B	8260B <2	11/08 23:59	11/12/18	BAS	CO	MS-Strge & Mtls-Strge & 13	Unconfirmed
280-116163-2	TRIPBLANK	20	8260B	8260B <2	11/08 23:59	11/12/18	BAS	CO	MS-Strge	Unconfirmed

Sequence Name: C:\HPCHEM\1\SEQUENCE\092818PM.S
Comment:
Operator: SEIFERTJ
Data Path: C:\HPCHEM\1\DATA\092818I\
Pre-Seq Cmd:
Post-Seq Cmd:

Main / Supp

Test America Denver
Instrument: G - Water
DV-MS-0010 (8260B/624) (Circle)
Purge Volume: (20mL/5mL/5g) (Circle)
Tune Time: 10:25 - 18:41
Lims Batch: 431341

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

WL 74500

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	100	G9551	BFBTUN	BFB
2	Sample	100	G9552	BFBTUN	BFB
3	Sample	100	G9553	BFBTUN	BFB
4	Sample	100	G9554	BFBTUN	BFB 10:25
5	Sample	10	G9555	8260	BLK
6	Sample	11	G9556	8260	CCV
7	Sample	12	G9557	8260	STD005
8	Sample	13	G9558	8260	STD010
9	Sample	14	G9559	8260	STD020
10	Sample	15	G9560	8260	STD050
11	Sample	16	G9561	8260	ICIS
12	Sample	17	G9562	8260	STD25
13	Sample	18	G9563	8260	STD60
14	Sample	19	G9564	8260	BLK
15	Sample	20	G9565	8260	ICV
16	Sample	21	G9566	8260	STD010
17	Sample	22	G9567	8260	STD020
18	Sample	23	G9568	8260	STD050
19	Sample	24	G9569	8260	ICIS
20	Sample	25	G9570	8260	STD30
21	Sample	26	G9571	8260	STD60
22	Sample	27	G9572	8260	BLK
23	Sample	28	G9573	8260	ICV
24	Sample	29	G9574	8260	MDLV .2
25	Sample	30	G9575	8260	MDLV .4
26	Sample	31	G9576	8260	MDLV .8
27	Sample	32	G9577	8260	MDLV 1.6
28	Sample	33	G9578	8260	MDLV 3.2 18:41
29	Sample	34	G9579	8260	BLK

Main Calib: 33838
ICV: 17

Supp Calib: 33839
ICIS: 21 ICV: 24

9/29/18

RSN 9/29/18

2. Clene -24.2%

High Point Hexachlorobutadiene
to 25 ppb

n-Butylbenzene
4-Isopropyl toluene
sec-Butyl benzene

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name: 092818I Worklist Number: 74500
Instrument Name: VMS_G Chrom Method: AQ_VMSG_8260
Data Directory: \\ChromNA\Denver\ChromData\VMS_G\20180928-74500.b
QC Batching: Disabled Limit Group Batching: Disabled

QC Batch: 1	All Limit Groups Raw Batch: 431341
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
# 7 280-108595-A-1	# 7 280-108595-A-1
# 8 280-108595-A-2	# 8 280-108595-A-2
# 9 280-108595-A-3	# 9 280-108595-A-3
#10 STD050	#10 STD050
#11 STD010	#11 STD010
#12 STD020	#12 STD020
#13 STD050	#13 STD050
#14 STD10	#14 STD10
#15 STD25	#15 STD25
#16 STD60	#16 STD60
#17 ICV	#17 ICV
#18 STD010	#18 STD010
#19 STD020	#19 STD020
#20 STD050	#20 STD050
#21 ICIS	#21 ICIS
#22 STD30	#22 STD30
#23 STD60	#23 STD60
#24 ICV	#24 ICV
#25 MDLV	#25 MDLV
#26 MDLV	#26 MDLV
#27 MDLV	#27 MDLV
#28 MDLV	#28 MDLV
#29 MDLV	#29 MDLV

TestAmerica Laboratories
Worklist Report

Worklist Name: 092818I
Instrument Name: VMS_G
Purge Volume: 20.00
Analysis Type: VOA
Batch Directory: \\ChromNA\Denver\ChromData\VMS_G\20180928-74500.b
Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS_G
Run Reagent: MV-568718-D_00014
Run Reagent: MV-ARCH SS A_00097

Worklist Number: 74500
Chrom Method: AQ_VMSG_8260
Units: mL
Amount Added: 1.000, Units: uL
Amount Added: 0.800, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0074500-001	# 1 BFB	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0074500-002	# 2 CCV	MV-MegaMainA_00001	CCV		voaWater	20.00	mL	1.000
280-0074500-003	# 3 CCV	MV-568718-D_00014 MV-Supp A_00031	CCV		voaWater	20.00	mL	1.000
280-0074500-004	# 4 LCS	MV-MegaMain B_00001	LCS		voaWater	20.00	mL	1.000
280-0074500-005	# 5 LCSD	MV-MegaMain B_00001	LCSD		voaWater	20.00	mL	1.000
280-0074500-006	# 6 MB		MB		voaWater	20.00	mL	1.000
280-0074500-007	# 7 280-108595-A-1		Client		voaWater	20.00	mL	1.000
280-0074500-008	# 8 280-108595-A-2		Client		voaWater	20.00	mL	1.000
280-0074500-009	# 9 280-108595-A-3		Client		voaWater	20.00	mL	1.000
280-0074500-010	#10 STD050	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00105	IC	1	voaWater	20.00	mL	1.000
280-0074500-011	#11 STD010	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00105	IC	2	voaWater	20.00	mL	1.000
280-0074500-012	#12 STD020	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00105	IC	3	voaWater	20.00	mL	1.000
280-0074500-013	#13 STD050	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00105	IC	4	voaWater	20.00	mL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0074500-014	#14 STD10	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00105	IC	5	voaWater	20.00	mL	1.000
280-0074500-015	#15 STD25	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00105	IC	6	voaWater	20.00	mL	1.000
280-0074500-016	#16 STD60	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00105	IC	7	voaWater	20.00	mL	1.000
280-0074500-017	#17 ICV	MV-568718-D_00014 MV-MegaMain B_00001 MV-ARCH SS A_00105	ICV		voaWater	20.00	mL	1.000
280-0074500-018	#18 STD010	MV-Supp A_00031 MV-568718-D_00014	IC	2	voaWater	20.00	mL	1.000
280-0074500-019	#19 STD020	MV-Supp A_00031 MV-568718-D_00014	IC	3	voaWater	20.00	mL	1.000
280-0074500-020	#20 STD050	MV-Supp A_00031 MV-568718-D_00014	IC	4	voaWater	20.00	mL	1.000
280-0074500-021	#21 ICIS	MV-Supp A_00031 MV-568718-D_00014	ICIS	5	voaWater	20.00	mL	1.000
280-0074500-022	#22 STD30	MV-Supp A_00031 MV-568718-D_00014	IC	6	voaWater	20.00	mL	1.000
280-0074500-023	#23 STD60	MV-Supp A_00031 MV-568718-D_00014	IC	7	voaWater	20.00	mL	1.000
280-0074500-024	#24 ICV	MV-Supp B_00021 MV-568718-D_00014	ICV		voaWater	20.00	mL	1.000
280-0074500-025	#25 MDLV	MV-Supp A_00031 MV-568718-D_00014	MDLV		voaWater	20.00	mL	1.000
280-0074500-026	#26 MDLV	MV-Supp A_00031 MV-568718-D_00014	MDLV		voaWater	20.00	mL	1.000
280-0074500-027	#27 MDLV	MV-Supp A_00031 MV-568718-D_00014	MDLV		voaWater	20.00	mL	1.000
280-0074500-028	#28 MDLV	MV-Supp A_00031 MV-568718-D_00014	MDLV		voaWater	20.00	mL	1.000
280-0074500-029	#29 MDLV	MV-Supp A_00031 MV-568718-D_00014	MDLV		voaWater	20.00	mL	1.000

Sequence Name: C:\HPCHEM\1\SEQUENCE\102818LL.S
Comment:
Operator: newcomer
Data Path: C:\HPCHEM\1\DATA\102818LL\
Pre-Seq Cmd:
Post-Seq Cmd:

Main | SS

Test America Denver
Instrument: 5 - Soil
DV-MS-0010 (8260B/624) (Circle)
Purge Volume: (20mL/5mL/5g) (Circle)
Tune Time: 11:13 - 23:11
Lims Batch: 435240
WL 75558

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	100	G0871	BFBS	BFB 11:13
2	Sample	10	G0872	8260S	Blank
3	Sample	11	G0873	8260S	STD01
4	Sample	12	G0874	8260S	STD02
5	Sample	13	G0875	8260S	STD05
6	Sample	14	G0876	8260S	STD10
7	Sample	15	G0877	8260S	STD20
8	Sample	16	G0878	8260S	ICIS
9	Sample	17	G0879	8260S	STD100
10	Sample	18	G0880	8260S	STD200
11	Sample	19	G0881	8260S	Blank
12	Sample	20	G0882	8260S	ICV
13	Sample	21	G0883	8260S	Blank
14	Sample	22	G0884	8260S	Blank
15	Sample	23	G0885	8260S	LCS 280-435258/1-A
16	Sample	24	G0886	8260S	LCSD 280-435258/2-A
17	Sample	25	G0887	8260S	Blank
18	Sample	26	G0888	8260S	MB 280-435258/3-A
19	Sample	27	G0889	8260S	280-115735-D-37-A
20	Sample	28	G0890	8260S	280-115735-D-38-A
21	Sample	29	G0891	8260S	280-115735-D-39-A
22	Sample	30	G0892	8260S	280-115735-C-34-A
23	Sample	31	G0893	8260S	280-115735-D-35-A
24	Sample	32	G0894	8260S	280-115735-D-36-A
25	Sample	33	G0895	8260S	280-115735-D-19-A
26	Sample	34	G0896	8260S	280-115735-D-19-B MS
27	Sample	35	G0897	8260S	280-115735-D-19-C MSD
28	Sample	36	G0898	8260S	280-115735-D-20-A
29	Sample	37	G0899	8260S	280-115735-D-21-A
30	Sample	38	G0900	8260S	280-115735-D-22-A
31	Sample	39	G0901	8260S	280-115735-D-23-A
32	Sample	40	G0902	8260S	280-115735-D-24-A
33	Sample	41	G0903	8260S	280-115735-D-25-A
34	Sample	42	G0904	8260S	280-115735-D-26-A
35	Sample	43	G0905	8260S	280-115735-D-27-A
36	Sample	44	G0906	8260S	ccvc 23:11

Calib: 34163

ICIS: 15 ICV: 18

2nd Day For Batch for 2-Pent 1-Chlorohexane See-Butyl

~~435244~~ JK 10/29/18
435294

ICV: 10

JK 10/29/18

RSN 10/29/18

Preliminary Report

TestAmerica Laboratories
Qc Batch Report

Data Path: \\ChromNA\Denver\ChromData\VMS_G\20181028-75558.b

Worklist Name:	102818LL	Worklist Num:	75558
Instrument:	VMS_G	Method:	SO_VMSG_8260
Analysis Type:	VOA	Creator:	Newcome, Robin S
Inj Volume:	5	Inj Vol Units:	mL

QC Batching: Disabled Limit Group Batching: Disabled

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 435240
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
# 7 280-108595-A-4	# 7 280-108595-A-4
# 8 280-108595-A-5-A	# 8 280-108595-A-5-A
# 9 280-108595-A-6	# 9 280-108595-A-6
# 10 STD01	# 10 STD01
# 11 STD02	# 11 STD02
# 12 STD05	# 12 STD05
# 13 STD10	# 13 STD10
# 14 STD20	# 14 STD20
# 15 ICIS	# 15 ICIS
# 16 STD100	# 16 STD100
# 17 STD200	# 17 STD200
# 18 ICV	# 18 ICV
# 19 LCS 280-435258/1-A	# 19 LCS 280-435258/1-A
# 20 LCSD 280-435258/2-A	# 20 LCSD 280-435258/2-A
# 21 MB 280-435258/3-A	# 21 MB 280-435258/3-A
# 22 280-115735-D-37-A	# 22 280-115735-D-37-A
# 23 280-115735-D-38-A	# 23 280-115735-D-38-A
# 24 280-115735-D-39-A	# 24 280-115735-D-39-A
# 25 280-115735-C-34-A	# 25 280-115735-C-34-A

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 435240
# 26 280-115735-D-35-A	# 26 280-115735-D-35-A
# 27 280-115735-D-36-A	# 27 280-115735-D-36-A
# 28 280-115735-D-19-A	# 28 280-115735-D-19-A
# 29 280-115735-D-19-B MS	# 29 280-115735-D-19-B MS
# 30 280-115735-D-19-C MSD	# 30 280-115735-D-19-C MSD
# 31 280-115735-D-20-A	# 31 280-115735-D-20-A
# 32 280-115735-D-21-A	# 32 280-115735-D-21-A
# 33 280-115735-D-22-A	# 33 280-115735-D-22-A
# 34 280-115735-D-23-A	# 34 280-115735-D-23-A
# 35 280-115735-D-24-A	# 35 280-115735-D-24-A
# 36 280-115735-D-25-A	# 36 280-115735-D-25-A
# 37 280-115735-D-26-A	# 37 280-115735-D-26-A
# 38 280-115735-D-27-A	# 38 280-115735-D-27-A
# 39 ccvc	# 39 ccvc
# 40 primer	# 40 primer
# 41 primer	# 41 primer

TestAmerica Laboratories
Worklist Report

Worklist Name: 102818LL
Worklist Number: 75558
Instrument Name: VMS_G
Chrom Method: SO_VMSG_8260
Purge Volume: 5.000
Units: mL
Analysis Type: VOA
Batch Directory: \\ChromNA\Denver\ChromData\VMS_G\20181028-75558.b
Upload Directory: \\Corptalsapp16\280-DN-RawData\Organics\MS\VMS_G_T
Run Reagent: MV-568718-D_00014
Amount Added: 1.000, Units: uL
Run Reagent: MV-ARCH SS A_00107
Amount Added: 0.800, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0075558-001	# 1 BFB	MV-BFB_00027	BFB		voaSoilLL	1.000	uL	1.000
280-0075558-002	# 2 CCV	MV-MegaMainA_00002	CCV		voaSoilLL	5.000	g	1.000
280-0075558-003	# 3 CCV	MV-568718-D_00014 MV-Supp A_00032	CCV		voaSoilLL	5.000	g	1.000
280-0075558-004	# 4 LCS	MV-MegaMain B_00002 MV-MainBaddon_00001	LCS		voaSoilLL	5.000	g	1.000
280-0075558-005	# 5 LCSD	MV-MegaMain B_00002 MV-MainBaddon_00001	LCSD		voaSoilLL	5.000	g	1.000
280-0075558-006	# 6 MB		MB		voaSoilLL	5.000	g	1.000
280-0075558-007	# 7 280-108595-A-4		Client		voaSoilLL	5.000	g	1.000
280-0075558-008	# 8 280-108595-A-5-A		Client		voaSoilLL	5.000	g	1.000
280-0075558-009	# 9 280-108595-A-6		Client		voaSoilLL	5.000	g	1.000
280-0075558-010	#10 STD01	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	1	voaSoilLL	5.000	g	1.000
280-0075558-011	#11 STD02	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	2	voaSoilLL	5.000	g	1.000
280-0075558-012	#12 STD05	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	3	voaSoilLL	5.000	g	1.000
280-0075558-013	#13 STD10	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	4	voaSoilLL	5.000	g	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0075558-014	#14 STD20	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	5	voaSoilLL	5.000	g	1.000
280-0075558-015	#15 ICIS	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	ICIS	6	voaSoilLL	5.000	g	1.000
280-0075558-016	#16 STD100	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	7	voaSoilLL	5.000	g	1.000
280-0075558-017	#17 STD200	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	8	voaSoilLL	5.000	g	1.000
280-0075558-018	#18 ICV	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	ICV		voaSoilLL	5.000	g	1.000
280-0075558-019	#19 LCS 280-435258/1-A	MV-MegaMain B_00002	LCS		voaSoilLL	5.000	g	1.000
280-0075558-020	#20 LCSD 280-435258/2-A	MV-MegaMain B_00002	LCSD		voaSoilLL	5.000	g	1.000
280-0075558-021	#21 MB 280-435258/3-A		MB		voaSoilLL	5.000	g	1.000
280-0075558-022	#22 280-115735-D-37-A		Client		voaSoilLL	5.000	g	1.000
280-0075558-023	#23 280-115735-D-38-A		Client		voaSoilLL	5.000	g	1.000
280-0075558-024	#24 280-115735-D-39-A		Client		voaSoilLL	5.000	g	1.000
280-0075558-025	#25 280-115735-C-34-A		Client		voaSoilLL	5.000	g	1.000
280-0075558-026	#26 280-115735-D-35-A		Client		voaSoilLL	5.000	g	1.000
280-0075558-027	#27 280-115735-D-36-A		Client		voaSoilLL	5.000	g	1.000
280-0075558-028	#28 280-115735-D-19-A		Client		voaSoilLL	5.000	g	1.000
280-0075558-029	#29 280-115735-D-19-B MS	MV-MegaMain B_00002	MS		voaSoilLL	5.000	g	1.000
280-0075558-030	#30 280-115735-D-19-C MSD	MV-MegaMain B_00002	MSD		voaSoilLL	5.000	g	1.000
280-0075558-031	#31 280-115735-D-20-A		Client		voaSoilLL	5.000	g	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0075558-032	#32 280-115735-D-21-A		Client		voaSoilLL	5.000	g	1.000
280-0075558-033	#33 280-115735-D-22-A		Client		voaSoilLL	5.000	g	1.000
280-0075558-034	#34 280-115735-D-23-A		Client		voaSoilLL	5.000	g	1.000
280-0075558-035	#35 280-115735-D-24-A		Client		voaSoilLL	5.000	g	1.000
280-0075558-036	#36 280-115735-D-25-A		Client		voaSoilLL	5.000	g	1.000
280-0075558-037	#37 280-115735-D-26-A		Client		voaSoilLL	5.000	g	1.000
280-0075558-038	#38 280-115735-D-27-A		Client		voaSoilLL	5.000	g	1.000
280-0075558-039	#39 ccvc	MV-MegaMainA_00002	CCVC		voaSoilLL	5.000	g	1.000
280-0075558-040	#40 primer		Client		voaSoilLL	5.000	g	1.000
280-0075558-041	#41 primer		Client		voaSoilLL	5.000	g	1.000

Preliminary Report

TestAmerica Laboratories
Qc Batch Report

Needs 2nd dup sequence

Data Path: \\ChromNA\Denver\ChromData\VMS_G\20181029-75568.b

Worklist Name:	102918LL	Worklist Num:	75568
Instrument:	VMS_G	Method:	SO_VMSG_8260
Analysis Type:	VOA	Creator:	Seifert, Judy L
Inj Volume:	5	Inj Vol Units:	mL

QC Batching: Enabled Limit Group Batching: Enabled

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 435294
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
# 7 280-108595-A-4	# 7 280-108595-A-4
# 8 280-108595-A-5-A	# 8 280-108595-A-5-A
# 9 280-108595-A-6	# 9 280-108595-A-6
# 10 ICV	# 10 ICV
# 28 CCVC	# 28 CCVC
QC Batch: 2	MSV - 8260B Water and Solid Raw Batch: 435387
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
# 11 280-115735-E-1-A	# 11 280-115735-E-1-A
# 12 280-115735-D-28-A	# 12 280-115735-D-28-A
# 13 280-115735-D-29-A	# 13 280-115735-D-29-A
# 14 280-115735-D-30-A	# 14 280-115735-D-30-A
# 15 280-115735-D-31-A	# 15 280-115735-D-31-A
# 16 280-115735-D-32-A	# 16 280-115735-D-32-A
# 17 280-115735-D-33-A	# 17 280-115735-D-33-A

QC Batch: 2	MSV - 8260B Water and Solid Raw Batch: 435387
# 18 280-115708-D-2-A	# 18 280-115708-D-2-A
# 19 280-115906-F-1-A	# 19 280-115906-F-1-A
# 20 280-115906-F-2-A	# 20 280-115906-F-2-A
# 21 280-115760-E-1-A	# 21 280-115760-E-1-A
# 22 280-115760-E-2-A	# 22 280-115760-E-2-A
# 23 280-115760-E-3-A	# 23 280-115760-E-3-A
# 24 280-115760-E-4-A	# 24 280-115760-E-4-A
# 25 280-115760-E-5-A	# 25 280-115760-E-5-A
# 26 280-115760-E-6-A	# 26 280-115760-E-6-A
# 27 280-115760-D-7-A	# 27 280-115760-D-7-A
# 28 CCVC	# 28 CCVC
QC Batch: 3	MSV - 8260B Water and Solid Raw Batch: 435388
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
# 28 CCVC	# 28 CCVC
# 29 580-81153-D-2-A	# 29 580-81153-D-2-A
QC Batch: 4	MSV - 8260B Water and Solid Raw Batch: 435389
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
# 28 CCVC	# 28 CCVC
# 30 280-115782-B-1-B	# 30 280-115782-B-1-B
# 31 280-115782-B-1-C MS	# 31 280-115782-B-1-C MS
# 32 280-115782-B-1-D MSD	# 32 280-115782-B-1-D MSD

TestAmerica Laboratories
Worklist Report

Worklist Name: 102918LL
Worklist Number: 75568
Instrument Name: VMS_G
Chrom Method: SO_VMSG_8260
Purge Volume: 5.000
Units: mL
Analysis Type: VOA
Batch Directory: \\ChromNA\Denver\ChromData\VMS_G\20181029-75568.b
Upload Directory: \\Corptalsapp16\280-DN-RawData\Organics\MS\VMS_G_T
Run Reagent: MV-568718-D_00014 Amount Added: 1.000, Units: uL
Run Reagent: MV-ARCH SS A_00107 Amount Added: 0.800, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0075568-001	# 1 BFB	MV-BFB_00027	BFB	voaSoilLL	1.000	uL	1.000
280-0075568-002	# 2 CCV	MV-MegaMainA_00002	CCV	voaSoilLL	5.000	g	1.000
280-0075568-003	# 3 CCV	MV-568718-D_00014 MV-Supp A_00032	CCV	voaSoilLL	5.000	g	1.000
280-0075568-004	# 4 LCS	MV-MegaMain B_00002 MV-MainBaddon_00001	LCS	voaSoilLL	5.000	g	1.000
280-0075568-005	# 5 LCSD	MV-MegaMain B_00002 MV-MainBaddon_00001	LCSD	voaSoilLL	5.000	g	1.000
280-0075568-006	# 6 MB		MB	voaSoilLL	5.000	g	1.000
280-0075568-007	# 7 280-108595-A-4		Client	voaSoilLL	5.000	g	1.000
280-0075568-008	# 8 280-108595-A-5-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-009	# 9 280-108595-A-6		Client	voaSoilLL	5.000	g	1.000
280-0075568-010	#10 ICV	MV-MainBaddon_00001	ICV	voaSoilLL	5.000	g	1.000
280-0075568-011	#11 280-115735-E-1-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-012	#12 280-115735-D-28-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-013	#13 280-115735-D-29-A		Client	voaSoilLL	5.000	g	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0075568-014	#14 280-115735-D-30-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-015	#15 280-115735-D-31-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-016	#16 280-115735-D-32-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-017	#17 280-115735-D-33-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-018	#18 280-115708-D-2-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-019	#19 280-115906-F-1-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-020	#20 280-115906-F-2-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-021	#21 280-115760-E-1-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-022	#22 280-115760-E-2-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-023	#23 280-115760-E-3-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-024	#24 280-115760-E-4-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-025	#25 280-115760-E-5-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-026	#26 280-115760-E-6-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-027	#27 280-115760-D-7-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-028	#28 CCVC	MV-MegaMainA_00002	CCVC	voaSoilLL	5.000	g	1.000
280-0075568-029	#29 580-81153-D-2-A		Client	voaSoilLL	5.000	g	1.000
280-0075568-030	#30 280-115782-B-1-B		Client	voaSoilLL	5.000	g	5.000
280-0075568-031	#31 280-115782-B-1-C MS	MV-MegaMain B_00002	MS	voaSoilLL	5.000	g	5.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0075568-032	#32 280-115782-B-1-D MSD	MV-MegaMain B_00002	MSD	voaSoilLL	5.000	g	5.000

Sequence Name: C:\HPCHEM\1\SEQUENCE\102918pm.S
Comment:
Operator: newcomer
Data Path: C:\HPCHEM\1\DATA\102918pm\
Pre-Seq Cmd:
Post-Seq Cmd:

Test America Denver
Instrument: G
DV-MS-0010 (8260B/624) (Circle)
Purge Volume: (20mL/5mL/5g) (Circle)
Tune Time: A13-0649
Lims Batch: 435406

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	100	G0940	BFBTUN	BFB 0713pm
2	Sample	10	G0941	8260	Blank
3	Sample	11	G0942	8260	STD005
4	Sample	12	G0943	8260	STD01
5	Sample	13	G0944	8260	STD02
6	Sample	14	G0945	8260	STD05
7	Sample	15	G0946	8260	STD10
8	Sample	16	G0947	8260	STD25
9	Sample	17	G0948	8260	STD60
10	Sample	18	G0949	8260	CCV
11	Sample	19	G0950	8260	ICV
12	Sample	20	G0951	8260	280-115635-A-11 pH<2
13	Sample	21	G0952	8260	280-115606-R-1 pH 7! 0.5mL
14	Sample	22	G0953	8260	280-115606-R-2 pH 7! 1mL
15	Sample	23	G0954	8260	LCS
16	Sample	24	G0955	8260	MB
17	Sample	25	G0956	8260	LCS Supp
18	Sample	26	G0957	8260	LCSD Supp
19	Sample	27	G0958	8260	280-115658-D-1 pH<2 1mL E
20	Sample	28	G0959	8260	280-115658-D-2 pH<2
21	Sample	29	G0960	8260	280-115658-C-3 pH<2 E
22	Sample	30	G0961	8260	280-115658-G-7 pH<2 5mL
23	Sample	31	G0962	8260	280-115705-B-1 pH<2 HS
24	Sample	32	G0963	8260	280-115705-A-2 pH<2
25	Sample	33	G0964	8260	280-115705-B-3 pH<2 10mL E
26	Sample	34	G0965	8260	280-115705-B-3 MS pH<2 10mL E
27	Sample	35	G0966	8260	280-115705-B-3 MSD pH<2 10mL
28	Sample	36	G0967	8260	280-115705-B-3 pH<2 1mL
29	Sample	37	G0968	8260	280-115705-A-4 pH<2 10mL E
30	Sample	38	G0969	8260	280-115705-A-4 pH<2 1mL
31	Sample	39	G0970	8260	280-115705-A-5 pH<2
32	Sample	40	G0971	8260	280-115705-A-6 pH<2 10mL E
~~33~~	~~Sample~~	~~41~~	~~G0972~~	~~8260~~	~~280-115705-A-6 pH<2 1mL~~
34	Sample	42	G0973	8260	CCVC
35	Sample	43	G0974	8260	CCVC 0649am

RSN 10/30/18

Main. Surr ICAL

WL: 75598

Calib ID: 34172

ICIS: 14

ICV: 17

10/31/18

Last Modified: Tue Oct 30 00:28:59 2018

5401404
ID: 504SurrWork_00230
Exp 11/27/18 Prpd SU Crt 10/30/18
0.1ug/mL DBF work Surr 50

Preliminary Report

TestAmerica Laboratories
Qc Batch Report

Data Path: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b

Worklist Name:	102918pm	Worklist Num:	75598
Instrument:	VMS_G	Method:	AQ_VMSG_8260
Analysis Type:	VOA	Creator:	Newcome, Robin S
Inj Volume:	20	Inj Vol Units:	mL
QC Batching:	Disabled	Limit Group Batching:	Disabled

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 435406
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
# 7 280-108595-A-1	# 7 280-108595-A-1
# 8 280-108595-A-2	# 8 280-108595-A-2
# 9 280-108595-A-3	# 9 280-108595-A-3
# 10 STD005	# 10 STD005
# 11 STD01	# 11 STD01
# 12 STD02	# 12 STD02
# 13 STD05	# 13 STD05
# 14 ICIS	# 14 ICIS
# 15 STD25	# 15 STD25
# 16 STD60	# 16 STD60
# 17 ICV	# 17 ICV
# 18 LCS	# 18 LCS
# 19 MB	# 19 MB
# 20 LCS	# 20 LCS
# 21 LCSD	# 21 LCSD
# 22 280-115635-A-11	# 22 280-115635-A-11
# 23 280-115606-R-1	# 23 280-115606-R-1
# 24 280-115606-R-2	# 24 280-115606-R-2
# 25 280-115658-D-1	# 25 280-115658-D-1

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 435406
# 26 280-115658-D-2	# 26 280-115658-D-2
# 27 280-115658-C-3	# 27 280-115658-C-3
# 28 280-115658-G-7	# 28 280-115658-G-7
# 29 280-115705-B-1	# 29 280-115705-B-1
# 30 280-115705-A-2	# 30 280-115705-A-2
# 31 280-115705-B-3	# 31 280-115705-B-3
# 32 280-115705-B-3 MS	# 32 280-115705-B-3 MS
# 33 280-115705-B-3 MSD	# 33 280-115705-B-3 MSD
# 34 280-115705-B-3	# 34 280-115705-B-3
# 35 280-115705-A-4	# 35 280-115705-A-4
# 36 280-115705-A-4	# 36 280-115705-A-4
# 37 280-115705-A-5	# 37 280-115705-A-5
# 38 280-115705-A-6	# 38 280-115705-A-6
# 39 280-115705-A-6	# 39 280-115705-A-6
# 40 CCVC	# 40 CCVC
# 41 CCVC	# 41 CCVC
# 42 Samp 42	# 42 Samp 42

TestAmerica Laboratories
Worklist Report

Worklist Name: 102918pm Worklist Number: 75598
Instrument Name: VMS_G Chrom Method: AQ_VMSG_8260
Purge Volume: 20.00 Units: mL
Analysis Type: VOA
Batch Directory: \\ChromNA\Denver\ChromData\VMS_G\20181029-75598.b
Upload Directory: \\Corptalsapp16\280-DN-RawData\Organics\MS\VMS_G_T
Run Reagent: MV-568718-D_00014 Amount Added: 1.000, Units: uL
Run Reagent: MV-ARCH SS A_00107 Amount Added: 0.800, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0075598-001	# 1 BFB	MV-BFB_00027	BFB		voaWater	1.000	uL	1.000
280-0075598-002	# 2 CCV	MV-MegaMainA_00002	CCV		voaWater	20.00	mL	1.000
280-0075598-003	# 3 CCV	MV-568718-D_00014 MV-Supp A_00031	CCV		voaWater	20.00	mL	1.000
280-0075598-004	# 4 LCS	MV-MegaMain B_00002	LCS		voaWater	20.00	mL	1.000
280-0075598-005	# 5 LCSD	MV-MegaMain B_00002	LCSD		voaWater	20.00	mL	1.000
280-0075598-006	# 6 MB		MB		voaWater	20.00	mL	1.000
280-0075598-007	# 7 280-108595-A-1		Client		voaWater	20.00	mL	1.000
280-0075598-008	# 8 280-108595-A-2		Client		voaWater	20.00	mL	1.000
280-0075598-009	# 9 280-108595-A-3		Client		voaWater	20.00	mL	1.000
280-0075598-010	#10 STD005	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	1	voaWater	20.00	mL	1.000
280-0075598-011	#11 STD01	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	2	voaWater	20.00	mL	1.000
280-0075598-012	#12 STD02	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	3	voaWater	20.00	mL	1.000
280-0075598-013	#13 STD05	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	4	voaWater	20.00	mL	1.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0075598-014	#14 ICIS	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	ICIS	5	voaWater	20.00	mL	1.000
280-0075598-015	#15 STD25	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	6	voaWater	20.00	mL	1.000
280-0075598-016	#16 STD60	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMainA_00002	IC	7	voaWater	20.00	mL	1.000
280-0075598-017	#17 ICV	MV-568718-D_00014 MV-ARCH SS A_00107 MV-MegaMain B_00002 MV-MainBaddon_00001	ICV		voaWater	20.00	mL	1.000
280-0075598-018	#18 LCS	MV-MegaMain B_00002 MV-MainBaddon_00001	LCS		voaWater	20.00	mL	1.000
280-0075598-019	#19 MB		MB		voaWater	20.00	mL	1.000
280-0075598-020	#20 LCS	MV-Supp B_00022	LCS		voaWater	20.00	mL	1.000
280-0075598-021	#21 LCSD	MV-Supp B_00022	LCSD		voaWater	20.00	mL	1.000
280-0075598-022	#22 280-115635-A-11		Client		voaWater	20.00	mL	1.000
280-0075598-023	#23 280-115606-R-1		Client		voaWater	20.00	mL	40.00
280-0075598-024	#24 280-115606-R-2		Client		voaWater	20.00	mL	20.00
280-0075598-025	#25 280-115658-D-1		Client		voaWater	20.00	mL	20.00
280-0075598-026	#26 280-115658-D-2		Client		voaWater	20.00	mL	1.000
280-0075598-027	#27 280-115658-C-3		Client		voaWater	20.00	mL	1.000
280-0075598-028	#28 280-115658-G-7		Client		voaWater	20.00	mL	4.000
280-0075598-029	#29 280-115705-B-1		Client		voaWater	20.00	mL	1.000
280-0075598-030	#30 280-115705-A-2		Client		voaWater	20.00	mL	1.000
280-0075598-031	#31 280-115705-B-3		Client		voaWater	20.00	mL	2.000

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0075598-032	#32 280-115705-B-3 MS	MV-MegaMain B_00002 MV-MainBaddon_00001	MS		voaWater	20.00	mL	2.000
280-0075598-033	#33 280-115705-B-3 MSD	MV-MegaMain B_00002 MV-MainBaddon_00001	MSD		voaWater	20.00	mL	2.000
280-0075598-034	#34 280-115705-B-3		Client		voaWater	20.00	mL	20.00
280-0075598-035	#35 280-115705-A-4		Client		voaWater	20.00	mL	2.000
280-0075598-036	#36 280-115705-A-4		Client		voaWater	20.00	mL	20.00
280-0075598-037	#37 280-115705-A-5		Client		voaWater	20.00	mL	1.000
280-0075598-038	#38 280-115705-A-6		Client		voaWater	20.00	mL	2.000
280-0075598-039	#39 280-115705-A-6		Client		voaWater	20.00	mL	20.00
280-0075598-040	#40 CCVC	MV-MegaMainA_00002	CCVC		voaWater	20.00	mL	1.000
280-0075598-041	#41 CCVC	MV-Supp A_00031	CCVC		voaWater	20.00	mL	1.000
280-0075598-042	#42 Samp 42		Client		voaWater	20.00	mL	1.000

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 431341 Batch Start Date: 09/28/18 10:25 Batch Analyst: Seifert, Judy L

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00014	MV-BFB 00026	MV-Supp B 00021	
BFB 280-431341/1		8260B		1 uL	1 uL		1 uL		
ICV 280-431341/24		8260B		20 mL	20 mL	1 uL		5 uL	

Batch Notes	

Basis	Basis Description

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

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 435406 Batch Start Date: 10/29/18 19:13 Batch Analyst: Newcome, Robin S

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00014	MV-ARCH SS A 00107	MV-BFB 00027	MV-MainBaddon 00001
BFB 280-435406/1		8260B		1 uL	1 uL			1 uL	
STD005 280-435406/10 IC		8260B		20 mL	20 mL	1 uL	0.04 uL		
STD01 280-435406/11 IC		8260B		20 mL	20 mL	1 uL	0.08 uL		
STD02 280-435406/12 IC		8260B		20 mL	20 mL	1 uL	0.16 uL		
STD05 280-435406/13 IC		8260B		20 mL	20 mL	1 uL	0.4 uL		
ICIS 280-435406/14		8260B		20 mL	20 mL	1 uL	0.8 uL		
STD25 280-435406/15 IC		8260B		20 mL	20 mL	1 uL	2 uL		
STD60 280-435406/16 IC		8260B		20 mL	20 mL	1 uL	4.8 uL		
ICV 280-435406/17		8260B		20 mL	20 mL	1 uL	0.8 uL		4 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-MegaMain B 00002	MV-MegaMainA 00002				
BFB 280-435406/1		8260B							
STD005 280-435406/10 IC		8260B			0.2 uL				
STD01 280-435406/11 IC		8260B			0.4 uL				
STD02 280-435406/12 IC		8260B			0.8 uL				
STD05 280-435406/13 IC		8260B			2 uL				

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

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 435406 Batch Start Date: 10/29/18 19:13 Batch Analyst: Newcome, Robin S

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-MegaMain B 00002	MV-MegaMainA 00002				
ICIS 280-435406/14		8260B			4 uL				
STD25 280-435406/15 IC		8260B			10 uL				
STD60 280-435406/16 IC		8260B			24 uL				
ICV 280-435406/17		8260B		4 uL					

Batch Notes	

Basis	Basis Description

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

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 436416 Batch Start Date: 11/05/18 22:25 Batch Analyst: Newcome, Robin S

Batch Method: 8260B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00014	MV-ARCH SS A 00107	MV-BFB 00027	MV-MegaMain B 00003
BFB 280-436416/1		8260B		1 uL	1 uL			1 uL	
CCV 280-436416/2		8260B		20 mL	20 mL	1 uL	0.8 uL		
CCV 280-436416/3		8260B		20 mL	20 mL	1 uL			
MB 280-436416/4		8260B		20 mL	20 mL	1 uL	0.8 uL		
LCS 280-436416/5		8260B		20 mL	20 mL	1 uL	0.8 uL		2 uL
280-115950-K-4	RQLmw-007-181001 -GW	8260B	T	20 mL	20 mL	1 uL	0.8 uL		
280-115950-M-5	RQLmw-008-181001 -GW	8260B	T	20 mL	20 mL	1 uL	0.8 uL		
280-115950-A-6	FWGTB-181001-TB	8260B	T	20 mL	20 mL	1 uL	0.8 uL		
CCVC 280-436416/30		8260B		20 mL	20 mL	1 uL	0.8 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-MegaMainA 00005	MV-Supp A 00031				
BFB 280-436416/1		8260B							
CCV 280-436416/2		8260B		4 uL					
CCV 280-436416/3		8260B			5 uL				
MB 280-436416/4		8260B							
LCS 280-436416/5		8260B							
280-115950-K-4	RQLmw-007-181001 -GW	8260B	T						
280-115950-M-5	RQLmw-008-181001 -GW	8260B	T						
280-115950-A-6	FWGTB-181001-TB	8260B	T						
CCVC 280-436416/30		8260B		4 uL					

Batch Notes	

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

GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 436416 Batch Start Date: 11/05/18 22:25 Batch Analyst: Newcome, Robin S

Batch Method: 8260B Batch End Date:

Basis	Basis Description
T	Total/NA

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

8270D_DOD5

Semivolatile Organic Compounds (GC/MS)

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): Rxi-5Sil MS ID: 0.25(mm)

Client Sample ID	Lab Sample ID	2FP #	PHL #	NBZ #	FBP #	TBP #	TPHL #
LL1mw-088-181001-GW	280-115950-2	92	93	92	91	97	111
LL1mw-088-181002-GW	280-115950-3	73	80	77	79	93	110
RQLmw-007-181001-GW	280-115950-4	95	99	94	96	96	97
RQLmw-008-181001-GW	280-115950-5	89	93	91	92	92	96
	MB 280-434912/1-A	95	98	96	91	91	102
	LCS 280-434912/2-A	93	96	96	95	95	92
	LCSD 280-434912/3-A	100	101	98	99	96	94

	QC LIMITS
2FP = 2-Fluorophenol (Surr)	19-119
PHL = Phenol-d5 (Surr)	10-115
NBZ = Nitrobenzene-d5 (Surr)	44-120
FBP = 2-Fluorobiphenyl	44-119
TBP = 2,4,6-Tribromophenol (Surr)	43-140
TPHL = Terphenyl-d14 (Surr)	50-134

Column to be used to flag recovery values

FORM II 8270D

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low Lab File ID: K27223.D

Lab ID: LCS 280-434912/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
2,4,5-Trichlorophenol	80.0	75.7	95	53-123	
2,4,6-Trichlorophenol	80.0	78.0	97	50-125	
2,4-Dichlorophenol	80.0	74.6	93	47-121	
2,4-Dimethylphenol	80.0	49.2	62	31-124	
2,4-Dinitrophenol	160	140	88	23-143	
2-Chlorophenol	80.0	75.1	94	38-117	
2-Methylphenol	80.0	72.8	91	30-117	
2-Nitrophenol	80.0	76.4	96	47-123	
3 & 4 Methylphenol	80.0	71.2	89	29-110	
4-Chloro-3-methylphenol	80.0	75.6	95	52-119	
4-Nitrophenol	160	144	90	59-129	
Bis(2-ethylhexyl) phthalate	80.0	78.4	98	55-135	
Butyl benzyl phthalate	80.0	77.2	96	53-134	
Diethyl phthalate	80.0	76.5	96	56-125	
Dimethyl phthalate	80.0	77.4	97	45-127	
Di-n-butyl phthalate	80.0	79.8	100	59-127	
Di-n-octyl phthalate	80.0	72.0	90	51-140	
Pentachlorophenol	160	152	95	35-138	
Phenol	80.0	73.6	92	61-120	

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low Lab File ID: K27224.D

Lab ID: LCSD 280-434912/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,4,5-Trichlorophenol	80.0	81.4	102	7	20	53-123	
2,4,6-Trichlorophenol	80.0	82.3	103	5	20	50-125	
2,4-Dichlorophenol	80.0	76.2	95	2	20	47-121	
2,4-Dimethylphenol	80.0	52.2	65	6	20	31-124	
2,4-Dinitrophenol	160	146	92	4	20	23-143	
2-Chlorophenol	80.0	79.7	100	6	20	38-117	
2-Methylphenol	80.0	77.1	96	6	20	30-117	
2-Nitrophenol	80.0	76.5	96	0	20	47-123	
3 & 4 Methylphenol	80.0	74.9	94	5	20	29-110	
4-Chloro-3-methylphenol	80.0	75.4	94	0	20	52-119	
4-Nitrophenol	160	147	92	2	20	59-129	
Bis(2-ethylhexyl) phthalate	80.0	80.2	100	2	20	55-135	
Butyl benzyl phthalate	80.0	78.7	98	2	20	53-134	
Diethyl phthalate	80.0	76.8	96	0	20	56-125	
Dimethyl phthalate	80.0	77.5	97	0	20	45-127	
Di-n-butyl phthalate	80.0	79.2	99	1	20	59-127	
Di-n-octyl phthalate	80.0	72.7	91	1	20	51-140	
Pentachlorophenol	160	154	96	1	20	35-138	
Phenol	80.0	77.4	97	5	20	61-120	

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab File ID: K27222.D Lab Sample ID: MB 280-434912/1-A

Matrix: Water Date Extracted: 10/25/2018 13:12

Instrument ID: SMS_K Date Analyzed: 10/29/2018 11:18

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-434912/2-A	K27223.D	10/29/2018 11:47
	LCSD 280-434912/3-A	K27224.D	10/29/2018 12:16
LL1mw-088-181001-GW	280-115950-2	K27231.D	10/29/2018 15:31
LL1mw-088-181002-GW	280-115950-3	K27232.D	10/29/2018 16:00
RQLmw-007-181001-GW	280-115950-4	K27233.D	10/29/2018 16:29
RQLmw-008-181001-GW	280-115950-5	K27234.D	10/29/2018 16:58

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab File ID: K27111.D DFTPP Injection Date: 10/23/2018

Instrument ID: SMS_K DFTPP Injection Time: 13:16

Analysis Batch No.: 434399

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	54.2	
68	Less than 2.0 % of mass 69	0.1	(0.2) 1
69	Mass 69 relative abundance	39.7	
70	Less than 2.0 % of mass 69	0.2	(0.4) 1
127	40.0 - 60.0 % of mass 198	46.5	
197	Less than 1.0 % of mass 198	0.5	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	7.1	
275	10.0 - 30.0 % of mass 198	22.4	
365	Greater than 1.0 % of mass 198	2.4	
441	Present but less than mass 443	8.9	(74.1) 3
442	Greater than 40.0 % of mass 198	62.0	
443	17.0 - 23.0 % of mass 442	12.0	(19.4) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICIS 280-434399/3	K27112.D	10/23/2018	13:33
	STD004 280-434399/4	K27113.D	10/23/2018	14:01
	STD010 280-434399/5	K27114.D	10/23/2018	14:30
	STD020 280-434399/6	K27115.D	10/23/2018	14:59
	STD050 280-434399/7	K27116.D	10/23/2018	15:28
	STD120 280-434399/8	K27117.D	10/23/2018	15:57
	STD160 280-434399/9	K27118.D	10/23/2018	16:25
	STD200 280-434399/10	K27119.D	10/23/2018	16:54
	ICV 280-434399/11	K27120.D	10/23/2018	17:23
	ICV 280-434399/12	K27121.D	10/23/2018	17:52
	ICV 280-434399/13	K27122.D	10/23/2018	18:21

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab File ID: K27216.D DFTPP Injection Date: 10/29/2018

Instrument ID: SMS_K DFTPP Injection Time: 08:50

Analysis Batch No.: 435306

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	50.4	
68	Less than 2.0 % of mass 69	0.4	(1.1) 1
69	Mass 69 relative abundance	36.7	
70	Less than 2.0 % of mass 69	0.1	(0.4) 1
127	40.0 - 60.0 % of mass 198	45.5	
197	Less than 1.0 % of mass 198	0.5	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	7.0	
275	10.0 - 30.0 % of mass 198	23.1	
365	Greater than 1.0 % of mass 198	2.2	
441	Present but less than mass 443	10.4	(72.1) 3
442	Greater than 40.0 % of mass 198	73.5	
443	17.0 - 23.0 % of mass 442	14.5	(19.7) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-435306/3	K27217.D	10/29/2018	09:03
	CCV 280-435306/4	K27218.D	10/29/2018	09:31
	CCV 280-435306/5	K27219.D	10/29/2018	09:56
	MB 280-434912/1-A	K27222.D	10/29/2018	11:18
	LCS 280-434912/2-A	K27223.D	10/29/2018	11:47
	LCSD 280-434912/3-A	K27224.D	10/29/2018	12:16
LL1mw-088-181001-GW	280-115950-2	K27231.D	10/29/2018	15:31
LL1mw-088-181002-GW	280-115950-3	K27232.D	10/29/2018	16:00
RQLmw-007-181001-GW	280-115950-4	K27233.D	10/29/2018	16:29
RQLmw-008-181001-GW	280-115950-5	K27234.D	10/29/2018	16:58
	CCVC 280-435306/26	K27240.D	10/29/2018	19:39
	CCVC 280-435306/27	K27241.D	10/29/2018	20:03
	CCVC 280-435306/28	K27242.D	10/29/2018	20:28

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Sample No.: ICIS 280-434399/3 Date Analyzed: 10/23/2018 13:33

Instrument ID: SMS_K GC Column: Rxi-5Sil MS ID: 0.25(mm)

Lab File ID (Standard): K27112.D Heated Purge: (Y/N) N

Calibration ID: 34118

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		134230	4.43	523656	5.64	248540	7.38
UPPER LIMIT		268460	4.93	1047312	6.14	497080	7.88
LOWER LIMIT		67115	3.93	261828	5.14	124270	6.88
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-434399/11		134518	4.42	517949	5.64	245531	7.38
ICV 280-434399/12		131874	4.42	520626	5.64	272288	7.38
ICV 280-434399/13		132168	4.42	513964	5.64	274012	7.37
CCV 280-435306/3		125176	4.38	476670	5.59	221308	7.33
CCV 280-435306/4		148509	4.38	581980	5.59	297237	7.33
CCV 280-435306/5		148513	4.38	562941	5.59	285067	7.33
MB 280-434912/1-A		124041	4.38	481217	5.59	254574	7.33
LCS 280-434912/2-A		118580	4.38	461086	5.59	232852	7.33
LCSD 280-434912/3-A		124876	4.38	497197	5.59	238800	7.33
280-115950-2	LL1mw-088-181001-GW	126041	4.38	490109	5.59	260902	7.33
280-115950-3	LL1mw-088-181002-GW	120029	4.38	473088	5.59	247218	7.33
280-115950-4	RQLmw-007-181001-GW	123215	4.38	487114	5.59	242635	7.33
280-115950-5	RQLmw-008-181001-GW	129885	4.38	501053	5.59	254131	7.33
CCVC 280-435306/26		112847	4.38	442982	5.59	232242	7.33
CCVC 280-435306/27		140787	4.38	543385	5.59	294933	7.33
CCVC 280-435306/28		128359	4.38	502403	5.59	242545	7.33

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Sample No.: ICIS 280-434399/3 Date Analyzed: 10/23/2018 13:33

Instrument ID: SMS_K GC Column: Rxi-5Sil MS ID: 0.25(mm)

Lab File ID (Standard): K27112.D Heated Purge: (Y/N) N

Calibration ID: 34118

		PHN		CRY		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		386822	8.87	304119	12.68	288986	16.43
UPPER LIMIT		773644	9.37	608238	13.18	577972	16.93
LOWER LIMIT		193411	8.37	152060	12.18	144493	15.93
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-434399/11		377480	8.86	306147	12.67	286910	16.42
ICV 280-434399/12		453943	8.86	330739	12.66	273298	16.42
ICV 280-434399/13		456581	8.86	299167	12.66	250155	16.42
CCV 280-435306/3		334420	8.81	262439	12.56	237620	16.27
CCV 280-435306/4		473038	8.81	320732	12.56	249116	16.26
CCV 280-435306/5		470787	8.81	311762	12.56	247057	16.26
MB 280-434912/1-A		411011	8.80	280668	12.55	221116	16.25
LCS 280-434912/2-A		349449	8.80	272356	12.55	244848	16.25
LCSD 280-434912/3-A		356037	8.81	273292	12.55	242983	16.25
280-115950-2	LL1mw-088-181001-GW	407689	8.81	261864	12.55	206273	16.26
280-115950-3	LL1mw-088-181002-GW	411048	8.81	253686	12.55	194203	16.26
280-115950-4	RQLmw-007-181001-GW	367362	8.81	244826	12.55	220530	16.26
280-115950-5	RQLmw-008-181001-GW	399778	8.81	285061	12.55	242279	16.25
CCVC 280-435306/26		383572	8.80	263172	12.55	200318	16.25
CCVC 280-435306/27		484551	8.81	303666	12.55	230044	16.26
CCVC 280-435306/28		367675	8.81	292259	12.56	255229	16.26

PHN = Phenanthrene-d10
CRY = Chrysene-d12
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: LL1mw-088-181001-GW | Lab Sample ID: 280-115950-2

Matrix: Water | Lab File ID: K27231.D

Analysis Method: 8270D | Date Collected: 10/22/2018 10:40

Extract. Method: 3520C | Date Extracted: 10/25/2018 13:12

Sample wt/vol: 952.2(mL) | Date Analyzed: 10/29/2018 15:31

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435306 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
117-81-7	Bis(2-ethylhexyl) phthalate	2.1	U	11	2.1	0.59
85-68-7	Butyl benzyl phthalate	2.1	U	21	2.1	1.1
84-66-2	Diethyl phthalate	1.1	U	21	1.1	0.40
131-11-3	Dimethyl phthalate	0.53	U	21	0.53	0.22
84-74-2	Di-n-butyl phthalate	4.6	U	21	4.6	1.2
117-84-0	Di-n-octyl phthalate	1.1	U	21	1.1	0.37

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	97		43-140
321-60-8	2-Fluorobiphenyl	91		44-119
367-12-4	2-Fluorophenol (Surr)	92		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	92		44-120
4165-62-2	Phenol-d5 (Surr)	93		10-115
1718-51-0	Terphenyl-d14 (Surr)	111		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27231.D
Lims ID: 280-115950-B-2-A
Client ID: LL1mw-088-181001-GW
Sample Type: Client
Inject. Date: 29-Oct-2018 15:31:30 ALS Bottle#: 16 Worklist Smp#: 17
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-115950-B-2-A
Operator ID: KIEKELD Instrument ID: SMS_K

Method: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 30-Oct-2018 07:24:18 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0312

First Level Reviewer: kiekeld Date: 30-Oct-2018 07:04:41

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.376	4.376	0.000	97	126041	40.0	
* 2 Naphthalene-d8	136	5.592	5.593	-0.001	100	490109	40.0	
* 3 Acenaphthene-d10	164	7.326	7.326	0.000	94	260902	40.0	
* 4 Phenanthrene-d10	188	8.806	8.807	0.000	98	407689	40.0	
* 5 Chrysene-d12	240	12.549	12.555	-0.006	99	261864	40.0	
* 6 Perylene-d12	264	16.257	16.263	-0.006	97	206273	40.0	
$ 7 2-Fluorophenol	112	3.207	3.207	0.000	94	430498	91.5	
$ 8 Phenol-d5	99	4.018	4.018	0.000	95	499240	93.5	
$ 9 Nitrobenzene-d5	82	4.887	4.887	0.000	94	427438	92.3	
$ 11 2-Fluorobiphenyl	172	6.650	6.656	-0.006	100	830361	91.2	
$ 12 2,4,6-Tribromophenol	330	8.107	8.113	-0.006	93	105038	96.6	
$ 13 Terphenyl-d14	244	10.622	10.634	-0.012	99	712896	111.0	
111 Dimethyl phthalate	163		7.050				ND	
130 Diethyl phthalate	149		7.749				ND	
173 Di-n-butyl phthalate	149		9.376				ND	
190 Butyl benzyl phthalate	149		11.456				ND	
195 Bis(2-ethylhexyl) phthalat	149		12.737				ND	
201 Di-n-octyl phthalate	149		14.441				ND	

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

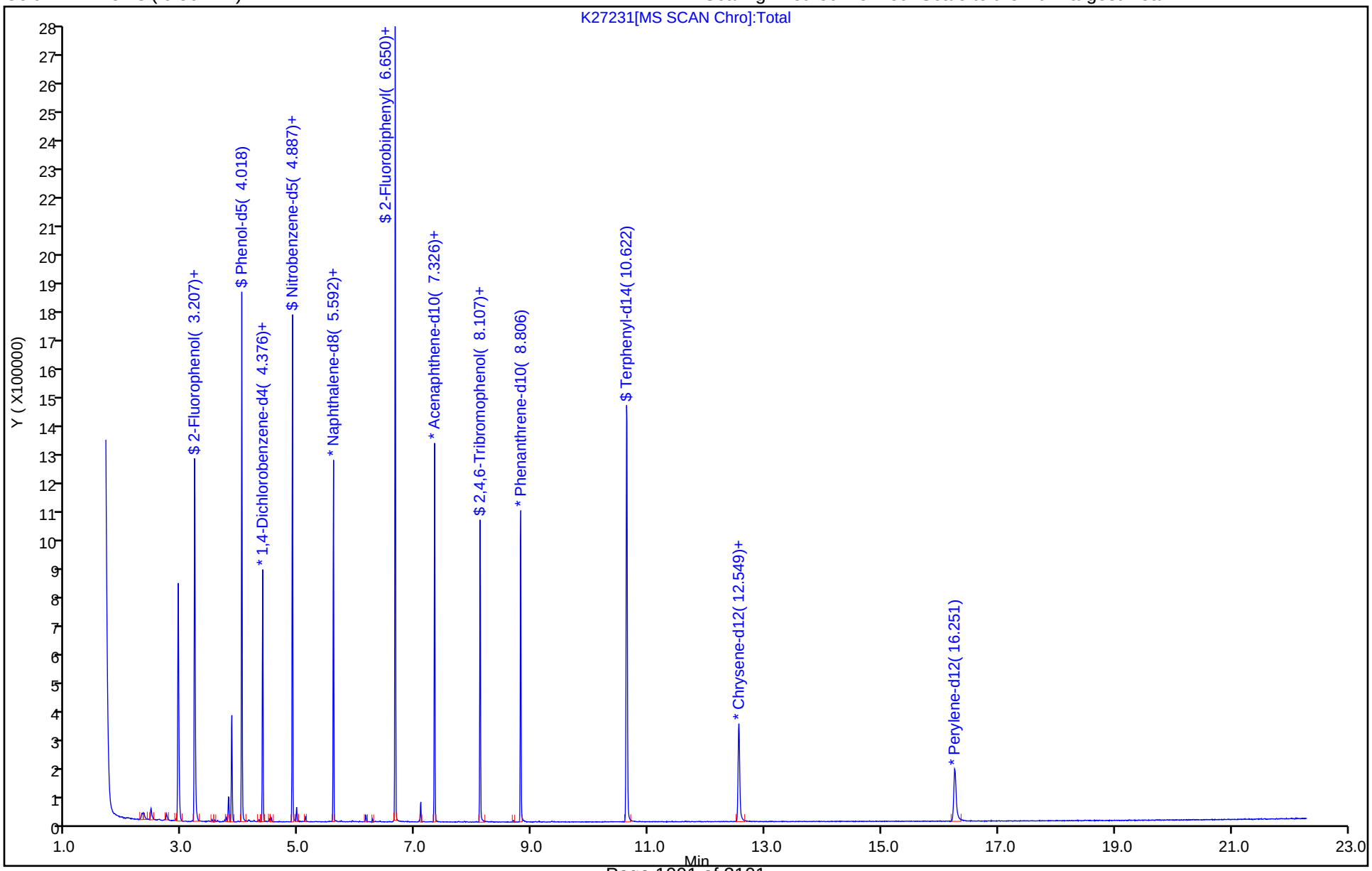
Report Date: 30-Oct-2018 07:24:48 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27231.D

Injection Date:	29-Oct-2018 15:31:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	280-115950-B-2-A	Lab Sample ID:	280-115950-2	Worklist Smp#:	17
Client ID:	LL1mw-088-181001-GW				
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27231.D
Lims ID: 280-115950-B-2-A
Client ID: LL1mw-088-181001-GW
Sample Type: Client
Inject. Date: 29-Oct-2018 15:31:30 ALS Bottle#: 16 Worklist Smp#: 17
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-115950-B-2-A
Operator ID: KIEKELD Instrument ID: SMS_K

Method: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 30-Oct-2018 07:24:18 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0312

First Level Reviewer: kiekeld Date: 30-Oct-2018 07:04:41

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	91.5	91.51
$ 8 Phenol-d5	100.0	93.5	93.46
$ 9 Nitrobenzene-d5	100.0	92.3	92.33
$ 11 2-Fluorobiphenyl	100.0	91.2	91.16
$ 12 2,4,6-Tribromophenol	100.0	96.6	96.60
$ 13 Terphenyl-d14	100.0	111.0	110.97

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: LL1mw-088-181002-GW | Lab Sample ID: 280-115950-3

Matrix: Water | Lab File ID: K27232.D

Analysis Method: 8270D | Date Collected: 10/22/2018 10:40

Extract. Method: 3520C | Date Extracted: 10/25/2018 13:12

Sample wt/vol: 950.9(mL) | Date Analyzed: 10/29/2018 16:00

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435306 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
117-81-7	Bis(2-ethylhexyl) phthalate	2.1	U	11	2.1	0.59
85-68-7	Butyl benzyl phthalate	2.1	U	21	2.1	1.1
84-66-2	Diethyl phthalate	1.1	U	21	1.1	0.40
131-11-3	Dimethyl phthalate	0.53	U	21	0.53	0.22
84-74-2	Di-n-butyl phthalate	4.6	U	21	4.6	1.2
117-84-0	Di-n-octyl phthalate	1.1	U	21	1.1	0.37

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	93		43-140
321-60-8	2-Fluorobiphenyl	79		44-119
367-12-4	2-Fluorophenol (Surr)	73		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	77		44-120
4165-62-2	Phenol-d5 (Surr)	80		10-115
1718-51-0	Terphenyl-d14 (Surr)	110		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27232.D
Lims ID: 280-115950-B-3-A
Client ID: LL1mw-088-181002-GW
Sample Type: Client
Inject. Date: 29-Oct-2018 16:00:30 ALS Bottle#: 17 Worklist Smp#: 18
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-115950-B-3-A
Operator ID: KIEKELD Instrument ID: SMS_K

Method: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 30-Oct-2018 07:24:18 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0312

First Level Reviewer: kiekeld Date: 30-Oct-2018 07:05:00

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
*	1 1,4-Dichlorobenzene-d4	152	4.376	4.376	0.000	96	120029	40.0	
*	2 Naphthalene-d8	136	5.592	5.593	-0.001	99	473088	40.0	
*	3 Acenaphthene-d10	164	7.326	7.326	0.000	95	247218	40.0	
*	4 Phenanthrene-d10	188	8.806	8.807	0.000	98	411048	40.0	
*	5 Chrysene-d12	240	12.549	12.555	-0.006	99	253686	40.0	
*	6 Perylene-d12	264	16.257	16.263	-0.006	98	194203	40.0	
$	7 2-Fluorophenol	112	3.207	3.207	0.000	94	327647	73.1	
$	8 Phenol-d5	99	4.018	4.018	0.000	95	406612	79.9	
$	9 Nitrobenzene-d5	82	4.887	4.887	0.000	94	344139	77.0	
$	11 2-Fluorobiphenyl	172	6.650	6.656	-0.006	100	685962	79.5	
$	12 2,4,6-Tribromophenol	330	8.107	8.113	-0.006	92	95585	92.8	
$	13 Terphenyl-d14	244	10.622	10.634	-0.012	100	685768	110.2	
	111 Dimethyl phthalate	163		7.050				ND	
	130 Diethyl phthalate	149		7.749				ND	
	173 Di-n-butyl phthalate	149		9.376				ND	
	190 Butyl benzyl phthalate	149		11.456				ND	
	195 Bis(2-ethylhexyl) phthalat	149		12.737				ND	
	201 Di-n-octyl phthalate	149		14.441				ND	

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

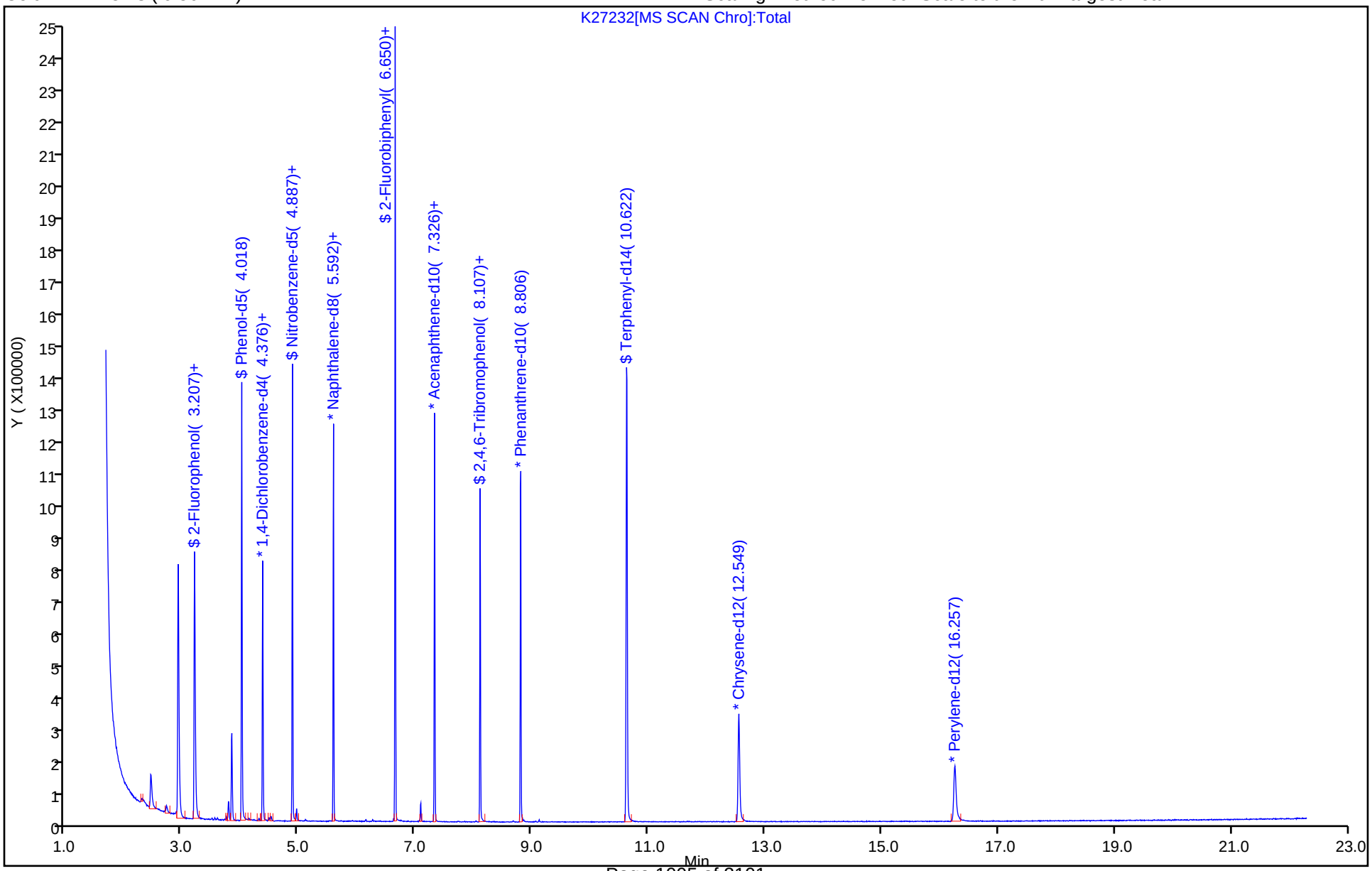
Report Date: 30-Oct-2018 07:24:49 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27232.D

Injection Date:	29-Oct-2018 16:00:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	280-115950-B-3-A	Lab Sample ID:	280-115950-3	Worklist Smp#:	18
Client ID:	LL1mw-088-181002-GW				
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27232.D
Lims ID: 280-115950-B-3-A
Client ID: LL1mw-088-181002-GW
Sample Type: Client
Inject. Date: 29-Oct-2018 16:00:30 ALS Bottle#: 17 Worklist Smp#: 18
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-115950-B-3-A
Operator ID: KIEKELD Instrument ID: SMS_K

Method: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 30-Oct-2018 07:24:18 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0312

First Level Reviewer: kiekeld Date: 30-Oct-2018 07:05:00

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	73.1	73.13
$ 8 Phenol-d5	100.0	79.9	79.93
$ 9 Nitrobenzene-d5	100.0	77.0	77.01
$ 11 2-Fluorobiphenyl	100.0	79.5	79.48
$ 12 2,4,6-Tribromophenol	100.0	92.8	92.77
$ 13 Terphenyl-d14	100.0	110.2	110.19

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: RQLmw-007-181001-GW | Lab Sample ID: 280-115950-4

Matrix: Water | Lab File ID: K27233.D

Analysis Method: 8270D | Date Collected: 10/22/2018 12:50

Extract. Method: 3520C | Date Extracted: 10/25/2018 13:12

Sample wt/vol: 967.5(mL) | Date Analyzed: 10/29/2018 16:29

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435306 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
95-95-4	2,4,5-Trichlorophenol	1.0	U	21	1.0	0.47
88-06-2	2,4,6-Trichlorophenol	1.0	U	21	1.0	0.30
120-83-2	2,4-Dichlorophenol	2.1	U	10	2.1	0.66
105-67-9	2,4-Dimethylphenol	2.1	U	10	2.1	0.60
51-28-5	2,4-Dinitrophenol	31	U	83	31	10
95-57-8	2-Chlorophenol	4.5	U	10	4.5	2.1
95-48-7	2-Methylphenol	2.1	U	10	2.1	1.0
88-75-5	2-Nitrophenol	1.0	U	21	1.0	0.40
15831-10-4	3 & 4 Methylphenol	0.52	U	21	0.52	0.26
534-52-1	4,6-Dinitro-2-methylphenol	9.1	U	83	9.1	4.1
59-50-7	4-Chloro-3-methylphenol	5.2	U	21	5.2	2.5
100-02-7	4-Nitrophenol	4.1	U	52	4.1	1.3
117-81-7	Bis(2-ethylhexyl) phthalate	2.1	U	10	2.1	0.58
85-68-7	Butyl benzyl phthalate	2.1	U	21	2.1	1.0
84-66-2	Diethyl phthalate	1.0	U	21	1.0	0.39
131-11-3	Dimethyl phthalate	0.52	U	21	0.52	0.22
84-74-2	Di-n-butyl phthalate	4.5	U	21	4.5	1.2
117-84-0	Di-n-octyl phthalate	1.0	U M	21	1.0	0.36
87-86-5	Pentachlorophenol	62	U	83	62	21
108-95-2	Phenol	4.5	U	10	4.5	2.1

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	96		43-140
321-60-8	2-Fluorobiphenyl	96		44-119
367-12-4	2-Fluorophenol (Surr)	95		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	94		44-120
4165-62-2	Phenol-d5 (Surr)	99		10-115
1718-51-0	Terphenyl-d14 (Surr)	97		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27233.D
Lims ID: 280-115950-B-4-A
Client ID: RQLmw-007-181001-GW
Sample Type: Client
Inject. Date: 29-Oct-2018 16:29:30 ALS Bottle#: 18 Worklist Smp#: 19
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-115950-B-4-A
Operator ID: KIEKELD Instrument ID: SMS_K

Method: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 30-Oct-2018 07:24:18 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0312

First Level Reviewer: kiekeld Date: 30-Oct-2018 07:05:31

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
*	1 1,4-Dichlorobenzene-d4	152	4.376	4.376	0.000	96	123215	40.0	
*	2 Naphthalene-d8	136	5.592	5.593	-0.001	99	487114	40.0	
*	3 Acenaphthene-d10	164	7.326	7.326	0.000	94	242635	40.0	
*	4 Phenanthrene-d10	188	8.806	8.807	0.000	98	367362	40.0	
*	5 Chrysene-d12	240	12.549	12.555	-0.006	99	244826	40.0	
*	6 Perylene-d12	264	16.256	16.263	-0.007	97	220530	40.0	
$	7 2-Fluorophenol	112	3.213	3.207	0.006	94	436122	94.8	
$	8 Phenol-d5	99	4.018	4.018	0.000	95	514800	98.6	
$	9 Nitrobenzene-d5	82	4.887	4.887	0.000	94	432985	94.1	
$	11 2-Fluorobiphenyl	172	6.650	6.656	-0.006	100	817369	96.5	
$	12 2,4,6-Tribromophenol	330	8.107	8.113	-0.006	93	96850	95.8	
$	13 Terphenyl-d14	244	10.622	10.634	-0.012	99	583018	97.1	
	32 Phenol	94		4.030				ND	
	39 2-Chlorophenol	128		4.182				ND	
	45 2-Methylphenol	108		4.594				ND	
	49 3 & 4 Methylphenol	108		4.741				ND	
	64 2-Nitrophenol	139		5.216				ND	
	65 2,4-Dimethylphenol	107		5.252				ND	
	74 2,4-Dichlorophenol	162		5.451				ND	
	89 4-Chloro-3-methylphenol	107		6.133				ND	
	100 2,4,6-Trichlorophenol	196		6.574				ND	
	102 2,4,5-Trichlorophenol	196		6.609				ND	
	111 Dimethyl phthalate	163		7.050				ND	
	118 2,4-Dinitrophenol	184		7.379				ND	
	119 4-Nitrophenol	109		7.443				ND	
	130 Diethyl phthalate	149		7.749				ND	
	139 4,6-Dinitro-2-methylphenol	198		7.919				ND	
	163 Pentachlorophenol	266		8.624				ND	
	173 Di-n-butyl phthalate	149		9.376				ND	
	190 Butyl benzyl phthalate	149		11.456				ND	
	195 Bis(2-ethylhexyl) phthalat	149		12.737				ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
201 Di-n-octyl phthalate	149		14.441				ND	U

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

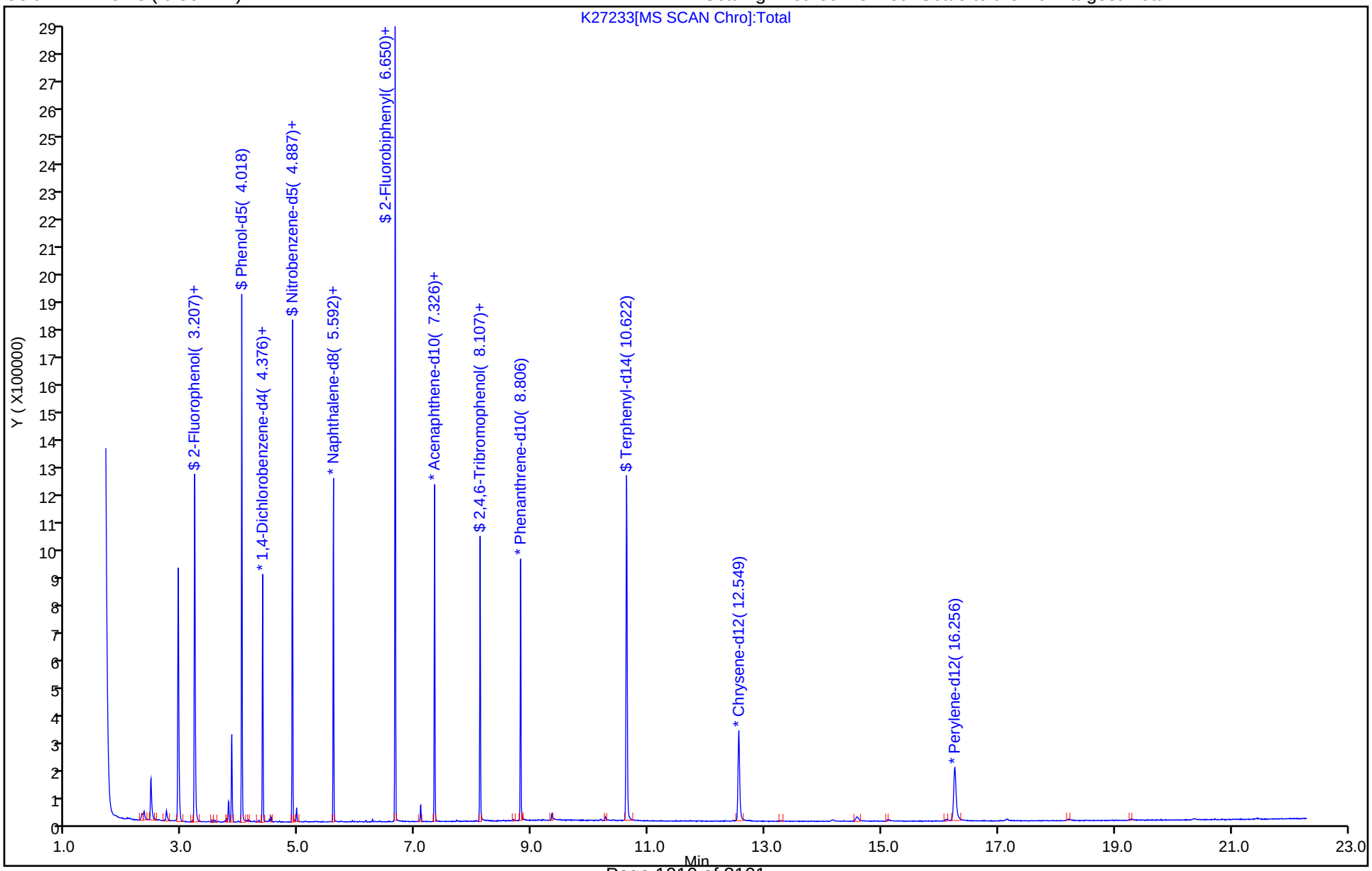
Report Date: 30-Oct-2018 07:24:51 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27233.D

Injection Date:	29-Oct-2018 16:29:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	280-115950-B-4-A	Lab Sample ID:	280-115950-4	Worklist Smp#:	19
Client ID:	RQLmw-007-181001-GW				
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27233.D
Lims ID: 280-115950-B-4-A
Client ID: RQLmw-007-181001-GW
Sample Type: Client
Inject. Date: 29-Oct-2018 16:29:30 ALS Bottle#: 18 Worklist Smp#: 19
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-115950-B-4-A
Operator ID: KIEKELD Instrument ID: SMS_K

Method: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 30-Oct-2018 07:24:18 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0312

First Level Reviewer: kiekeld Date: 30-Oct-2018 07:05:31

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	94.8	94.83
$ 8 Phenol-d5	100.0	98.6	98.58
$ 9 Nitrobenzene-d5	100.0	94.1	94.10
$ 11 2-Fluorobiphenyl	100.0	96.5	96.49
$ 12 2,4,6-Tribromophenol	100.0	95.8	95.78
$ 13 Terphenyl-d14	100.0	97.1	97.07

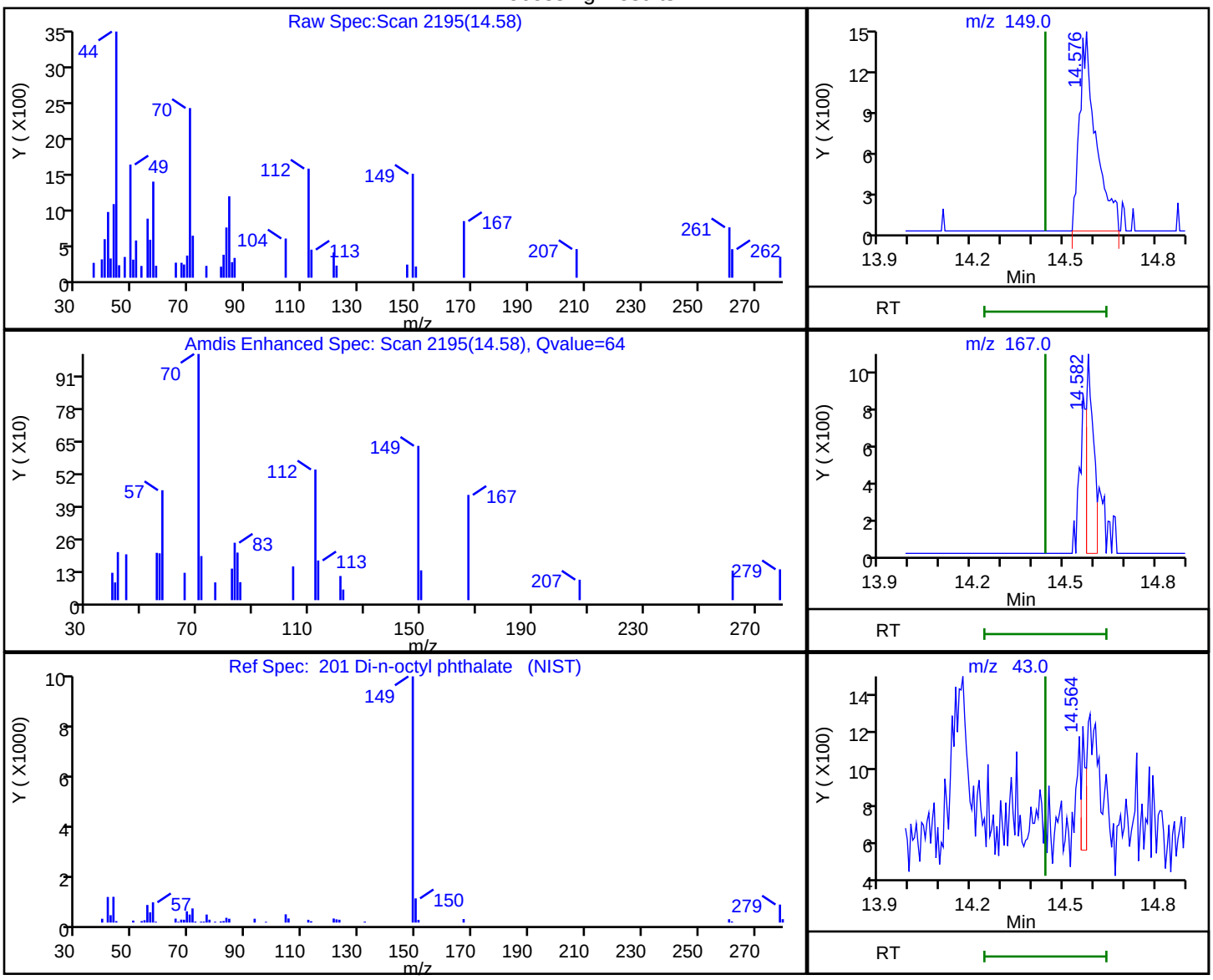
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27233.D				
Injection Date:	29-Oct-2018 16:29:30	Instrument ID:	SMS_K		
Lims ID:	280-115950-B-4-A	Lab Sample ID:	280-115950-4		
Client ID:	RQLmw-007-181001-GW				
Operator ID:	KIEKELD	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	0.5 ul	Dil. Factor:	1.0000		
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		
Column:	VF-5ms (0.50 mm)	Detector	MS SCAN		

201 Di-n-octyl phthalate, CAS: 117-84-0

Processing Results



RT	Mass	Response	Amount
14.58	149.00	5372	2.018508
14.58	167.00	1721	
14.56	43.00	604	

Reviewer: kiekeld, 30-Oct-2018 07:05:28

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: RQLmw-008-181001-GW | Lab Sample ID: 280-115950-5

Matrix: Water | Lab File ID: K27234.D

Analysis Method: 8270D | Date Collected: 10/22/2018 10:05

Extract. Method: 3520C | Date Extracted: 10/25/2018 13:12

Sample wt/vol: 973.1(mL) | Date Analyzed: 10/29/2018 16:58

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435306 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
95-95-4	2,4,5-Trichlorophenol	1.0	U	21	1.0	0.46
88-06-2	2,4,6-Trichlorophenol	1.0	U	21	1.0	0.30
120-83-2	2,4-Dichlorophenol	2.1	U	10	2.1	0.66
105-67-9	2,4-Dimethylphenol	2.1	U	10	2.1	0.60
51-28-5	2,4-Dinitrophenol	31	U	82	31	10
95-57-8	2-Chlorophenol	4.5	U	10	4.5	2.1
95-48-7	2-Methylphenol	2.1	U	10	2.1	1.0
88-75-5	2-Nitrophenol	1.0	U	21	1.0	0.40
15831-10-4	3 & 4 Methylphenol	0.51	U	21	0.51	0.26
534-52-1	4,6-Dinitro-2-methylphenol	9.0	U	82	9.0	4.1
59-50-7	4-Chloro-3-methylphenol	5.1	U	21	5.1	2.5
100-02-7	4-Nitrophenol	4.1	U	51	4.1	1.3
117-81-7	Bis(2-ethylhexyl) phthalate	2.1	U	10	2.1	0.58
85-68-7	Butyl benzyl phthalate	2.1	U	21	2.1	1.0
84-66-2	Diethyl phthalate	1.0	U	21	1.0	0.39
131-11-3	Dimethyl phthalate	0.51	U	21	0.51	0.22
84-74-2	Di-n-butyl phthalate	4.5	U	21	4.5	1.2
117-84-0	Di-n-octyl phthalate	1.0	U	21	1.0	0.36
87-86-5	Pentachlorophenol	62	U	82	62	21
108-95-2	Phenol	4.5	U	10	4.5	2.1

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	92		43-140
321-60-8	2-Fluorobiphenyl	92		44-119
367-12-4	2-Fluorophenol (Surr)	89		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	91		44-120
4165-62-2	Phenol-d5 (Surr)	93		10-115
1718-51-0	Terphenyl-d14 (Surr)	96		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27234.D
Lims ID: 280-115950-D-5-A
Client ID: RQLmw-008-181001-GW
Sample Type: Client
Inject. Date: 29-Oct-2018 16:58:30 ALS Bottle#: 19 Worklist Smp#: 20
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-115950-D-5-A
Operator ID: KIEKELD Instrument ID: SMS_K

Method: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 30-Oct-2018 07:24:18 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0312

First Level Reviewer: kiekeld Date: 30-Oct-2018 07:05:57

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
*	1 1,4-Dichlorobenzene-d4	152	4.376	4.376	0.000	96	129885	40.0	
*	2 Naphthalene-d8	136	5.592	5.593	-0.001	99	501053	40.0	
*	3 Acenaphthene-d10	164	7.326	7.326	0.000	95	254131	40.0	
*	4 Phenanthrene-d10	188	8.806	8.807	0.000	98	399778	40.0	
*	5 Chrysene-d12	240	12.549	12.555	-0.006	99	285061	40.0	
*	6 Perylene-d12	264	16.251	16.263	-0.012	98	242279	40.0	
$	7 2-Fluorophenol	112	3.213	3.207	0.006	94	432344	89.2	
$	8 Phenol-d5	99	4.018	4.018	0.000	95	510841	92.8	
$	9 Nitrobenzene-d5	82	4.887	4.887	0.000	94	432386	91.4	
$	11 2-Fluorobiphenyl	172	6.650	6.656	-0.006	100	812493	91.6	
$	12 2,4,6-Tribromophenol	330	8.113	8.113	0.000	93	97813	92.4	
$	13 Terphenyl-d14	244	10.622	10.634	-0.012	99	670938	95.9	
	32 Phenol	94		4.030				ND	
	39 2-Chlorophenol	128		4.182				ND	
	45 2-Methylphenol	108		4.594				ND	
	49 3 & 4 Methylphenol	108		4.741				ND	
	64 2-Nitrophenol	139		5.216				ND	
	65 2,4-Dimethylphenol	107		5.252				ND	
	74 2,4-Dichlorophenol	162		5.451				ND	
	89 4-Chloro-3-methylphenol	107		6.133				ND	
	100 2,4,6-Trichlorophenol	196		6.574				ND	
	102 2,4,5-Trichlorophenol	196		6.609				ND	
	111 Dimethyl phthalate	163		7.050				ND	
	118 2,4-Dinitrophenol	184		7.379				ND	
	119 4-Nitrophenol	109		7.443				ND	
	130 Diethyl phthalate	149		7.749				ND	
	139 4,6-Dinitro-2-methylphenol	198		7.919				ND	
	163 Pentachlorophenol	266		8.624				ND	
	173 Di-n-butyl phthalate	149		9.376				ND	
	190 Butyl benzyl phthalate	149		11.456				ND	
	195 Bis(2-ethylhexyl) phthalat	149		12.737				ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
201 Di-n-octyl phthalate	149		14.441				ND	

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

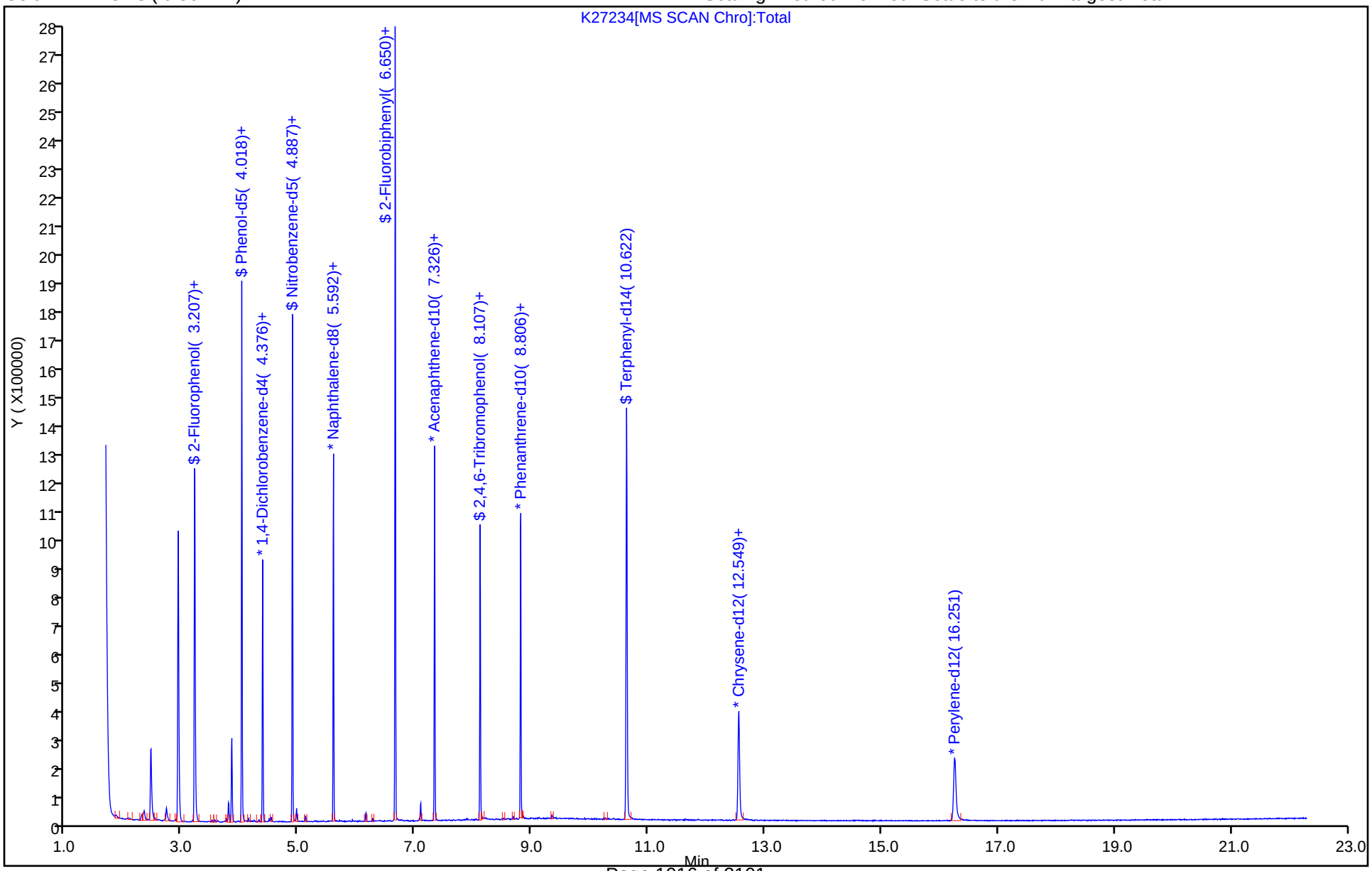
Report Date: 30-Oct-2018 07:24:53 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27234.D

Injection Date:	29-Oct-2018 16:58:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	280-115950-D-5-A	Lab Sample ID:	280-115950-5	Worklist Smp#:	20
Client ID:	RQLmw-008-181001-GW				
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27234.D
Lims ID: 280-115950-D-5-A
Client ID: RQLmw-008-181001-GW
Sample Type: Client
Inject. Date: 29-Oct-2018 16:58:30 ALS Bottle#: 19 Worklist Smp#: 20
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: 280-115950-D-5-A
Operator ID: KIEKELD Instrument ID: SMS_K

Method: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 30-Oct-2018 07:24:18 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0312

First Level Reviewer: kiekeld Date: 30-Oct-2018 07:05:57

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	89.2	89.18
$ 8 Phenol-d5	100.0	92.8	92.80
$ 9 Nitrobenzene-d5	100.0	91.4	91.36
$ 11 2-Fluorobiphenyl	100.0	91.6	91.58
$ 12 2,4,6-Tribromophenol	100.0	92.4	92.35
$ 13 Terphenyl-d14	100.0	95.9	95.94

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 434399

SDG No.:

Instrument ID: SMS_K GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/23/2018 13:33 Calibration End Date: 10/23/2018 16:54 Calibration ID: 34118

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD004 280-434399/4	K27113.D
Level 2	STD010 280-434399/5	K27114.D
Level 3	STD020 280-434399/6	K27115.D
Level 4	STD050 280-434399/7	K27116.D
Level 5	ICIS 280-434399/3	K27112.D
Level 6	STD120 280-434399/8	K27117.D
Level 7	STD160 280-434399/9	K27118.D
Level 8	STD200 280-434399/10	K27119.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1,4-Dioxane	0.6921 0.6213	0.5866 0.6212	0.6447 0.6199	0.6215	0.6628	Ave		0.6338				5.1		15.0			
N-Nitrosodimethylamine	1.0373 0.9614	0.9586 0.9530	0.9473 0.9543	0.9878	1.0255	Ave		0.9782				3.6		15.0			
Pyridine	1.6699 1.5385	1.5849 1.5201	1.5709 1.5099	1.5704	1.6304	Ave		1.5744				3.5		15.0			
Phenol	1.9693 1.6791	1.8300 1.6193	1.7752 1.5926	1.7799	1.8119	Ave		1.7572				7.0		15.0			
Aniline	2.3200 2.0754	2.2244 2.0340	2.1516 2.0746	2.1521	2.1741	Ave		2.1508				4.3		15.0			
Bis(2-chloroethyl)ether	1.4747 1.2216	1.4386 1.1633	1.3705 1.1387	1.3301	1.3215	Ave		1.3074				9.4		15.0			
2-Chlorophenol	1.5710 1.3847	1.4890 1.3557	1.4732 1.3422	1.4504	1.4837	Ave		1.4437				5.4		15.0			
1,3-Dichlorobenzene	1.7940 1.5442	1.7069 1.4806	1.6348 1.4716	1.6310	1.6268	Ave		1.6112				6.8		15.0			
1,4-Dichlorobenzene	1.8509 1.5357	1.6845 1.5022	1.6447 1.4564	1.6355	1.6339	Ave		1.6180				7.6		15.0			
Benzyl alcohol	1.0336 0.9169	1.0075 0.9007	0.9655 0.8908	0.9571	0.9637	Ave		0.9545				5.3		15.0			
1,2-Dichlorobenzene	1.7148 1.4607	1.6208 1.4236	1.5712 1.4095	1.5590	1.5608	Ave		1.5401				6.8		15.0			
2-Methylphenol	1.4663 1.2783	1.3800 1.2458	1.3413 1.2296	1.3098	1.3424	Ave		1.3242				5.8		15.0			
2,2'-oxybis[1-chloropropane]	3.0989 2.2626	2.9201 2.0980	2.7641 1.9964	2.5872	2.5609	Qua	2.7125	2.7312	-0.003836						0.9990		0.9900
3 & 4 Methylphenol	1.4951 1.2036	1.4144 1.1323	1.3541 1.0865	1.3281	1.2895	Ave		1.2880				10.9		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 434399

SDG No.:

Instrument ID: SMS_K GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/23/2018 13:33 Calibration End Date: 10/23/2018 16:54 Calibration ID: 34118

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
N-Nitrosodi-n-propylamine	1.0744 0.8442	1.0244 0.8013	0.9545 0.7932	0.9359	0.9063	Ave		0.9168			0.0500	11.1		15.0			
Acetophenone	2.2096 1.6139	1.9444 1.5122	1.9136 1.4800	1.8373	1.7752	Ave		1.7858				13.7		15.0			
Hexachloroethane	0.6465 0.5809	0.6359 0.5675	0.5959 0.5491	0.6120	0.6038	Ave		0.5990				5.5		15.0			
Nitrobenzene	0.4001 0.3552	0.3833 0.3538	0.3698 0.3360	0.3747	0.3615	Ave		0.3668				5.4		15.0			
Isophorone	0.7488 0.6031	0.6722 0.6020	0.6488 0.5988	0.6530	0.6450	Ave		0.6465				7.7		15.0			
2-Nitrophenol	0.1942 0.1929	0.1998 0.1929	0.1923 0.1868	0.2034	0.1999	Ave		0.1953				2.7		15.0			
2,4-Dimethylphenol	0.3839 0.3258	0.3631 0.3222	0.3443 0.3113	0.3471	0.3408	Ave		0.3423				6.8		15.0			
Bis(2-chloroethoxy)methane	0.4499 0.3759	0.4129 0.3716	0.4059 0.3588	0.4000	0.3876	Ave		0.3953				7.3		15.0			
Benzoic acid	+++++ 0.2540	0.1994 0.2622	0.2106 0.2706	0.2389	0.2538	Lin2	-1.426	0.2619							0.9980		0.9900
2,4-Dichlorophenol	0.3116 0.2792	0.3004 0.2772	0.2938 0.2726	0.2960	0.2941	Ave		0.2906				4.5		15.0			
1,2,4-Trichlorobenzene	0.3820 0.3103	0.3498 0.3106	0.3375 0.2959	0.3364	0.3270	Ave		0.3312				8.2		15.0			
Naphthalene	1.1316 0.9071	1.0455 0.8949	1.0190 0.8483	0.9896	0.9598	Ave		0.9745				9.4		15.0			
4-Chloroaniline	0.4459 0.3858	0.4302 0.3779	0.4252 0.3816	0.4186	0.4112	Ave		0.4095				6.1		15.0			
2,6-Dichlorophenol	0.3228 0.2709	0.3003 0.2652	0.2878 0.2586	0.2948	0.2855	Ave		0.2857				7.3		15.0			
Hexachlorobutadiene	0.1986 0.1795	0.1900 0.1760	0.1876 0.1655	0.1880	0.1846	Ave		0.1837				5.5		15.0			
Caprolactam	0.1782 0.1610	0.1651 0.1664	0.1737 0.1974	0.1725	0.1702	Ave		0.1731				6.5		15.0			
4-Chloro-3-methylphenol	0.3140 0.2535	0.2937 0.2556	0.2782 0.2620	0.2797	0.2718	Ave		0.2761				7.4		15.0			
2-Methylnaphthalene	0.7796 0.6353	0.7505 0.6145	0.7196 0.6031	0.7018	0.6720	Ave		0.6846				9.4		15.0			
1-Methylnaphthalene	0.7483 0.5963	0.6932 0.5792	0.6543 0.5629	0.6550	0.6273	Ave		0.6396				9.7		15.0			
Hexachlorocyclopentadiene	0.4007 0.4209	0.4069 0.4171	0.4160 0.3732	0.4364	0.4520	Ave		0.4154			0.0500	5.7		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 434399

SDG No.:

Instrument ID: SMS_K GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/23/2018 13:33 Calibration End Date: 10/23/2018 16:54 Calibration ID: 34118

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1,2,4,5-Tetrachlorobenzene	0.3672 0.2761	0.3383 0.2707	0.3157 0.2645	0.3030	0.2914	Ave		0.3034				11.8		15.0			
2,4,6-Trichlorophenol	0.4070 0.3641	0.3875 0.3611	0.4113 0.3336	0.3932	0.3900	Ave		0.3810				6.9		15.0			
2,4,5-Trichlorophenol	0.4281 0.4044	0.4252 0.4090	0.4209 0.3956	0.4205	0.4282	Ave		0.4165				2.9		15.0			
1,1'-Biphenyl	1.7584 1.4798	1.6540 1.4629	1.6516 1.3503	1.5955	1.6129	Ave		1.5707				8.3		15.0			
2-Chloronaphthalene	1.3054 1.1466	1.2519 1.1398	1.2513 1.0573	1.2428	1.2389	Ave		1.2042				6.8		15.0			
2-Nitroaniline	0.3674 0.3408	0.3535 0.3533	0.3620 0.3631	0.3592	0.3739	Ave		0.3591				2.8		15.0			
Dimethyl phthalate	1.3015 1.0885	1.2560 1.1067	1.2496 1.1213	1.1606	1.1694	Ave		1.1817				6.6		15.0			
1,3-Dinitrobenzene	0.1629 0.2040	0.1855 0.2182	0.2058 0.2290	0.2075	0.2119	Ave		0.2031				10.1		15.0			
2,6-Dinitrotoluene	0.2915 0.2865	0.3086 0.2956	0.3186 0.3111	0.3012	0.2994	Ave		0.3016				3.5		15.0			
Acenaphthylene	1.9951 1.7003	1.9230 1.7046	1.8979 1.6142	1.8279	1.8307	Ave		1.8117				7.1		15.0			
3-Nitroaniline	0.3100 0.3134	0.3177 0.3246	0.3304 0.3515	0.3191	0.3250	Ave		0.3240				4.0		15.0			
Acenaphthene	1.3381 1.0943	1.2390 1.0806	1.2522 1.0315	1.1956	1.1808	Ave		1.1765				8.7		15.0			
2,4-Dinitrophenol	+++++ 0.1621	0.1091 0.1818	0.1388 0.2037	0.1536	0.1645	Lin2	-1.540	0.1813			0.0500				0.9910		0.9900
4-Nitrophenol	0.1427 0.1460	0.1436 0.1546	0.1541 0.1743	0.1474	0.1499	Ave		0.1516			0.0500	6.7		15.0			
2,4-Dinitrotoluene	0.3580 0.3576	0.3590 0.3703	0.3948 0.4052	0.3645	0.3771	Ave		0.3733				4.8		15.0			
Dibenzofuran	1.8371 1.5339	1.7528 1.5260	1.7554 1.4968	1.6428	1.6522	Ave		1.6496				7.6		15.0			
2,3,4,6-Tetrachlorophenol	0.3047 0.3171	0.3137 0.3241	0.3399 0.3417	0.3291	0.3260	Ave		0.3245				3.9		15.0			
Diethyl phthalate	1.2596 1.0091	1.2000 1.0413	1.1918 1.0888	1.0977	1.0914	Ave		1.1225				7.7		15.0			
4-Chlorophenyl phenyl ether	0.6942 0.5463	0.6372 0.5530	0.6360 0.5512	0.6032	0.5928	Ave		0.6017				8.7		15.0			
Fluorene	1.4574 1.1205	1.3827 1.1092	1.3567 1.1052	1.2527	1.2088	Ave		1.2491				11.0		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 434399

SDG No.:

Instrument ID: SMS_K GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/23/2018 13:33 Calibration End Date: 10/23/2018 16:54 Calibration ID: 34118

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
4-Nitroaniline	0.2975 0.2823	0.2917 0.3074	0.3232 0.3531	0.2889	0.2958	Ave		0.3050				7.6		15.0			
4,6-Dinitro-2-methylphenol	+++++ 0.1240	0.0886 0.1278	0.1051 0.1248	0.1198	0.1270	Lin2	-0.825	0.1286							1.0000		0.9900
Diphenylamine	1.1589 0.9970	1.1411 1.0293	1.1646 1.0596	1.0730	1.0593	Ave		1.0853				5.7		15.0			
N-Nitrosodiphenylamine	0.6022 0.5620	0.6073 0.5473	0.5742 0.4923	0.5921	0.5785	Ave		0.5695				6.5		15.0			
1,2-Diphenylhydrazine	1.3421 1.1304	1.2900 1.1533	1.3000 1.1648	1.2115	1.2225	Ave		1.2268				6.3		15.0			
Azobenzene	1.3569 1.1428	1.3042 1.1659	1.3142 1.1776	1.2248	1.2359	Ave		1.2403				6.3		15.0			
4-Bromophenyl phenyl ether	0.2423 0.2164	0.2311 0.2141	0.2186 0.1956	0.2290	0.2279	Ave		0.2219				6.3		15.0			
Hexachlorobenzene	0.2467 0.2094	0.2332 0.2077	0.2190 0.1897	0.2240	0.2214	Ave		0.2189				7.9		15.0			
Atrazine	0.2028 0.1873	0.1962 0.1867	0.1915 0.1801	0.1936	0.1887	Ave		0.1908				3.6		15.0			
Pentachlorophenol	+++++ 0.1328	0.1142 0.1308	0.1228 0.1273	0.1332	0.1316	Lin2	-0.366	0.1328							0.9990		0.9900
Phenanthrene	1.1614 1.0093	1.1232 0.9941	1.1017 0.9305	1.0869	1.0766	Ave		1.0605				7.2		15.0			
Anthracene	1.2187 1.0486	1.1621 1.0328	1.1367 0.9653	1.1181	1.1145	Ave		1.0996				7.3		15.0			
Carbazole	1.0026 0.9365	0.9711 0.9386	0.9934 0.8885	0.9762	0.9701	Ave		0.9596				3.8		15.0			
Alachlor	0.1341 0.1299	0.1335 0.1329	0.1372 0.1276	0.1311	0.1360	Ave		0.1328				2.4		15.0			
Di-n-butyl phthalate	1.0902 1.0265	1.0816 1.0413	1.0866 0.9887	1.0632	1.0607	Ave		1.0548				3.3		15.0			
Fluoranthene	1.0939 1.0497	1.0690 1.0699	1.0883 1.0486	1.0685	1.0679	Ave		1.0695				1.5		15.0			
Pyrene	1.6137 1.3207	1.5670 1.3189	1.4863 1.2089	1.4029	1.4066	Ave		1.4156				9.6		15.0			
Famphur	0.3971 0.4292	0.4264 0.4076	0.4321 0.3344	0.4471	0.4630	Ave		0.4171				9.4		15.0			
Butyl benzyl phthalate	0.5305 0.5496	0.5539 0.5577	0.5468 0.5332	0.5502	0.5717	Ave		0.5492				2.4		15.0			
3,3'-Dichlorobenzidine	0.3591 0.3506	0.3421 0.3681	0.3475 0.3625	0.3525	0.3631	Ave		0.3557				2.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 434399

SDG No.:

Instrument ID: SMS_K GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/23/2018 13:33 Calibration End Date: 10/23/2018 16:54 Calibration ID: 34118

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Benzo[a]anthracene	1.2952 1.2167	1.2755 1.2413	1.2331 1.1848	1.2405	1.2708	Ave		1.2447				2.8		15.0			
Chrysene	1.2026 1.1914	1.2396 1.2164	1.2129 1.1514	1.2130	1.2412	Ave		1.2086				2.4		15.0			
Bis(2-ethylhexyl) phthalate	0.6234 0.7247	0.6454 0.7401	0.6844 0.7197	0.7042	0.7533	Ave		0.6994				6.5		15.0			
Di-n-octyl phthalate	0.8850 0.1964	0.9353 1.2815	1.0025 1.2510	1.1291	1.2676	Lin2	-1.558	1.2066							0.9930		0.9900
Benzo[b]fluoranthene	1.1656 1.1634	1.1144 1.1741	1.0958 1.1414	1.1444	1.2034	Ave		1.1503				3.0		15.0			
Benzo[k]fluoranthene	1.1694 1.2512	1.2569 1.2389	1.2397 1.1722	1.2861	1.2816	Ave		1.2370				3.6		15.0			
Benzo[a]pyrene	1.0342 1.1850	1.1598 1.2100	1.1222 1.1581	1.1818	1.2271	Ave		1.1598				5.2		15.0			
Indeno[1,2,3-cd]pyrene	0.7336 0.9563	0.7377 1.0093	0.8102 1.0158	0.8744	0.9798	Ave		0.8896				13.2		15.0			
Dibenz(a,h)anthracene	0.7788 1.0290	0.8827 1.0392	0.9266 1.0098	0.9855	1.0556	Ave		0.9634				9.9		15.0			
Benzo[g,h,i]perylene	0.9836 1.1075	1.0277 1.1424	1.0261 1.0927	1.0918	1.1409	Ave		1.0766				5.4		15.0			
2-Fluorophenol (Surr)	1.6210 1.4599	1.5132 1.4362	1.4635 1.4272	1.4879	1.5351	Ave		1.4930				4.2		15.0			
Phenol-d5 (Surr)	1.8916 1.6296	1.7688 1.5793	1.6910 1.5621	1.7130	1.7268	Ave		1.6953				6.3		15.0			
Nitrobenzene-d5 (Surr)	0.4073 0.3659	0.3979 0.3608	0.3835 0.3495	0.3848	0.3730	Ave		0.3778				5.1		15.0			
2-Fluorobiphenyl	1.5017 1.3398	1.4675 1.3290	1.4481 1.2160	1.4344	1.4354	Ave		1.3965				6.7		15.0			
2,4,6-Tribromophenol (Surr)	0.1661 0.1600	0.1592 0.1696	0.1678 0.1767	0.1689	0.1653	Ave		0.1667				3.3		15.0			
Terphenyl-d14 (Surr)	1.0896 0.9307	1.0572 0.9320	1.0064 0.8710	0.9792	0.9847	Ave		0.9813				7.2		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 434399

SDG No.:

Instrument ID: SMS_K GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/23/2018 13:33 Calibration End Date: 10/23/2018 16:54 Calibration ID: 34118

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD004 280-434399/4	K27113.D
Level 2	STD010 280-434399/5	K27114.D
Level 3	STD020 280-434399/6	K27115.D
Level 4	STD050 280-434399/7	K27116.D
Level 5	ICIS 280-434399/3	K27112.D
Level 6	STD120 280-434399/8	K27117.D
Level 7	STD160 280-434399/9	K27118.D
Level 8	STD200 280-434399/10	K27119.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
1,4-Dioxane	DCBd 4	Ave	9604 246043	20944 324473	39740 393695	106454	177940	4.00 120	10.0 160	20.0 200	50.0	80.0
N-Nitrosodimethylamine	DCBd 4	Ave	14394 380707	34224 497801	58391 606080	169184	275310	4.00 120	10.0 160	20.0 200	50.0	80.0
Pyridine	DCBd 4	Ave	46347 1218459	113169 1587997	193658 1917863	537957	875416	8.00 240	20.0 320	40.0 400	100	160
Phenol	DCBd 4	Ave	27328 664889	65336 845808	109419 1011432	304856	486420	4.00 120	10.0 160	20.0 200	50.0	80.0
Aniline	DCBd 4	Ave	32195 821840	79417 1062431	132620 1317520	368614	583663	4.00 120	10.0 160	20.0 200	50.0	80.0
Bis(2-chloroethyl)ether	DCBd 4	Ave	20464 483741	51362 607630	84478 723186	227822	354771	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Chlorophenol	DCBd 4	Ave	21801 548316	53160 708112	90805 852396	248427	398327	4.00 120	10.0 160	20.0 200	50.0	80.0
1,3-Dichlorobenzene	DCBd 4	Ave	24895 611471	60941 773378	100769 934555	279358	436734	4.00 120	10.0 160	20.0 200	50.0	80.0
1,4-Dichlorobenzene	DCBd 4	Ave	25685 608129	60141 784659	101377 924921	280118	438626	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzyl alcohol	DCBd 4	Ave	14343 363072	35970 470459	59515 565727	163926	258715	4.00 120	10.0 160	20.0 200	50.0	80.0
1,2-Dichlorobenzene	DCBd 4	Ave	23796 578422	57866 743588	96849 895169	267029	419002	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Methylphenol	DCBd 4	Ave	20348 506184	49270 650738	82677 780872	224342	360373	4.00 120	10.0 160	20.0 200	50.0	80.0
2,2'-oxybis[1-chloropropane]	DCBd 4	Qua	43003 895961	104255 1095845	170378 1267878	443135	687503	4.00 120	10.0 160	20.0 200	50.0	80.0
3 & 4 Methylphenol	DCBd 4	Ave	20748 476623	50498 591418	83465 689990	227475	346177	4.00 120	10.0 160	20.0 200	50.0	80.0
N-Nitrosodi-n-propylamine	DCBd 4	Ave	14909 334309	36572 418563	58833 503716	160306	243318	4.00 120	10.0 160	20.0 200	50.0	80.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 434399

SDG No.:

Instrument ID: SMS_K GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/23/2018 13:33 Calibration End Date: 10/23/2018 16:54 Calibration ID: 34118

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Acetophenone	DCBd 4	Ave	30663 639078	69421 789897	117954 939950	314687	476573	4.00 120	10.0 160	20.0 200	50.0	80.0
Hexachloroethane	DCBd 4	Ave	8971 230014	22704 296429	36733 348747	104828	162092	4.00 120	10.0 160	20.0 200	50.0	80.0
Nitrobenzene	NPT	Ave	21789 538429	53527 691307	87686 823757	247152	378647	4.00 120	10.0 160	20.0 200	50.0	80.0
Isophorone	NPT	Ave	40780 914181	93878 1176405	153861 1468168	430676	675539	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Nitrophenol	NPT	Ave	10577 292433	27904 376912	45592 458023	134133	209367	4.00 120	10.0 160	20.0 200	50.0	80.0
2,4-Dimethylphenol	NPT	Ave	20906 493857	50711 629641	81644 763326	228913	356927	4.00 120	10.0 160	20.0 200	50.0	80.0
Bis(2-chloroethoxy)methane	NPT	Ave	24504 569686	57660 726216	96256 879688	263791	405914	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzoic acid	NPT	Lin2	+++++ 769991	55690 1024554	99894 1326877	315069	531530	+++++ 240	20.0 320	40.0 400	100	160
2,4-Dichlorophenol	NPT	Ave	16973 423185	41949 541680	69679 668491	195203	307967	4.00 120	10.0 160	20.0 200	50.0	80.0
1,2,4-Trichlorobenzene	NPT	Ave	20806 470329	48857 607007	80047 725459	221855	342460	4.00 120	10.0 160	20.0 200	50.0	80.0
Naphthalene	NPT	Ave	61630 1374851	146010 1748807	241651 2079988	652648	1005170	4.00 120	10.0 160	20.0 200	50.0	80.0
4-Chloroaniline	NPT	Ave	24284 584758	60077 738390	100826 935656	276100	430695	4.00 120	10.0 160	20.0 200	50.0	80.0
2,6-Dichlorophenol	NPT	Ave	17582 410581	41938 518163	68243 634081	194419	299058	4.00 120	10.0 160	20.0 200	50.0	80.0
Hexachlorobutadiene	NPT	Ave	10819 272056	26539 343986	44480 405687	123996	193294	4.00 120	10.0 160	20.0 200	50.0	80.0
Caprolactam	NPT	Ave	9707 244082	23051 325215	41202 483898	113788	178253	4.00 120	10.0 160	20.0 200	50.0	80.0
4-Chloro-3-methylphenol	NPT	Ave	17102 384208	41017 499389	65978 642467	184485	284689	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Methylnaphthalene	NPT	Ave	42461 962904	104813 1200850	170654 1478843	462867	703799	4.00 120	10.0 160	20.0 200	50.0	80.0
1-Methylnaphthalene	NPT	Ave	40755 903894	96806 1131813	155170 1380102	431984	656942	4.00 120	10.0 160	20.0 200	50.0	80.0
Hexachlorocyclopentadiene	ANT	Ave	11592 304466	29258 384728	48434 470449	142176	224656	4.00 120	10.0 160	20.0 200	50.0	80.0
1,2,4,5-Tetrachlorobenzene	NPT	Ave	20000 418508	47239 529068	74857 648636	199821	305232	4.00 120	10.0 160	20.0 200	50.0	80.0
2,4,6-Trichlorophenol	ANT	Ave	11774 263397	27864 333096	47888 420507	128093	193876	4.00 120	10.0 160	20.0 200	50.0	80.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 434399

SDG No.:

Instrument ID: SMS_K GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/23/2018 13:33 Calibration End Date: 10/23/2018 16:54 Calibration ID: 34118

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
2,4,5-Trichlorophenol	ANT	Ave	12386 292531	30572 377263	49012 498611	136981	212840	4.00 120	10.0 160	20.0 200	50.0	80.0
1,1'-Biphenyl	ANT	Ave	50872 1070372	118927 1349283	192302 1702046	519755	801720	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Chloronaphthalene	ANT	Ave	37764 829374	90014 1051253	145689 1332768	404849	615828	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Nitroaniline	ANT	Ave	10629 246498	25417 325903	42146 457682	117021	185845	4.00 120	10.0 160	20.0 200	50.0	80.0
Dimethyl phthalate	ANT	Ave	37653 787365	90306 1020756	145495 1413397	378089	581262	4.00 120	10.0 160	20.0 200	50.0	80.0
1,3-Dinitrobenzene	ANT	Ave	4713 147550	13340 201254	23958 288701	67599	105309	4.00 120	10.0 160	20.0 200	50.0	80.0
2,6-Dinitrotoluene	ANT	Ave	8432 207218	22188 272641	37099 392124	98117	148850	4.00 120	10.0 160	20.0 200	50.0	80.0
Acenaphthylene	ANT	Ave	57718 1229834	138265 1572215	220982 2034677	595453	909998	4.00 120	10.0 160	20.0 200	50.0	80.0
3-Nitroaniline	ANT	Ave	8968 226696	22842 299418	38469 443090	103961	161570	4.00 120	10.0 160	20.0 200	50.0	80.0
Acenaphthene	ANT	Ave	38711 791508	89087 996673	145794 1300166	389499	586970	4.00 120	10.0 160	20.0 200	50.0	80.0
2,4-Dinitrophenol	ANT	Lin2	+++++ 234441	15689 335434	32328 513584	100089	163562	+++++ 240	20.0 320	40.0 400	100	160
4-Nitrophenol	ANT	Ave	8257 211229	20649 285246	35888 439292	96007	149026	8.00 240	20.0 320	40.0 400	100	160
2,4-Dinitrotoluene	ANT	Ave	10358 258642	25815 341504	45965 510758	118745	187445	4.00 120	10.0 160	20.0 200	50.0	80.0
Dibenzofuran	ANT	Ave	53148 1109480	126033 1407539	204388 1886729	535174	821264	4.00 120	10.0 160	20.0 200	50.0	80.0
2,3,4,6-Tetrachlorophenol	ANT	Ave	8814 229363	22554 298957	39576 430677	107211	162053	4.00 120	10.0 160	20.0 200	50.0	80.0
Diethyl phthalate	ANT	Ave	36441 729884	86286 960471	138761 1372470	357575	542528	4.00 120	10.0 160	20.0 200	50.0	80.0
4-Chlorophenyl phenyl ether	ANT	Ave	20082 395149	45818 510072	74055 694772	196516	294656	4.00 120	10.0 160	20.0 200	50.0	80.0
Fluorene	ANT	Ave	42162 810470	99419 1023040	157964 1393076	408081	600868	4.00 120	10.0 160	20.0 200	50.0	80.0
4-Nitroaniline	ANT	Ave	8607 204160	20974 283554	37628 445099	94097	147045	4.00 120	10.0 160	20.0 200	50.0	80.0
4,6-Dinitro-2-methylphenol	PHN	Lin2	+++++ 270449	20338 377001	42202 575387	120246	196440	+++++ 240	20.0 320	40.0 400	100	160
Diphenylamine	ANT	Ave	28498 612960	69738 806978	115263 1135262	297106	447569	3.40 102	8.50 136	17.0 170	42.5	68.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 434399

SDG No.:

Instrument ID: SMS_K GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/23/2018 13:33 Calibration End Date: 10/23/2018 16:54 Calibration ID: 34118

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
N-Nitrosodiphenylamine	PHN	Ave	28498 612960	69738 806978	115263 1135262	297106	447569	4.00 120	10.0 160	20.0 200	50.0	80.0
1,2-Diphenylhydrazine	ANT	Ave	39254 826606	93775 1075371	153020 1484315	399005	614343	4.04 121	10.1 162	20.2 202	50.5	80.9
Azobenzene	ANT	Ave	39254 826606	93775 1075371	153020 1484315	399005	614343	4.00 120	10.0 160	20.0 200	50.0	80.0
4-Bromophenyl phenyl ether	PHN	Ave	11466 236026	26538 315774	43879 451115	114899	176292	4.00 120	10.0 160	20.0 200	50.0	80.0
Hexachlorobenzene	PHN	Ave	11674 228374	26772 306214	43958 437360	112383	171283	4.00 120	10.0 160	20.0 200	50.0	80.0
Atrazine	PHN	Ave	9595 204308	22528 275278	38434 415351	97129	145972	4.00 120	10.0 160	20.0 200	50.0	80.0
Pentachlorophenol	PHN	Lin2	+++++ 289744	26218 385679	49290 587054	133668	203662	+++++ 240	20.0 320	40.0 400	100	160
Phenanthrene	PHN	Ave	54959 1100913	128967 1465907	221152 2145671	545408	832914	4.00 120	10.0 160	20.0 200	50.0	80.0
Anthracene	PHN	Ave	57670 1143820	133440 1522931	228171 2226050	561054	862193	4.00 120	10.0 160	20.0 200	50.0	80.0
Carbazole	PHN	Ave	47445 1021549	111508 1384033	199399 2048930	489871	750514	4.00 120	10.0 160	20.0 200	50.0	80.0
Alachlor	PHN	Ave	6346 141708	15328 196003	27543 294319	65765	105224	4.00 120	10.0 160	20.0 200	50.0	80.0
Di-n-butyl phthalate	PHN	Ave	51590 1119612	124197 1535501	218104 2279983	533508	820582	4.00 120	10.0 160	20.0 200	50.0	80.0
Fluoranthene	PHN	Ave	51762 1144918	122751 1577733	218444 2418055	536165	826209	4.00 120	10.0 160	20.0 200	50.0	80.0
Pyrene	CRY	Ave	52121 1191627	126077 1654087	226910 2518499	546967	855558	4.00 120	10.0 160	20.0 200	50.0	80.0
Famphur	CRY	Ave	12827 387210	34308 511190	65964 696705	174335	281611	4.00 120	10.0 160	20.0 200	50.0	80.0
Butyl benzyl phthalate	CRY	Ave	17135 495896	44564 699401	83474 1110823	214504	347709	4.00 120	10.0 160	20.0 200	50.0	80.0
3,3'-Dichlorobenzidine	CRY	Ave	11599 316340	27522 461656	53044 755169	137428	220841	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzo[a]anthracene	CRY	Ave	41835 1097785	102623 1556759	188260 2468166	483658	772954	4.00 120	10.0 160	20.0 200	50.0	80.0
Chrysene	CRY	Ave	38843 1074958	99732 1525563	185168 2398580	472949	754929	4.00 120	10.0 160	20.0 200	50.0	80.0
Bis(2-ethylhexyl) phthalate	CRY	Ave	20137 653813	51924 928194	104488 1499308	274553	458211	4.00 120	10.0 160	20.0 200	50.0	80.0
Di-n-octyl phthalate	CRY	Lin2	28585 1079412	75252 1607220	153055 2606177	440225	771023	4.00 120	10.0 160	20.0 200	50.0	80.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 434399

SDG No.:

Instrument ID: SMS_K GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/23/2018 13:33 Calibration End Date: 10/23/2018 16:54 Calibration ID: 34118

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Benzo[b]fluoranthene	PRY	Ave	32261 999236	78027 1445354	153318 2372432	416573	695528	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzo[k]fluoranthene	PRY	Ave	32367 1074645	88002 1525112	173456 2436374	468165	740722	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzo[a]pyrene	PRY	Ave	28624 1017763	81200 1489555	157022 2407134	430196	709253	4.00 120	10.0 160	20.0 200	50.0	80.0
Indeno[1,2,3-cd]pyrene	CRY	Ave	23695 862769	59350 1265753	123689 2116080	340918	595951	4.00 120	10.0 160	20.0 200	50.0	80.0
Dibenz(a,h)anthracene	PRY	Ave	21556 883744	61798 1279318	129649 2098766	358758	610116	4.00 120	10.0 160	20.0 200	50.0	80.0
Benzo[g,h,i]perylene	PRY	Ave	27223 951206	71956 1406320	143576 2271057	397431	659404	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Fluorophenol (Surr)	DCBd 4	Ave	22494 578101	54024 750203	90210 906416	254840	412105	4.00 120	10.0 160	20.0 200	50.0	80.0
Phenol-d5 (Surr)	DCBd 4	Ave	26249 645279	63149 824915	104233 992075	293396	463589	4.00 120	10.0 160	20.0 200	50.0	80.0
Nitrobenzene-d5 (Surr)	NPT	Ave	22185 554555	55567 705078	90935 857019	253784	390650	4.00 120	10.0 160	20.0 200	50.0	80.0
2-Fluorobiphenyl	ANT	Ave	43443 969077	105516 1225804	168608 1532807	467275	713491	4.00 120	10.0 160	20.0 200	50.0	80.0
2,4,6-Tribromophenol (Surr)	ANT	Ave	4804 115739	11450 156471	19542 222763	55006	82150	4.00 120	10.0 160	20.0 200	50.0	80.0
Terphenyl-d14 (Surr)	CRY	Ave	35194 839737	85056 1168820	153641 1814405	381775	598921	4.00 120	10.0 160	20.0 200	50.0	80.0

Curve Type Legend:

Ave = Average ISTD
Lin2 = Linear 1/conc^2 ISTD
Qua = Quadratic ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27112.D
Lims ID: ICIS HSL
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 23-Oct-2018 13:33:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: ICIS HSL
Operator ID: KIEKELD Instrument ID: SMS_K
Sublist: chrom-SMSK_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 24-Oct-2018 06:01:57 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0307

First Level Reviewer: kiekeld Date: 23-Oct-2018 14:26:20

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.429	4.429	0.000	95	134230	40.0	40.0	
* 2 Naphthalene-d8	136	5.639	5.639	0.000	99	523656	40.0	40.0	
* 3 Acenaphthene-d10	164	7.384	7.384	0.000	93	248540	40.0	40.0	
* 4 Phenanthrene-d10	188	8.865	8.865	0.000	97	386822	40.0	40.0	
* 5 Chrysene-d12	240	12.684	12.684	0.000	99	304119	40.0	40.0	
* 6 Perylene-d12	264	16.433	16.433	0.000	98	288986	40.0	40.0	
$ 7 2-Fluorophenol	112	3.266	3.266	0.000	94	412105	80.0	82.3	
$ 8 Phenol-d5	99	4.065	4.065	0.000	96	463589	80.0	81.5	
$ 9 Nitrobenzene-d5	82	4.940	4.940	0.000	94	390650	80.0	79.0	
$ 11 2-Fluorobiphenyl	172	6.703	6.703	0.000	100	713491	80.0	82.2	
$ 12 2,4,6-Tribromophenol	330	8.172	8.172	0.000	94	82150	80.0	79.3	
$ 13 Terphenyl-d14	244	10.716	10.716	0.000	98	598921	80.0	80.3	
19 1,4-Dioxane	88	1.961	1.961	0.000	94	177940	80.0	83.7	
20 N-Nitrosodimethylamine	74	2.173	2.173	0.000	84	275310	80.0	83.9	
21 Pyridine	79	2.220	2.220	0.000	81	875416	160.0	165.7	
32 Phenol	94	4.082	4.082	0.000	97	486420	80.0	82.5	
34 Aniline	93	4.117	4.117	0.000	96	583663	80.0	80.9	
35 Alpha Methyl Styrene	118	4.170	4.170	0.000	93	400717	80.0	81.1	
36 Bis(2-chloroethyl)ether	93	4.164	4.164	0.000	90	354771	80.0	80.9	
38 n-Decane	43	4.276	4.276	0.000	94	565880	80.0	82.4	
39 2-Chlorophenol	128	4.235	4.235	0.000	98	398327	80.0	82.2	
40 1,3-Dichlorobenzene	146	4.382	4.382	0.000	98	436734	80.0	80.8	
42 1,4-Dichlorobenzene	146	4.446	4.446	0.000	93	438626	80.0	80.8	
43 Benzyl alcohol	108	4.541	4.541	0.000	92	258715	80.0	80.8	
44 1,2-Dichlorobenzene	146	4.588	4.588	0.000	97	419002	80.0	81.1	
45 2-Methylphenol	108	4.640	4.640	0.000	96	360373	80.0	81.1	
46 2,2'-oxybis[1-chloropropan	45	4.670	4.670	0.000	92	687503	80.0	83.9	
47 Indene	116	4.670	4.670	0.000	92	1179141	160.0	159.2	
49 3 & 4 Methylphenol	108	4.787	4.787	0.000	79	346177	80.0	80.1	
50 3-Methylphenol	108	4.787	4.787	0.000	89	346177	80.0	80.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
51 4-Methylphenol	108	4.787	4.787	0.000	91	346177	80.0	80.1	
52 N-Nitrosodi-n-propylamine	70	4.787	4.787	0.000	90	243318	80.0	79.1	
54 Acetophenone	105	4.793	4.793	0.000	93	476573	80.0	79.5	
58 Hexachloroethane	117	4.911	4.911	0.000	92	162092	80.0	80.6	
59 Nitrobenzene	77	4.958	4.958	0.000	97	378647	80.0	78.9	
63 Isophorone	82	5.181	5.181	0.000	98	675539	80.0	79.8	
64 2-Nitrophenol	139	5.263	5.263	0.000	94	209367	80.0	81.9	
65 2,4-Dimethylphenol	107	5.298	5.298	0.000	94	356927	80.0	79.6	
68 Benzoic acid	105	5.410	5.410	0.000	92	531530	160.0	160.5	
69 Bis(2-chloroethoxy)methane	93	5.381	5.381	0.000	95	405914	80.0	78.4	
71 3,5-Dimethylphenol	107	5.428	5.428	0.000	84	364129	80.0	81.4	
74 2,4-Dichlorophenol	162	5.498	5.498	0.000	95	307967	80.0	80.9	
76 1,2,4-Trichlorobenzene	180	5.586	5.586	0.000	94	342460	80.0	79.0	
79 Naphthalene	128	5.663	5.663	0.000	98	1005170	80.0	78.8	
80 4-Chloroaniline	127	5.704	5.704	0.000	96	430695	80.0	80.3	
81 2,6-Dichlorophenol	162	5.721	5.721	0.000	97	299058	80.0	79.9	
83 Hexachlorobutadiene	225	5.792	5.792	0.000	95	193294	80.0	80.4	
86 Caprolactam	55	6.027	6.027	0.000	73	178253	80.0	78.7	M
89 4-Chloro-3-methylphenol	107	6.180	6.180	0.000	95	284689	80.0	78.8	
93 2-Methylnaphthalene	142	6.344	6.344	0.000	95	703799	80.0	78.5	
96 1-Methylnaphthalene	142	6.444	6.444	0.000	96	656942	80.0	78.5	
97 Hexachlorocyclopentadiene	237	6.515	6.515	0.000	95	224656	80.0	87.0	
98 1,2,4,5-Tetrachlorobenzene	216	6.515	6.515	0.000	97	305232	80.0	76.9	
100 2,4,6-Trichlorophenol	196	6.620	6.620	0.000	94	193876	80.0	81.9	
101 2,3-Dichlorobenzenamine	161	6.620	6.620	0.000	96	318720	80.0	80.5	
102 2,4,5-Trichlorophenol	196	6.656	6.656	0.000	94	212840	80.0	82.2	
104 1,1'-Biphenyl	154	6.803	6.803	0.000	95	801720	80.0	82.1	
106 2-Chloronaphthalene	162	6.826	6.826	0.000	96	615828	80.0	82.3	
108 2-Nitroaniline	65	6.914	6.914	0.000	85	185845	80.0	83.3	
111 Dimethyl phthalate	163	7.096	7.096	0.000	99	581262	80.0	79.2	
112 1,3-Dinitrobenzene	168	7.120	7.120	0.000	89	105309	80.0	83.4	
113 2,6-Dinitrotoluene	165	7.155	7.155	0.000	94	148850	80.0	79.4	
114 Acenaphthylene	152	7.243	7.243	0.000	99	909998	80.0	80.8	
115 3-Nitroaniline	138	7.326	7.326	0.000	94	161570	80.0	80.3	
117 Acenaphthene	153	7.414	7.414	0.000	94	586970	80.0	80.3	
118 2,4-Dinitrophenol	184	7.425	7.425	0.000	82	163562	160.0	153.7	
119 4-Nitrophenol	109	7.490	7.490	0.000	95	149026	160.0	158.2	
122 2,4-Dinitrotoluene	165	7.561	7.561	0.000	95	187445	80.0	80.8	
123 Dibenzofuran	168	7.584	7.584	0.000	98	821264	80.0	80.1	
125 2,3,4,6-Tetrachlorophenol	232	7.707	7.707	0.000	72	162053	80.0	80.4	
127 Hexadecane	57	7.825	7.825	0.000	90	544877	80.0	83.2	
130 Diethyl phthalate	149	7.801	7.801	0.000	99	542528	80.0	77.8	
134 4-Chlorophenyl phenyl ethe	204	7.919	7.919	0.000	94	294656	80.0	78.8	
135 Fluorene	166	7.931	7.931	0.000	94	600868	80.0	77.4	
138 4-Nitroaniline	138	7.937	7.937	0.000	84	147045	80.0	77.6	
139 4,6-Dinitro-2-methylphenol	198	7.972	7.972	0.000	85	196440	160.0	164.3	
141 N-Nitrosodiphenylamine	169	8.036	8.036	0.000	63	447569	80.0	81.3	
142 Diphenylamine	169	8.036	8.036	0.000	95	447569	68.0	66.4	
143 1,2-Diphenylhydrazine	77	8.078	8.078	0.000	41	614343	80.9	80.6	
144 Azobenzene	77	8.078	8.078	0.000	98	614343	80.0	79.7	
147 2,4,6 - Tribromophenol	330	8.172	8.172	0.000	94	83785	80.0	80.4	
156 4-Bromophenyl phenyl ether	248	8.413	8.413	0.000	68	176292	80.0	82.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
157 Hexachlorobenzene	284	8.495	8.495	0.000	95	171283	80.0	80.9	
159 Atrazine	200	8.565	8.565	0.000	91	145972	80.0	79.1	
161 n-Octadecane	85	8.747	8.747	0.000	91	164252	80.0	83.7	
163 Pentachlorophenol	266	8.683	8.683	0.000	93	203662	160.0	161.3	
168 Phenanthrene	178	8.888	8.888	0.000	97	832914	80.0	81.2	
169 Anthracene	178	8.941	8.941	0.000	97	862193	80.0	81.1	
170 Carbazole	167	9.094	9.094	0.000	95	750514	80.0	80.9	
171 Alachlor	188	9.235	9.235	0.000	92	105224	80.0	81.9	
173 Di-n-butyl phthalate	149	9.435	9.435	0.000	99	820582	80.0	80.4	
179 Fluoranthene	202	10.187	10.187	0.000	98	826209	80.0	79.9	
182 Pyrene	202	10.492	10.492	0.000	97	855558	80.0	79.5	
188 Famphur	218	11.433	11.433	0.000	84	281611	80.0	88.8	
190 Butyl benzyl phthalate	149	11.556	11.556	0.000	97	347709	80.0	83.3	
195 Bis(2-ethylhexyl) phthalat	149	12.860	12.860	0.000	97	458211	80.0	86.2	
197 3,3'-Dichlorobenzidine	252	12.625	12.625	0.000	73	220841	80.0	81.7	
198 Benzo[a]anthracene	228	12.661	12.661	0.000	98	772954	80.0	81.7	
199 Chrysene	228	12.743	12.743	0.000	97	754929	80.0	82.2	
201 Di-n-octyl phthalate	149	14.588	14.588	0.000	99	771023	80.0	85.3	
203 Benzo[b]fluoranthene	252	15.387	15.387	0.000	97	695528	80.0	83.7	
204 Benzo[k]fluoranthene	252	15.463	15.463	0.000	99	740722	80.0	82.9	
206 Benzo[e]pyrene	252	16.139	16.139	0.000	97	665362	80.0	83.9	
207 Benzo[a]pyrene	252	16.280	16.280	0.000	77	709253	80.0	84.6	
213 Dibenz(a,h)anthracene	278	19.570	19.570	0.000	93	610116	80.0	87.7	
214 Indeno[1,2,3-cd]pyrene	276	19.476	19.476	0.000	98	595951	80.0	88.1	
215 Benzo[g,h,i]perylene	276	20.193	20.193	0.000	98	659404	80.0	84.8	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLA080_00039 Amount Added: 200.00 Units: uL

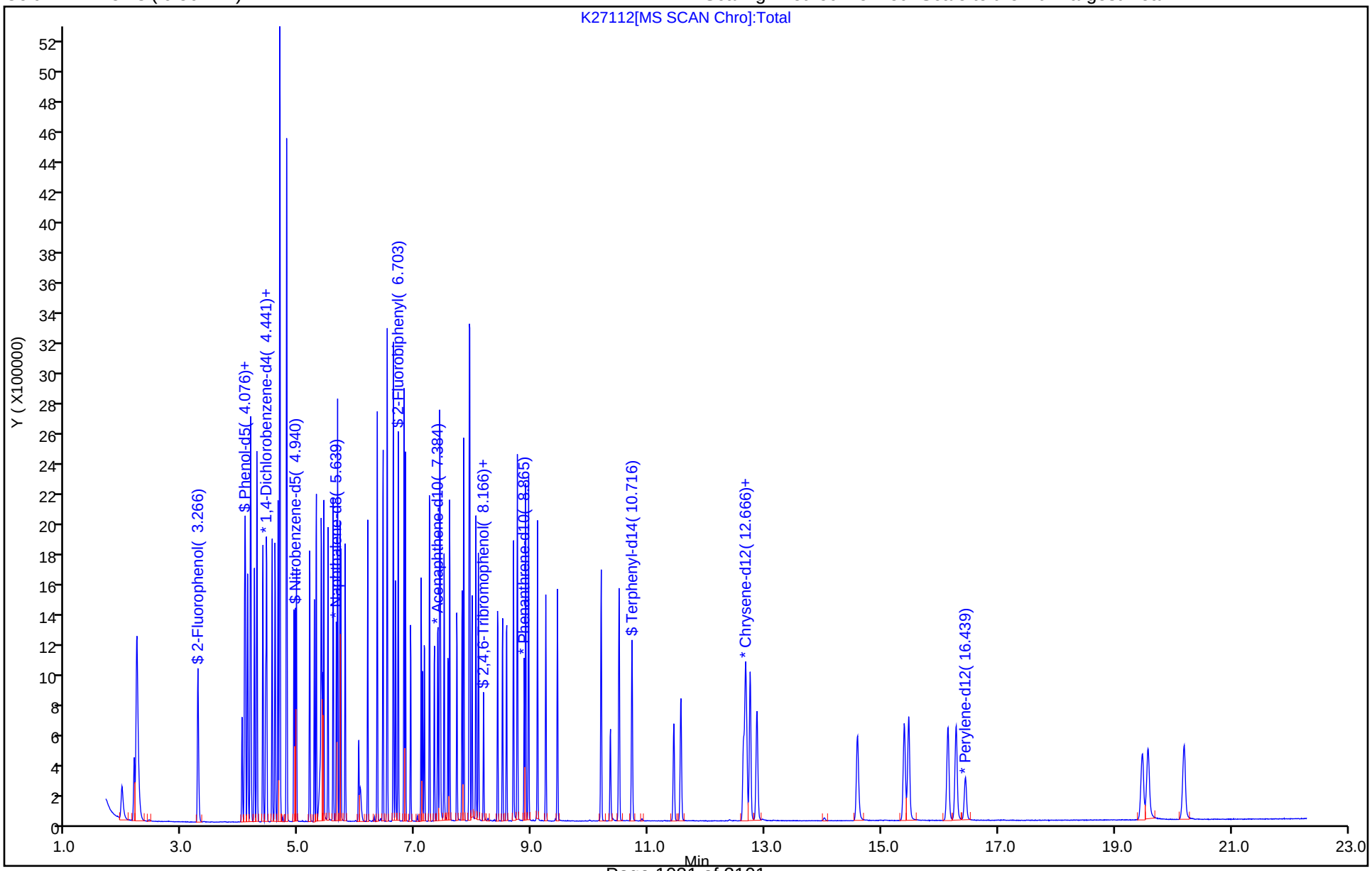
Report Date: 24-Oct-2018 06:01:59 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27112.D

Injection Date:	23-Oct-2018 13:33:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	ICIS HSL			Worklist Smp#:	3
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

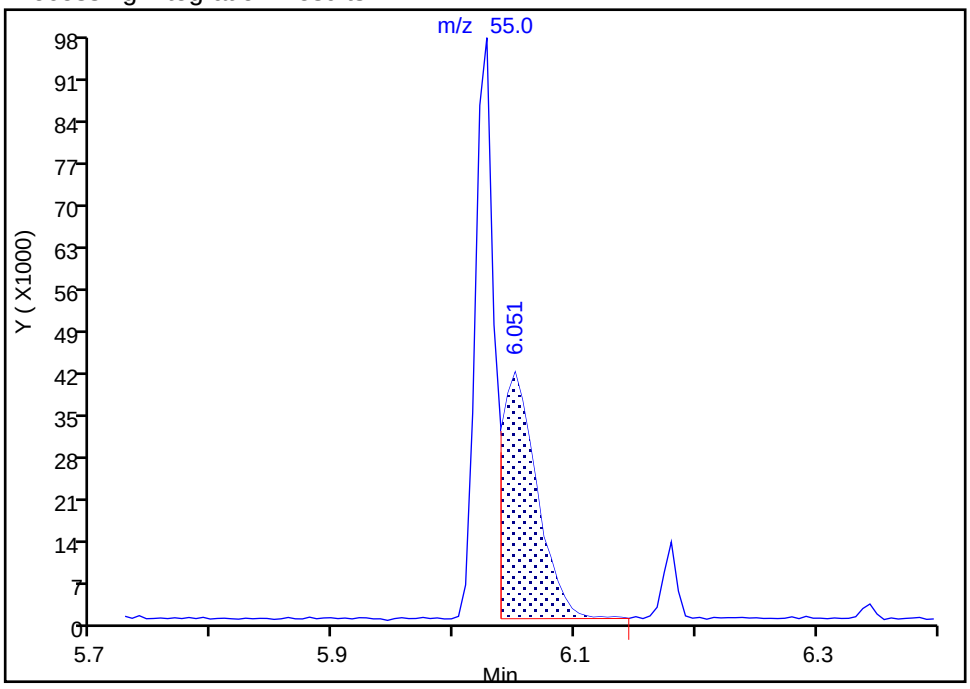
Data File:	\\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27112.D				
Injection Date:	23-Oct-2018 13:33:30	Instrument ID:	SMS_K		
Lims ID:	ICIS HSL				
Client ID:					
Operator ID:	KIEKELD	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	0.5 ul	Dil. Factor:	1.0000		
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		
Column:	VF-5ms (0.50 mm)	Detector	MS SCAN		

86 Caprolactam, CAS: 105-60-2

Signal: 1

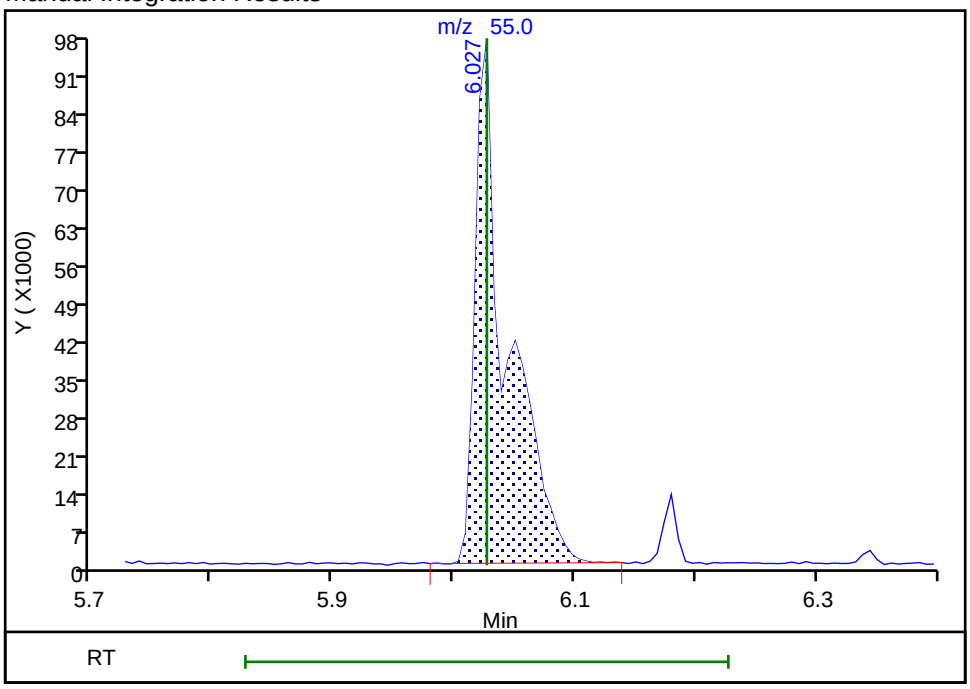
Processing Integration Results

RT: 6.05
Area: 83429
Amount: 80.000000
Amount Units: ug/ml



Manual Integration Results

RT: 6.03
Area: 178253
Amount: 78.672362
Amount Units: ug/ml



Reviewer: kiekeld, 23-Oct-2018 14:27:09

Audit Action: Manually Integrated Audit Reason: Split Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27113.D
Lims ID: STD004 HSL
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 23-Oct-2018 14:01:30 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD004 HSL
Operator ID: KIEKELD Instrument ID: SMS_K
Sublist: chrom-SMSK_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 24-Oct-2018 06:02:05 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0307

First Level Reviewer: kiekeld Date: 23-Oct-2018 14:30:28

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.423	4.429	-0.006	96	138769	40.0	40.0	
* 2 Naphthalene-d8	136	5.639	5.639	0.000	100	544627	40.0	40.0	
* 3 Acenaphthene-d10	164	7.379	7.384	-0.005	94	289301	40.0	40.0	
* 4 Phenanthrene-d10	188	8.859	8.865	-0.006	98	473205	40.0	40.0	
* 5 Chrysene-d12	240	12.673	12.684	-0.011	99	322995	40.0	40.0	
* 6 Perylene-d12	264	16.427	16.433	-0.006	98	276779	40.0	40.0	
$ 7 2-Fluorophenol	112	3.266	3.266	0.000	93	22494	4.00	4.34	
$ 8 Phenol-d5	99	4.065	4.065	0.000	97	26249	4.00	4.46	
$ 9 Nitrobenzene-d5	82	4.934	4.940	-0.006	95	22185	4.00	4.31	
$ 11 2-Fluorobiphenyl	172	6.697	6.703	-0.006	100	43443	4.00	4.30	
$ 12 2,4,6-Tribromophenol	330	8.166	8.172	-0.006	93	4804	4.00	3.98	
$ 13 Terphenyl-d14	244	10.710	10.716	-0.006	98	35194	4.00	4.44	
19 1,4-Dioxane	88	1.961	1.961	0.000	95	9604	4.00	4.37	M
20 N-Nitrosodimethylamine	74	2.173	2.173	0.000	85	14394	4.00	4.24	
21 Pyridine	79	2.220	2.220	0.000	80	46347	8.00	8.49	
32 Phenol	94	4.077	4.082	-0.005	96	27328	4.00	4.48	
34 Aniline	93	4.112	4.117	-0.005	96	32195	4.00	4.31	
35 Alpha Methyl Styrene	118	4.171	4.170	0.001	94	23879	4.00	4.68	
36 Bis(2-chloroethyl)ether	93	4.159	4.164	-0.005	91	20464	4.00	4.51	
38 n-Decane	43	4.276	4.276	0.000	94	31475	4.00	4.44	
39 2-Chlorophenol	128	4.235	4.235	0.000	99	21801	4.00	4.35	
40 1,3-Dichlorobenzene	146	4.376	4.382	-0.006	97	24895	4.00	4.45	
42 1,4-Dichlorobenzene	146	4.441	4.446	-0.005	93	25685	4.00	4.58	
43 Benzyl alcohol	108	4.535	4.541	-0.005	93	14343	4.00	4.33	
44 1,2-Dichlorobenzene	146	4.588	4.588	0.000	96	23796	4.00	4.45	
45 2-Methylphenol	108	4.635	4.640	-0.005	96	20348	4.00	4.43	
46 2,2'-oxybis[1-chloropropan	45	4.664	4.670	-0.006	92	43003	4.00	3.56	
47 Indene	116	4.670	4.670	0.000	92	73113	8.00	9.55	
49 3 & 4 Methylphenol	108	4.782	4.787	-0.005	83	20748	4.00	4.64	
50 3-Methylphenol	108	4.782	4.787	-0.005	94	20748	4.00	4.64	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
51 4-Methylphenol	108	4.782	4.787	-0.005	93	20748	4.00	4.64	
52 N-Nitrosodi-n-propylamine	70	4.782	4.787	-0.005	95	14909	4.00	4.69	
54 Acetophenone	105	4.788	4.793	-0.005	93	30663	4.00	4.95	
58 Hexachloroethane	117	4.911	4.911	0.000	91	8971	4.00	4.32	
59 Nitrobenzene	77	4.952	4.958	-0.006	96	21789	4.00	4.36	
63 Isophorone	82	5.175	5.181	-0.006	97	40780	4.00	4.63	
64 2-Nitrophenol	139	5.263	5.263	0.000	92	10577	4.00	3.98	
65 2,4-Dimethylphenol	107	5.293	5.298	-0.005	94	20906	4.00	4.49	
68 Benzoic acid	105	5.328	5.410	-0.082	92	19023	8.00	10.8	a
69 Bis(2-chloroethoxy)methane	93	5.381	5.381	0.000	96	24504	4.00	4.55	
71 3,5-Dimethylphenol	107	5.422	5.428	-0.006	82	20899	4.00	4.49	
74 2,4-Dichlorophenol	162	5.493	5.498	-0.005	94	16973	4.00	4.29	
76 1,2,4-Trichlorobenzene	180	5.581	5.586	-0.005	92	20806	4.00	4.61	
79 Naphthalene	128	5.657	5.663	-0.006	97	61630	4.00	4.64	
80 4-Chloroaniline	127	5.698	5.704	-0.006	96	24284	4.00	4.35	
81 2,6-Dichlorophenol	162	5.716	5.721	-0.005	96	17582	4.00	4.52	
83 Hexachlorobutadiene	225	5.792	5.792	0.000	96	10819	4.00	4.32	
86 Caprolactam	55	5.998	6.027	-0.029	73	9707	4.00	4.12	
89 4-Chloro-3-methylphenol	107	6.174	6.180	-0.006	95	17102	4.00	4.55	
93 2-Methylnaphthalene	142	6.339	6.344	-0.005	95	42461	4.00	4.56	
96 1-Methylnaphthalene	142	6.439	6.444	-0.005	96	40755	4.00	4.68	
97 Hexachlorocyclopentadiene	237	6.509	6.515	-0.006	96	11592	4.00	3.86	
98 1,2,4,5-Tetrachlorobenzene	216	6.509	6.515	-0.006	96	20000	4.00	4.84	
100 2,4,6-Trichlorophenol	196	6.615	6.620	-0.005	76	11774	4.00	4.27	
101 2,3-Dichlorobenzenamine	161	6.615	6.620	-0.005	92	20728	4.00	4.50	
102 2,4,5-Trichlorophenol	196	6.656	6.656	0.000	95	12386	4.00	4.11	
104 1,1'-Biphenyl	154	6.797	6.803	-0.006	94	50872	4.00	4.48	
106 2-Chloronaphthalene	162	6.820	6.826	-0.006	96	37764	4.00	4.34	
108 2-Nitroaniline	65	6.909	6.914	-0.005	82	10629	4.00	4.09	
111 Dimethyl phthalate	163	7.091	7.096	-0.005	99	37653	4.00	4.41	
112 1,3-Dinitrobenzene	168	7.114	7.120	-0.006	86	4713	4.00	3.21	
113 2,6-Dinitrotoluene	165	7.150	7.155	-0.005	93	8432	4.00	3.87	
114 Acenaphthylene	152	7.238	7.243	-0.005	98	57718	4.00	4.40	
115 3-Nitroaniline	138	7.320	7.326	-0.006	92	8968	4.00	3.83	
117 Acenaphthene	153	7.408	7.414	-0.006	93	38711	4.00	4.55	
118 2,4-Dinitrophenol	184	7.420	7.425	-0.005	76	5344	8.00	12.6	
119 4-Nitrophenol	109	7.484	7.490	-0.006	95	8257	8.00	7.53	
122 2,4-Dinitrotoluene	165	7.555	7.561	-0.006	92	10358	4.00	3.84	
123 Dibenzofuran	168	7.578	7.584	-0.006	97	53148	4.00	4.45	
125 2,3,4,6-Tetrachlorophenol	232	7.708	7.707	0.001	72	8814	4.00	3.76	
127 Hexadecane	57	7.825	7.825	0.000	90	32469	4.00	4.26	
130 Diethyl phthalate	149	7.796	7.801	-0.005	99	36441	4.00	4.49	
134 4-Chlorophenyl phenyl ethe	204	7.919	7.919	0.000	91	20082	4.00	4.61	
135 Fluorene	166	7.925	7.931	-0.006	93	42162	4.00	4.67	
138 4-Nitroaniline	138	7.925	7.937	-0.012	57	8607	4.00	3.90	
139 4,6-Dinitro-2-methylphenol	198	7.960	7.972	-0.012	82	7195	8.00	11.1	
141 N-Nitrosodiphenylamine	169	8.031	8.036	-0.005	64	28498	4.00	4.23	
142 Diphenylamine	169	8.031	8.036	-0.005	94	28498	3.40	3.63	
143 1,2-Diphenylhydrazine	77	8.072	8.078	-0.006	41	39254	4.04	4.42	
144 Azobenzene	77	8.072	8.078	-0.006	98	39254	4.00	4.38	
147 2,4,6 - Tribromophenol	330	8.166	8.172	-0.006	93	4804	4.00	3.96	
156 4-Bromophenyl phenyl ether	248	8.407	8.413	-0.005	68	11466	4.00	4.37	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
157 Hexachlorobenzene	284	8.489	8.495	-0.006	94	11674	4.00	4.51	
159 Atrazine	200	8.554	8.565	-0.011	90	9595	4.00	4.25	
161 n-Octadecane	85	8.742	8.747	-0.005	92	10682	4.00	4.45	
163 Pentachlorophenol	266	8.677	8.683	-0.006	93	10243	8.00	9.27	
168 Phenanthrene	178	8.883	8.888	-0.005	98	54959	4.00	4.38	
169 Anthracene	178	8.936	8.941	-0.005	97	57670	4.00	4.43	
170 Carbazole	167	9.088	9.094	-0.006	95	47445	4.00	4.18	
171 Alachlor	188	9.229	9.235	-0.006	92	6346	4.00	4.04	
173 Di-n-butyl phthalate	149	9.429	9.435	-0.006	99	51590	4.00	4.13	
179 Fluoranthene	202	10.181	10.187	-0.006	97	51762	4.00	4.09	
182 Pyrene	202	10.487	10.492	-0.005	98	52121	4.00	4.56	
188 Famphur	218	11.421	11.433	-0.012	84	12827	4.00	3.81	
190 Butyl benzyl phthalate	149	11.544	11.556	-0.012	98	17135	4.00	3.86	
195 Bis(2-ethylhexyl) phthalat	149	12.855	12.860	-0.005	95	20137	4.00	3.57	
197 3,3'-Dichlorobenzidine	252	12.614	12.625	-0.011	72	11599	4.00	4.04	
198 Benzo[a]anthracene	228	12.649	12.661	-0.012	97	41835	4.00	4.16	
199 Chrysene	228	12.731	12.743	-0.012	97	38843	4.00	3.98	
201 Di-n-octyl phthalate	149	14.570	14.588	-0.018	99	28585	4.00	4.22	
203 Benzo[b]fluoranthene	252	15.369	15.387	-0.018	96	32261	4.00	4.05	
204 Benzo[k]fluoranthene	252	15.440	15.463	-0.023	98	32367	4.00	3.78	
206 Benzo[e]pyrene	252	16.116	16.139	-0.023	96	29909	4.00	3.94	
207 Benzo[a]pyrene	252	16.251	16.280	-0.029	78	28624	4.00	3.57	
213 Dibenz(a,h)anthracene	278	19.547	19.570	-0.023	92	21556	4.00	3.23	
214 Indeno[1,2,3-cd]pyrene	276	19.447	19.476	-0.029	98	23695	4.00	3.30	
215 Benzo[g,h,i]perylene	276	20.158	20.193	-0.035	99	27223	4.00	3.65	
S 217 Total Cresols	108				0			9.07	
S 218 Methyl Phenols,Total	108				0			9.07	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

MS-HSLA004_00039 Amount Added: 200.00 Units: uL

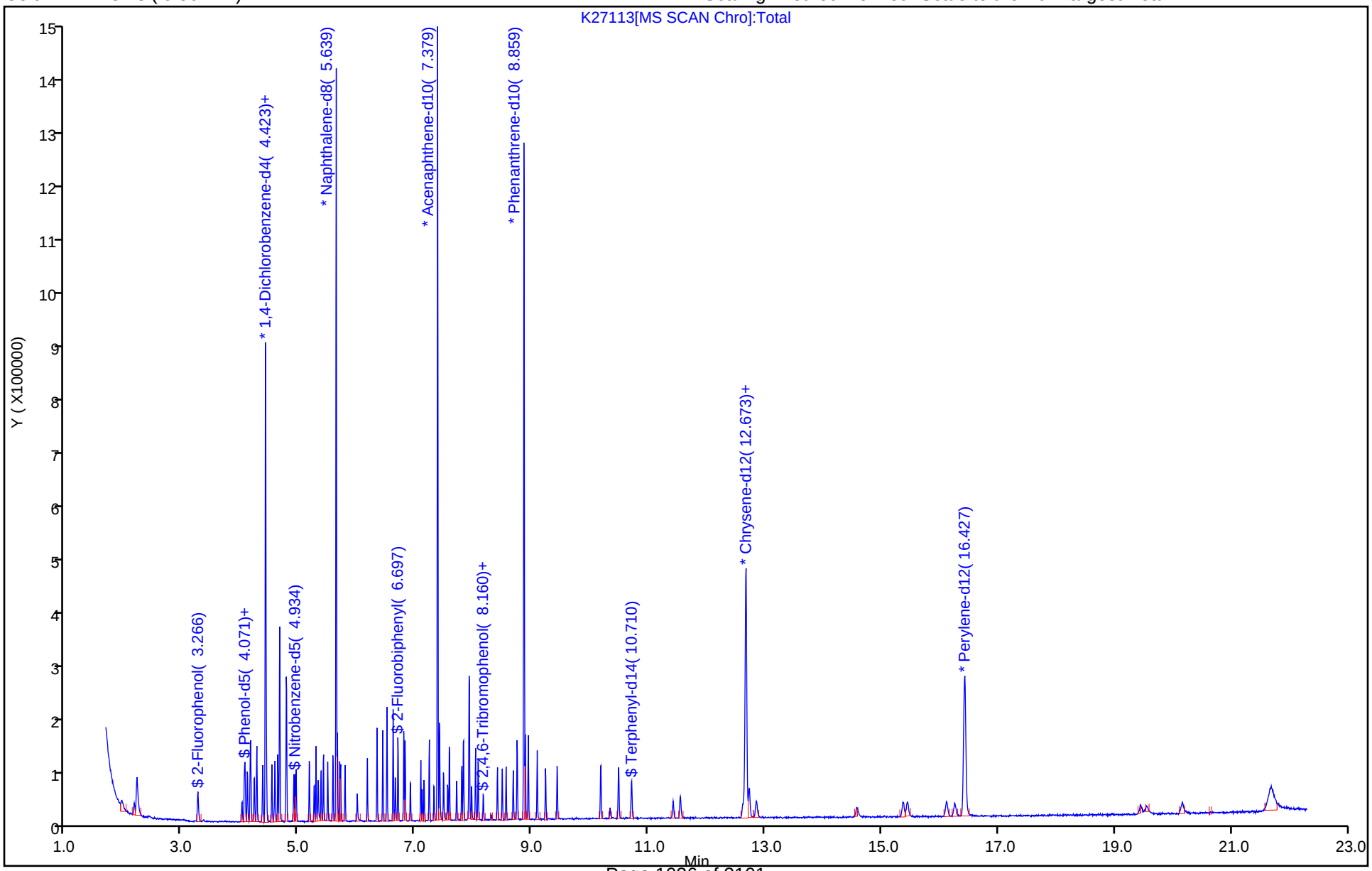
Report Date: 24-Oct-2018 06:02:06 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27113.D

Injection Date:	23-Oct-2018 14:01:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	STD004 HSL			Worklist Smp#:	4
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

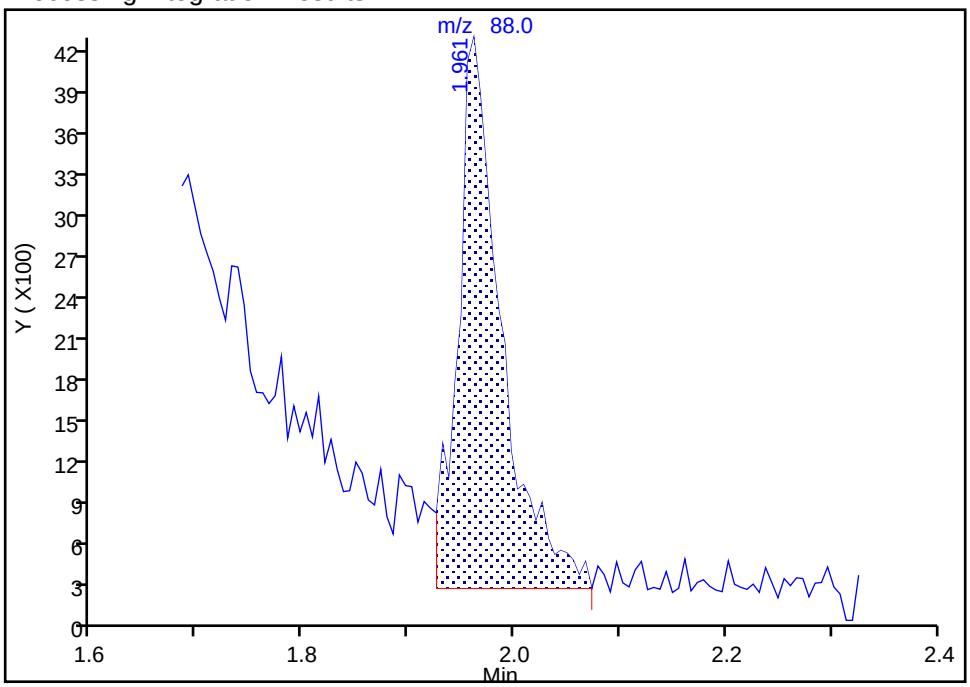
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27113.D
Injection Date: 23-Oct-2018 14:01:30 Instrument ID: SMS_K
Lims ID: STD004 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

19 1,4-Dioxane, CAS: 123-91-1

Signal: 1

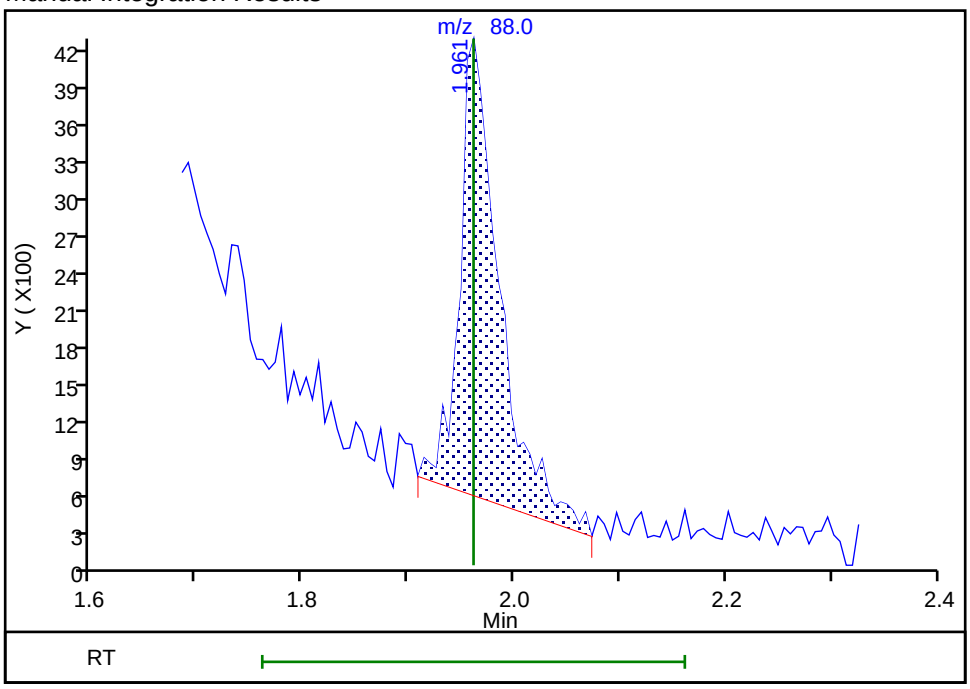
Processing Integration Results

RT: 1.96
Area: 11477
Amount: 4.000000
Amount Units: ug/ml



Manual Integration Results

RT: 1.96
Area: 9604
Amount: 4.367990
Amount Units: ug/ml



Reviewer: kiekeld, 23-Oct-2018 14:29:14
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

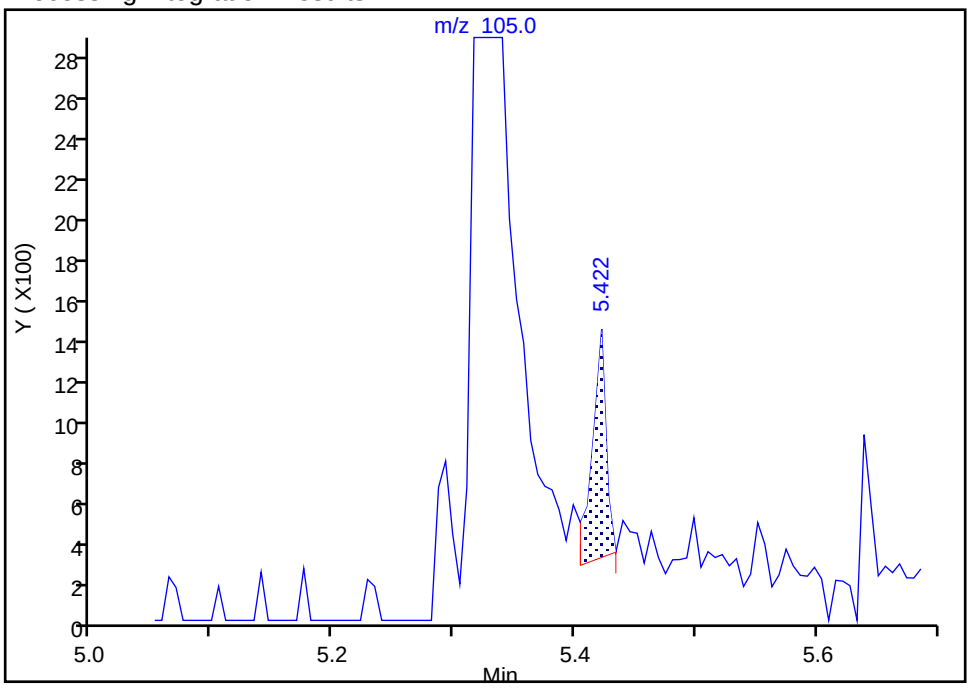
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27113.D
Injection Date: 23-Oct-2018 14:01:30 Instrument ID: SMS_K
Lims ID: STD004 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

68 Benzoic acid, CAS: 65-85-0

Signal: 1

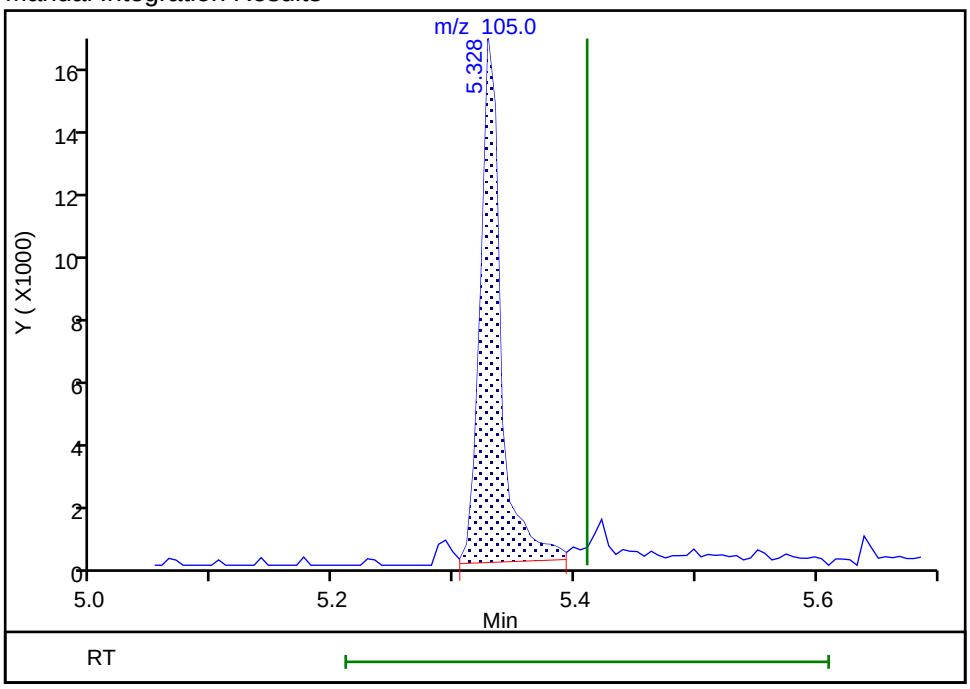
Processing Integration Results

RT: 5.42
Area: 887
Amount: 8.000000
Amount Units: ug/ml



Manual Integration Results

RT: 5.33
Area: 19023
Amount: 10.777449
Amount Units: ug/ml



Reviewer: kiekeld, 23-Oct-2018 14:29:34
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27114.D
Lims ID: STD010 HSL
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 23-Oct-2018 14:30:30 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD010 HSL
Operator ID: KIEKELD Instrument ID: SMS_K
Sublist: chrom-SMSK_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 24-Oct-2018 06:02:13 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0307

First Level Reviewer: kiekeld Date: 23-Oct-2018 15:34:13

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.423	4.429	-0.006	95	142810	40.0	40.0	
* 2 Naphthalene-d8	136	5.639	5.639	0.000	100	558610	40.0	40.0	
* 3 Acenaphthene-d10	164	7.379	7.384	-0.005	94	287609	40.0	40.0	
* 4 Phenanthrene-d10	188	8.859	8.865	-0.006	98	459302	40.0	40.0	
* 5 Chrysene-d12	240	12.673	12.684	-0.011	99	321825	40.0	40.0	
* 6 Perylene-d12	264	16.421	16.433	-0.012	98	280056	40.0	40.0	
$ 7 2-Fluorophenol	112	3.266	3.266	0.000	95	54024	10.0	10.1	
$ 8 Phenol-d5	99	4.065	4.065	0.000	98	63149	10.0	10.4	
$ 9 Nitrobenzene-d5	82	4.934	4.940	-0.006	95	55567	10.0	10.5	
$ 11 2-Fluorobiphenyl	172	6.697	6.703	-0.006	100	105516	10.0	10.5	
$ 12 2,4,6-Tribromophenol	330	8.166	8.172	-0.006	92	11450	10.0	9.55	
$ 13 Terphenyl-d14	244	10.704	10.716	-0.012	98	85056	10.0	10.8	
19 1,4-Dioxane	88	1.961	1.961	0.000	94	20944	10.0	9.26	M
20 N-Nitrosodimethylamine	74	2.173	2.173	0.000	82	34224	10.0	9.80	
21 Pyridine	79	2.220	2.220	0.000	81	113169	20.0	20.1	
32 Phenol	94	4.077	4.082	-0.005	97	65336	10.0	10.4	
34 Aniline	93	4.118	4.117	0.001	96	79417	10.0	10.3	
35 Alpha Methyl Styrene	118	4.171	4.170	0.001	93	55261	10.0	10.5	
36 Bis(2-chloroethyl)ether	93	4.159	4.164	-0.005	91	51362	10.0	11.0	
38 n-Decane	43	4.276	4.276	0.000	94	77593	10.0	10.6	
39 2-Chlorophenol	128	4.235	4.235	0.000	98	53160	10.0	10.3	
40 1,3-Dichlorobenzene	146	4.376	4.382	-0.006	98	60941	10.0	10.6	
42 1,4-Dichlorobenzene	146	4.441	4.446	-0.005	95	60141	10.0	10.4	
43 Benzyl alcohol	108	4.535	4.541	-0.005	93	35970	10.0	10.6	
44 1,2-Dichlorobenzene	146	4.588	4.588	0.000	97	57866	10.0	10.5	
45 2-Methylphenol	108	4.635	4.640	-0.005	96	49270	10.0	10.4	
46 2,2'-oxybis[1-chloropropan	45	4.664	4.670	-0.006	91	104255	10.0	9.83	
47 Indene	116	4.670	4.670	0.000	93	179155	20.0	22.7	
49 3 & 4 Methylphenol	108	4.782	4.787	-0.005	83	50498	10.0	11.0	
50 3-Methylphenol	108	4.782	4.787	-0.005	92	50498	10.0	11.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
51 4-Methylphenol	108	4.782	4.787	-0.005	94	50498	10.0	11.0	
52 N-Nitrosodi-n-propylamine	70	4.782	4.787	-0.005	96	36572	10.0	11.2	
54 Acetophenone	105	4.787	4.793	-0.006	93	69421	10.0	10.9	
58 Hexachloroethane	117	4.911	4.911	0.000	94	22704	10.0	10.6	
59 Nitrobenzene	77	4.952	4.958	-0.006	95	53527	10.0	10.4	
63 Isophorone	82	5.175	5.181	-0.006	97	93878	10.0	10.4	
64 2-Nitrophenol	139	5.263	5.263	0.000	93	27904	10.0	10.2	
65 2,4-Dimethylphenol	107	5.293	5.298	-0.005	94	50711	10.0	10.6	
68 Benzoic acid	105	5.346	5.410	-0.064	92	55690	20.0	20.7	a
69 Bis(2-chloroethoxy)methane	93	5.381	5.381	0.000	95	57660	10.0	10.4	
71 3,5-Dimethylphenol	107	5.422	5.428	-0.006	84	50619	10.0	10.6	
74 2,4-Dichlorophenol	162	5.493	5.498	-0.005	95	41949	10.0	10.3	
76 1,2,4-Trichlorobenzene	180	5.581	5.586	-0.005	94	48857	10.0	10.6	
79 Naphthalene	128	5.657	5.663	-0.006	97	146010	10.0	10.7	
80 4-Chloroaniline	127	5.698	5.704	-0.006	96	60077	10.0	10.5	
81 2,6-Dichlorophenol	162	5.716	5.721	-0.005	96	41938	10.0	10.5	
83 Hexachlorobutadiene	225	5.792	5.792	0.000	96	26539	10.0	10.3	
86 Caprolactam	55	5.998	6.027	-0.029	72	23051	10.0	9.54	
89 4-Chloro-3-methylphenol	107	6.174	6.180	-0.006	95	41017	10.0	10.6	
93 2-Methylnaphthalene	142	6.339	6.344	-0.005	95	104813	10.0	11.0	
96 1-Methylnaphthalene	142	6.439	6.444	-0.005	95	96806	10.0	10.8	
97 Hexachlorocyclopentadiene	237	6.509	6.515	-0.006	95	29258	10.0	9.80	
98 1,2,4,5-Tetrachlorobenzene	216	6.509	6.515	-0.006	97	47239	10.0	11.2	
100 2,4,6-Trichlorophenol	196	6.615	6.620	-0.005	77	27864	10.0	10.2	
101 2,3-Dichlorobenzenamine	161	6.615	6.620	-0.005	92	48782	10.0	10.6	
102 2,4,5-Trichlorophenol	196	6.656	6.656	0.000	93	30572	10.0	10.2	
104 1,1'-Biphenyl	154	6.797	6.803	-0.006	95	118927	10.0	10.5	
106 2-Chloronaphthalene	162	6.820	6.826	-0.006	96	90014	10.0	10.4	
108 2-Nitroaniline	65	6.909	6.914	-0.005	86	25417	10.0	9.84	
111 Dimethyl phthalate	163	7.091	7.096	-0.005	99	90306	10.0	10.6	
112 1,3-Dinitrobenzene	168	7.114	7.120	-0.006	87	13340	10.0	9.13	
113 2,6-Dinitrotoluene	165	7.144	7.155	-0.011	95	22188	10.0	10.2	
114 Acenaphthylene	152	7.238	7.243	-0.005	98	138265	10.0	10.6	
115 3-Nitroaniline	138	7.314	7.326	-0.012	95	22842	10.0	9.81	
117 Acenaphthene	153	7.408	7.414	-0.006	93	89087	10.0	10.5	
118 2,4-Dinitrophenol	184	7.420	7.425	-0.005	79	15689	20.0	20.5	
119 4-Nitrophenol	109	7.479	7.490	-0.012	95	20649	20.0	18.9	
122 2,4-Dinitrotoluene	165	7.549	7.561	-0.012	94	25815	10.0	9.62	
123 Dibenzofuran	168	7.578	7.584	-0.006	97	126033	10.0	10.6	
125 2,3,4,6-Tetrachlorophenol	232	7.708	7.707	0.001	72	22554	10.0	9.67	
127 Hexadecane	57	7.819	7.825	-0.006	90	79928	10.0	10.5	
130 Diethyl phthalate	149	7.796	7.801	-0.005	98	86286	10.0	10.7	
134 4-Chlorophenyl phenyl ethe	204	7.913	7.919	-0.006	94	45818	10.0	10.6	
135 Fluorene	166	7.925	7.931	-0.006	95	99419	10.0	11.1	
138 4-Nitroaniline	138	7.925	7.937	-0.012	58	20974	10.0	9.56	
139 4,6-Dinitro-2-methylphenol	198	7.960	7.972	-0.012	83	20338	20.0	20.2	
141 N-Nitrosodiphenylamine	169	8.031	8.036	-0.005	63	69738	10.0	10.7	
142 Diphenylamine	169	8.031	8.036	-0.005	95	69738	8.50	8.94	
143 1,2-Diphenylhydrazine	77	8.072	8.078	-0.006	41	93775	10.1	10.6	
144 Azobenzene	77	8.072	8.078	-0.006	98	93775	10.0	10.5	
147 2,4,6 - Tribromophenol	330	8.166	8.172	-0.006	92	11595	10.0	9.62	
156 4-Bromophenyl phenyl ether	248	8.407	8.413	-0.005	69	26538	10.0	10.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
157 Hexachlorobenzene	284	8.489	8.495	-0.006	95	26772	10.0	10.7	
159 Atrazine	200	8.554	8.565	-0.011	90	22528	10.0	10.3	
161 n-Octadecane	85	8.742	8.747	-0.005	91	24113	10.0	10.4	
163 Pentachlorophenol	266	8.677	8.683	-0.006	93	26218	20.0	19.9	
168 Phenanthrene	178	8.883	8.888	-0.005	98	128967	10.0	10.6	
169 Anthracene	178	8.936	8.941	-0.005	97	133440	10.0	10.6	
170 Carbazole	167	9.088	9.094	-0.006	96	111508	10.0	10.1	
171 Alachlor	188	9.229	9.235	-0.006	92	15328	10.0	10.1	
173 Di-n-butyl phthalate	149	9.429	9.435	-0.006	99	124197	10.0	10.3	
179 Fluoranthene	202	10.175	10.187	-0.012	97	122751	10.0	10.0	
182 Pyrene	202	10.487	10.492	-0.005	98	126077	10.0	11.1	
188 Famphur	218	11.421	11.433	-0.012	84	34308	10.0	10.2	
190 Butyl benzyl phthalate	149	11.544	11.556	-0.012	97	44564	10.0	10.1	
195 Bis(2-ethylhexyl) phthalat	149	12.849	12.860	-0.011	96	51924	10.0	9.23	
197 3,3'-Dichlorobenzidine	252	12.614	12.625	-0.011	73	27522	10.0	9.62	
198 Benzo[a]anthracene	228	12.649	12.661	-0.012	98	102623	10.0	10.2	
199 Chrysene	228	12.725	12.743	-0.018	97	99732	10.0	10.3	
201 Di-n-octyl phthalate	149	14.576	14.588	-0.012	99	75252	10.0	9.04	
203 Benzo[b]fluoranthene	252	15.369	15.387	-0.018	97	78027	10.0	9.69	
204 Benzo[k]fluoranthene	252	15.446	15.463	-0.017	99	88002	10.0	10.2	
206 Benzo[e]pyrene	252	16.110	16.139	-0.029	97	76943	10.0	10.0	
207 Benzo[a]pyrene	252	16.257	16.280	-0.023	77	81200	10.0	10.0	
213 Dibenz(a,h)anthracene	278	19.541	19.570	-0.029	93	61798	10.0	9.16	
214 Indeno[1,2,3-cd]pyrene	276	19.441	19.476	-0.035	97	59350	10.0	8.29	
215 Benzo[g,h,i]perylene	276	20.158	20.193	-0.035	98	71956	10.0	9.55	
S 217 Total Cresols	108				0			21.4	
S 218 Methyl Phenols,Total	108				0			21.4	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

MS-HSLA010_00039 Amount Added: 200.00 Units: uL

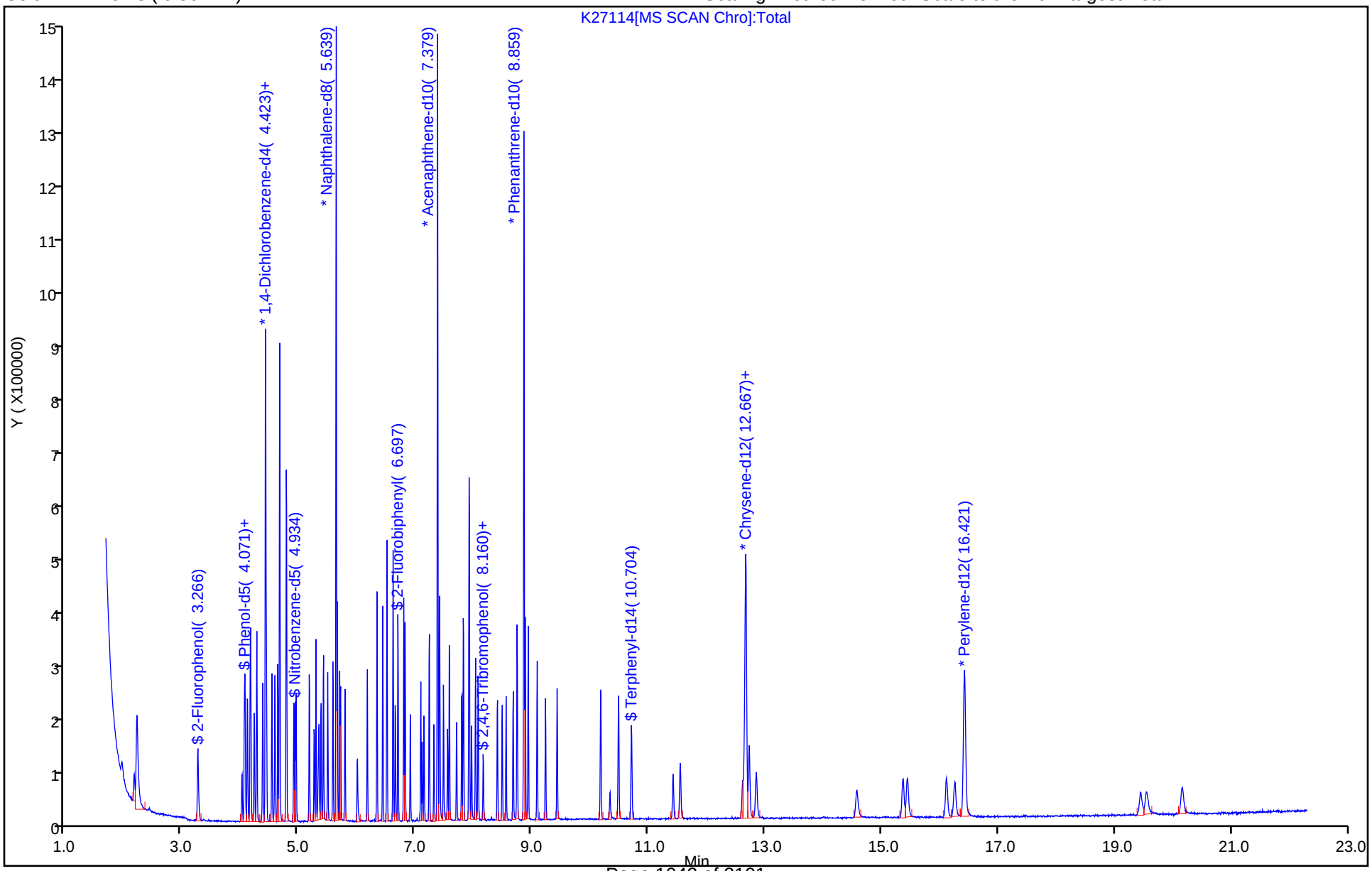
Report Date: 24-Oct-2018 06:02:13 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27114.D

Injection Date:	23-Oct-2018 14:30:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	STD010 HSL			Worklist Smp#:	5
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

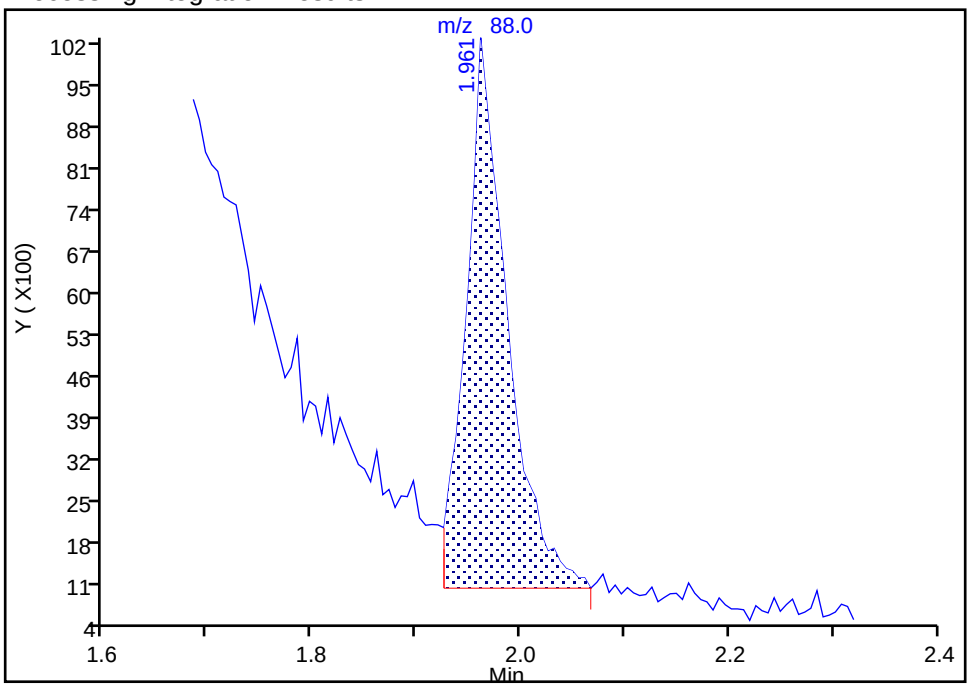
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27114.D
Injection Date: 23-Oct-2018 14:30:30 Instrument ID: SMS_K
Lims ID: STD010 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

19 1,4-Dioxane, CAS: 123-91-1

Signal: 1

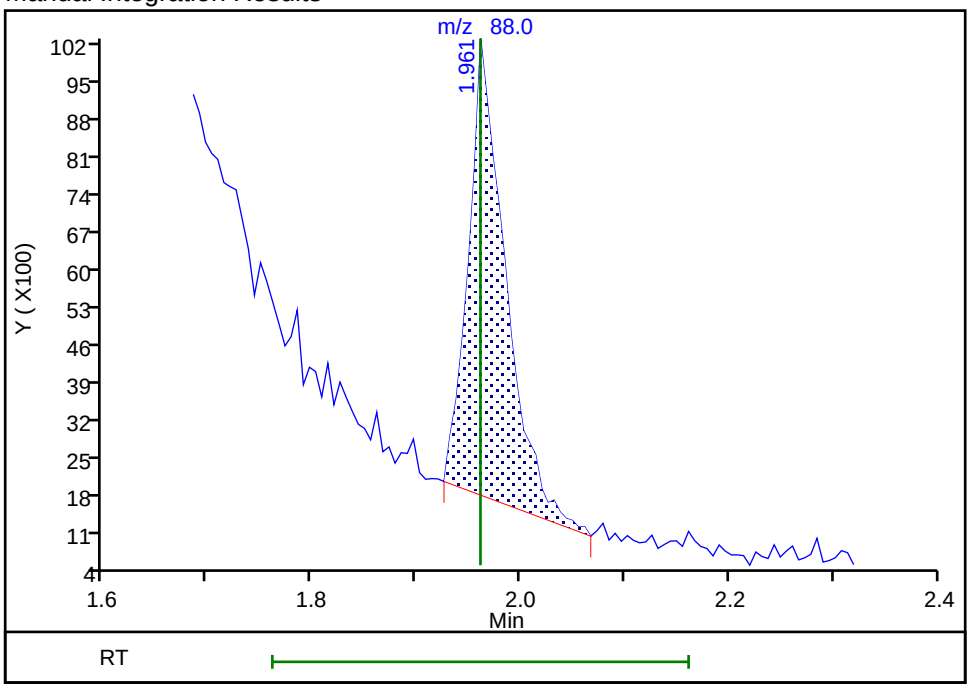
Processing Integration Results

RT: 1.96
Area: 25430
Amount: 10.505920
Amount Units: ug/ml



Manual Integration Results

RT: 1.96
Area: 20944
Amount: 9.255993
Amount Units: ug/ml



Reviewer: kiekeld, 23-Oct-2018 15:33:07
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

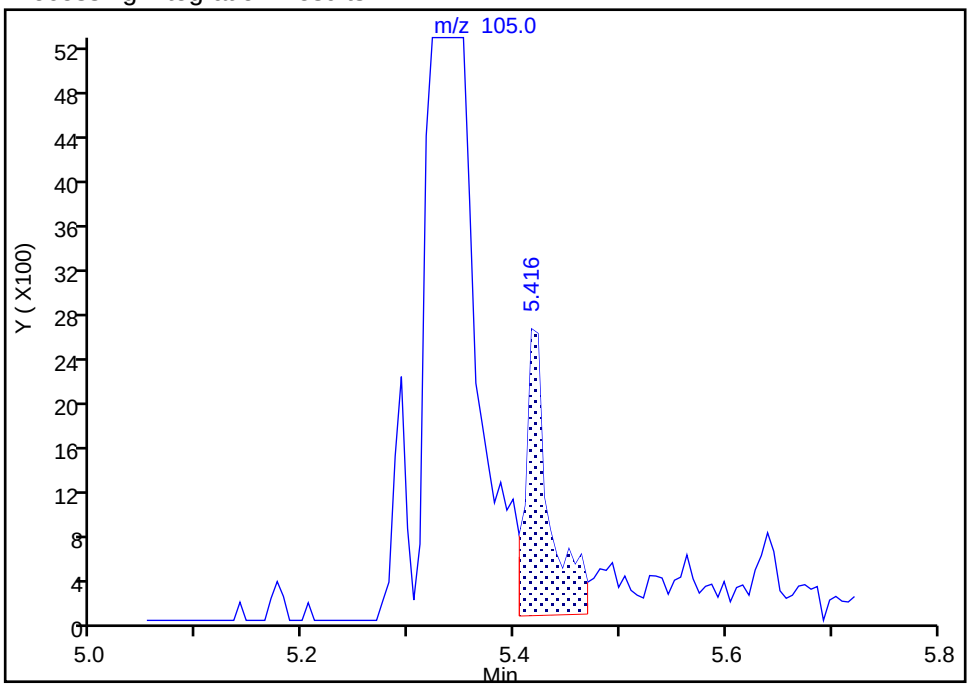
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27114.D
Injection Date: 23-Oct-2018 14:30:30 Instrument ID: SMS_K
Lims ID: STD010 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

68 Benzoic acid, CAS: 65-85-0

Signal: 1

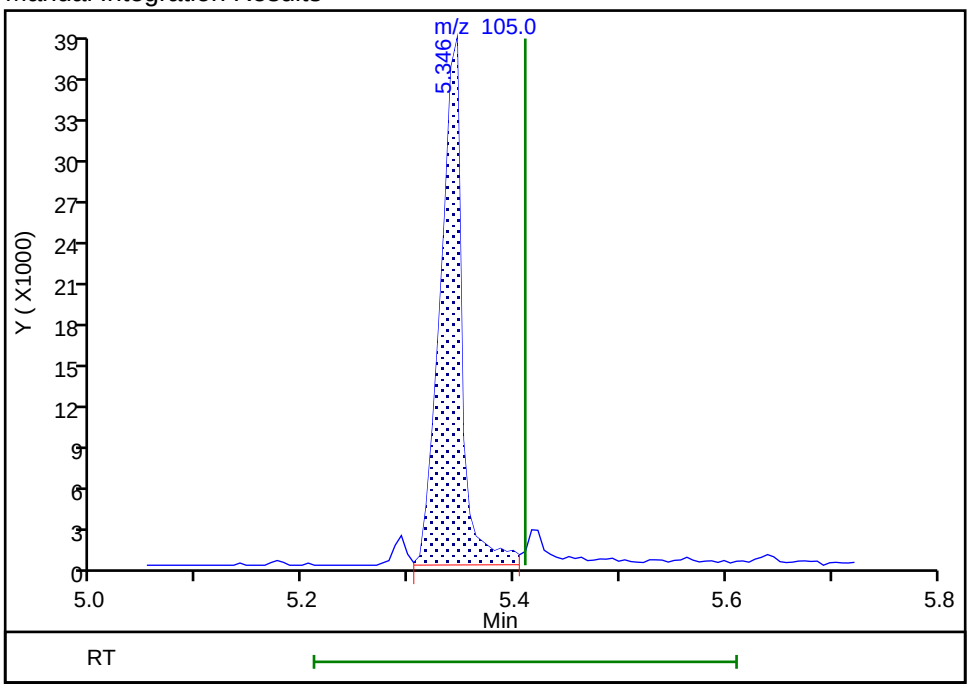
Processing Integration Results

RT: 5.42
Area: 4055
Amount: 1.567411
Amount Units: ug/ml



Manual Integration Results

RT: 5.35
Area: 55690
Amount: 20.668455
Amount Units: ug/ml



Reviewer: kiekeld, 23-Oct-2018 15:33:50
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27115.D
Lims ID: STD020 HSL
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 23-Oct-2018 14:59:30 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD020 HSL
Operator ID: KIEKELD Instrument ID: SMS_K
Sublist: chrom-SMSK_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 24-Oct-2018 06:02:20 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0307

First Level Reviewer: kiekeld Date: 23-Oct-2018 15:36:50

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.429	4.429	0.000	96	123278	40.0	40.0	
* 2 Naphthalene-d8	136	5.639	5.639	0.000	99	474291	40.0	40.0	
* 3 Acenaphthene-d10	164	7.378	7.384	-0.006	95	232866	40.0	40.0	
* 4 Phenanthrene-d10	188	8.859	8.865	-0.006	98	401459	40.0	40.0	
* 5 Chrysene-d12	240	12.666	12.684	-0.018	99	305332	40.0	40.0	
* 6 Perylene-d12	264	16.421	16.433	-0.012	98	279836	40.0	40.0	
$ 7 2-Fluorophenol	112	3.266	3.266	0.000	94	90210	20.0	19.6	
$ 8 Phenol-d5	99	4.065	4.065	0.000	99	104233	20.0	19.9	
$ 9 Nitrobenzene-d5	82	4.934	4.940	-0.006	94	90935	20.0	20.3	
$ 11 2-Fluorobiphenyl	172	6.697	6.703	-0.006	100	168608	20.0	20.7	
$ 12 2,4,6-Tribromophenol	330	8.166	8.172	-0.006	92	19542	20.0	20.1	
$ 13 Terphenyl-d14	244	10.704	10.716	-0.012	98	153641	20.0	20.5	
19 1,4-Dioxane	88	1.961	1.961	0.000	94	39740	20.0	20.3	
20 N-Nitrosodimethylamine	74	2.173	2.173	0.000	84	58391	20.0	19.4	
21 Pyridine	79	2.220	2.220	0.000	84	193658	40.0	39.9	
32 Phenol	94	4.076	4.082	-0.006	97	109419	20.0	20.2	
34 Aniline	93	4.118	4.117	0.001	96	132620	20.0	20.0	
35 Alpha Methyl Styrene	118	4.170	4.170	0.000	93	93175	20.0	20.5	
36 Bis(2-chloroethyl)ether	93	4.159	4.164	-0.005	91	84478	20.0	21.0	
38 n-Decane	43	4.276	4.276	0.000	95	129521	20.0	20.5	
39 2-Chlorophenol	128	4.235	4.235	0.000	98	90805	20.0	20.4	
40 1,3-Dichlorobenzene	146	4.376	4.382	-0.006	97	100769	20.0	20.3	
42 1,4-Dichlorobenzene	146	4.441	4.446	-0.005	94	101377	20.0	20.3	
43 Benzyl alcohol	108	4.535	4.541	-0.005	93	59515	20.0	20.2	
44 1,2-Dichlorobenzene	146	4.588	4.588	0.000	96	96849	20.0	20.4	
45 2-Methylphenol	108	4.635	4.640	-0.005	95	82677	20.0	20.3	
46 2,2'-oxybis[1-chloropropan	45	4.664	4.670	-0.006	91	170378	20.0	19.8	
47 Indene	116	4.670	4.670	0.000	92	296238	40.0	43.6	
49 3 & 4 Methylphenol	108	4.781	4.787	-0.006	84	83465	20.0	21.0	
50 3-Methylphenol	108	4.781	4.787	-0.006	93	83465	20.0	21.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
51 4-Methylphenol	108	4.781	4.787	-0.006	94	83465	20.0	21.0	
52 N-Nitrosodi-n-propylamine	70	4.781	4.787	-0.006	96	58833	20.0	20.8	
54 Acetophenone	105	4.787	4.793	-0.006	94	117954	20.0	21.4	
58 Hexachloroethane	117	4.911	4.911	0.000	92	36733	20.0	19.9	
59 Nitrobenzene	77	4.952	4.958	-0.006	95	87686	20.0	20.2	
63 Isophorone	82	5.175	5.181	-0.006	97	153861	20.0	20.1	
64 2-Nitrophenol	139	5.263	5.263	0.000	93	45592	20.0	19.7	
65 2,4-Dimethylphenol	107	5.293	5.298	-0.005	94	81644	20.0	20.1	
68 Benzoic acid	105	5.357	5.410	-0.053	91	99894	40.0	37.6	a
69 Bis(2-chloroethoxy)methane	93	5.381	5.381	0.000	95	96256	20.0	20.5	
71 3,5-Dimethylphenol	107	5.422	5.428	-0.006	85	83321	20.0	20.6	
74 2,4-Dichlorophenol	162	5.492	5.498	-0.006	94	69679	20.0	20.2	
76 1,2,4-Trichlorobenzene	180	5.581	5.586	-0.005	94	80047	20.0	20.4	
79 Naphthalene	128	5.657	5.663	-0.006	98	241651	20.0	20.9	
80 4-Chloroaniline	127	5.698	5.704	-0.006	96	100826	20.0	20.8	
81 2,6-Dichlorophenol	162	5.716	5.721	-0.005	96	68243	20.0	20.1	
83 Hexachlorobutadiene	225	5.792	5.792	0.000	95	44480	20.0	20.4	
86 Caprolactam	55	6.004	6.027	-0.023	72	41202	20.0	20.1	
89 4-Chloro-3-methylphenol	107	6.174	6.180	-0.006	95	65978	20.0	20.2	
93 2-Methylnaphthalene	142	6.339	6.344	-0.006	95	170654	20.0	21.0	
96 1-Methylnaphthalene	142	6.438	6.444	-0.006	95	155170	20.0	20.5	
97 Hexachlorocyclopentadiene	237	6.509	6.515	-0.006	97	48434	20.0	20.0	
98 1,2,4,5-Tetrachlorobenzene	216	6.509	6.515	-0.006	97	74857	20.0	20.8	
100 2,4,6-Trichlorophenol	196	6.615	6.620	-0.005	94	47888	20.0	21.6	
101 2,3-Dichlorobenzenamine	161	6.615	6.620	-0.005	95	79006	20.0	21.3	
102 2,4,5-Trichlorophenol	196	6.650	6.656	-0.006	94	49012	20.0	20.2	
104 1,1'-Biphenyl	154	6.797	6.803	-0.006	94	192302	20.0	21.0	
106 2-Chloronaphthalene	162	6.820	6.826	-0.006	96	145689	20.0	20.8	
108 2-Nitroaniline	65	6.908	6.914	-0.006	87	42146	20.0	20.2	
111 Dimethyl phthalate	163	7.091	7.096	-0.005	99	145495	20.0	21.1	
112 1,3-Dinitrobenzene	168	7.114	7.120	-0.006	88	23958	20.0	20.3	
113 2,6-Dinitrotoluene	165	7.143	7.155	-0.012	94	37099	20.0	21.1	
114 Acenaphthylene	152	7.237	7.243	-0.006	98	220982	20.0	21.0	
115 3-Nitroaniline	138	7.314	7.326	-0.012	93	38469	20.0	20.4	
117 Acenaphthene	153	7.408	7.414	-0.006	94	145794	20.0	21.3	
118 2,4-Dinitrophenol	184	7.420	7.425	-0.005	81	32328	40.0	39.1	
119 4-Nitrophenol	109	7.478	7.490	-0.012	94	35888	40.0	40.7	
122 2,4-Dinitrotoluene	165	7.549	7.561	-0.012	94	45965	20.0	21.2	
123 Dibenzofuran	168	7.578	7.584	-0.006	98	204388	20.0	21.3	
125 2,3,4,6-Tetrachlorophenol	232	7.708	7.707	0.001	72	39576	20.0	20.9	
127 Hexadecane	57	7.819	7.825	-0.006	90	126214	20.0	20.6	
130 Diethyl phthalate	149	7.796	7.801	-0.005	99	138761	20.0	21.2	
134 4-Chlorophenyl phenyl ethe	204	7.919	7.919	0.000	91	74055	20.0	21.1	
135 Fluorene	166	7.925	7.931	-0.006	94	157964	20.0	21.7	
138 4-Nitroaniline	138	7.925	7.937	-0.012	65	37628	20.0	21.2	
139 4,6-Dinitro-2-methylphenol	198	7.960	7.972	-0.012	85	42202	40.0	39.1	
141 N-Nitrosodiphenylamine	169	8.031	8.036	-0.005	62	115263	20.0	20.2	
142 Diphenylamine	169	8.031	8.036	-0.005	95	115263	17.0	18.2	
143 1,2-Diphenylhydrazine	77	8.072	8.078	-0.006	41	153020	20.2	21.4	
144 Azobenzene	77	8.072	8.078	-0.006	98	153020	20.0	21.2	
147 2,4,6 - Tribromophenol	330	8.166	8.172	-0.006	92	19715	20.0	20.2	
156 4-Bromophenyl phenyl ether	248	8.407	8.413	-0.005	67	43879	20.0	19.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
157 Hexachlorobenzene	284	8.489	8.495	-0.006	95	43958	20.0	20.0	
159 Atrazine	200	8.554	8.565	-0.011	91	38434	20.0	20.1	
161 n-Octadecane	85	8.742	8.747	-0.005	91	39946	20.0	19.6	
163 Pentachlorophenol	266	8.677	8.683	-0.006	92	49290	40.0	39.7	
168 Phenanthrene	178	8.883	8.888	-0.005	97	221152	20.0	20.8	
169 Anthracene	178	8.936	8.941	-0.005	97	228171	20.0	20.7	
170 Carbazole	167	9.088	9.094	-0.006	95	199399	20.0	20.7	
171 Alachlor	188	9.229	9.235	-0.006	92	27543	20.0	20.7	
173 Di-n-butyl phthalate	149	9.429	9.435	-0.006	99	218104	20.0	20.6	
179 Fluoranthene	202	10.175	10.187	-0.012	98	218444	20.0	20.4	
182 Pyrene	202	10.481	10.492	-0.011	97	226910	20.0	21.0	
188 Famphur	218	11.421	11.433	-0.012	84	65964	20.0	20.7	
190 Butyl benzyl phthalate	149	11.544	11.556	-0.012	97	83474	20.0	19.9	
195 Bis(2-ethylhexyl) phthalat	149	12.849	12.860	-0.011	97	104488	20.0	19.6	
197 3,3'-Dichlorobenzidine	252	12.614	12.625	-0.011	73	53044	20.0	19.5	
198 Benzo[a]anthracene	228	12.649	12.661	-0.012	98	188260	20.0	19.8	
199 Chrysene	228	12.725	12.743	-0.018	97	185168	20.0	20.1	
201 Di-n-octyl phthalate	149	14.576	14.588	-0.012	99	153055	20.0	17.9	
203 Benzo[b]fluoranthene	252	15.363	15.387	-0.024	97	153318	20.0	19.1	
204 Benzo[k]fluoranthene	252	15.446	15.463	-0.017	99	173456	20.0	20.0	
206 Benzo[e]pyrene	252	16.115	16.139	-0.024	97	149778	20.0	19.5	
207 Benzo[a]pyrene	252	16.256	16.280	-0.024	77	157022	20.0	19.4	
213 Dibenz(a,h)anthracene	278	19.553	19.570	-0.017	94	129649	20.0	19.2	
214 Indeno[1,2,3-cd]pyrene	276	19.447	19.476	-0.029	98	123689	20.0	18.2	
215 Benzo[g,h,i]perylene	276	20.158	20.193	-0.035	98	143576	20.0	19.1	
S 217 Total Cresols	108				0			41.3	
S 218 Methyl Phenols,Total	108				0			41.3	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

MS-HSLA020_00039 Amount Added: 200.00 Units: uL

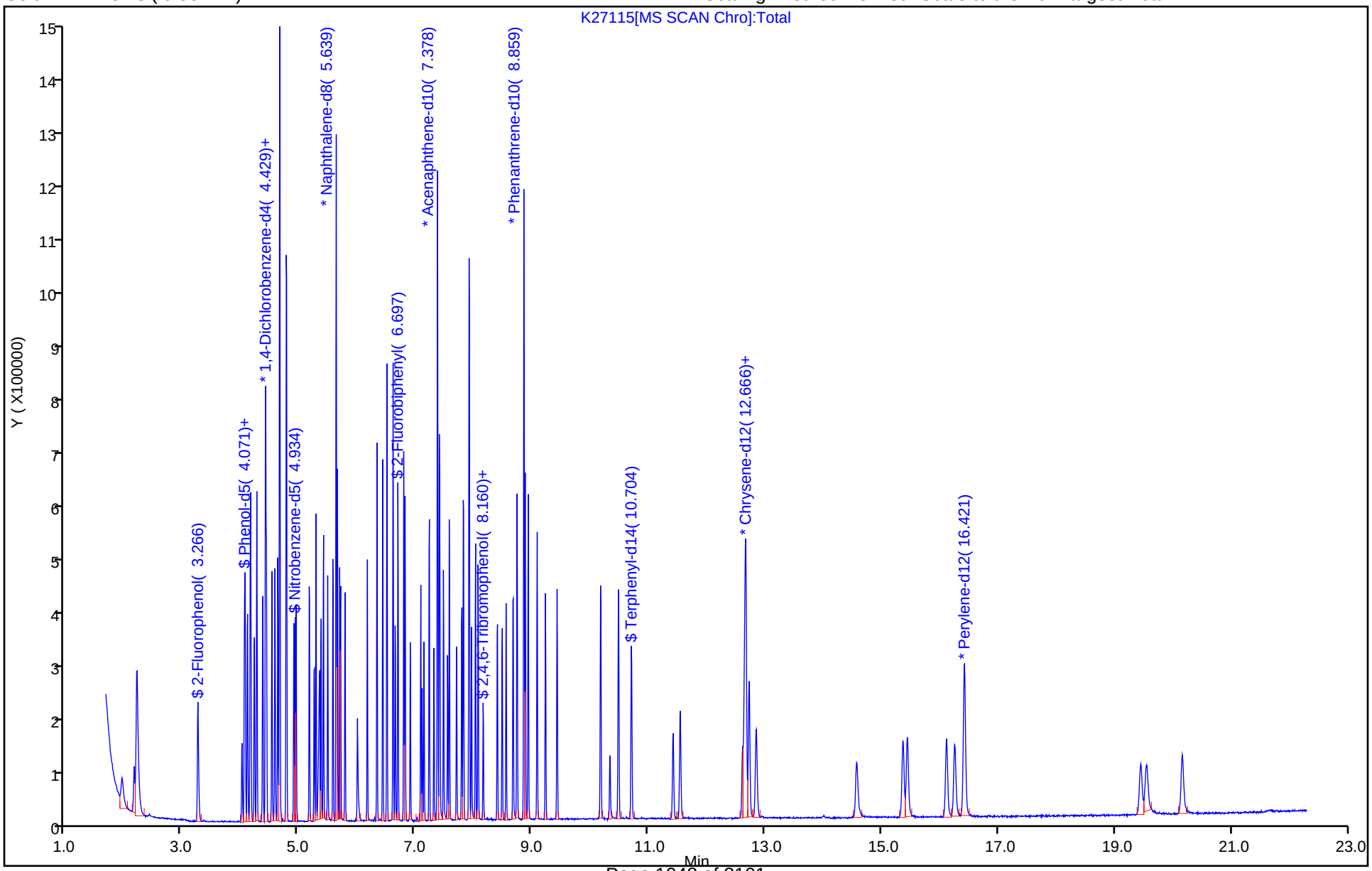
Report Date: 24-Oct-2018 06:02:21 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27115.D

Injection Date:	23-Oct-2018 14:59:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	STD020 HSL			Worklist Smp#:	6
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

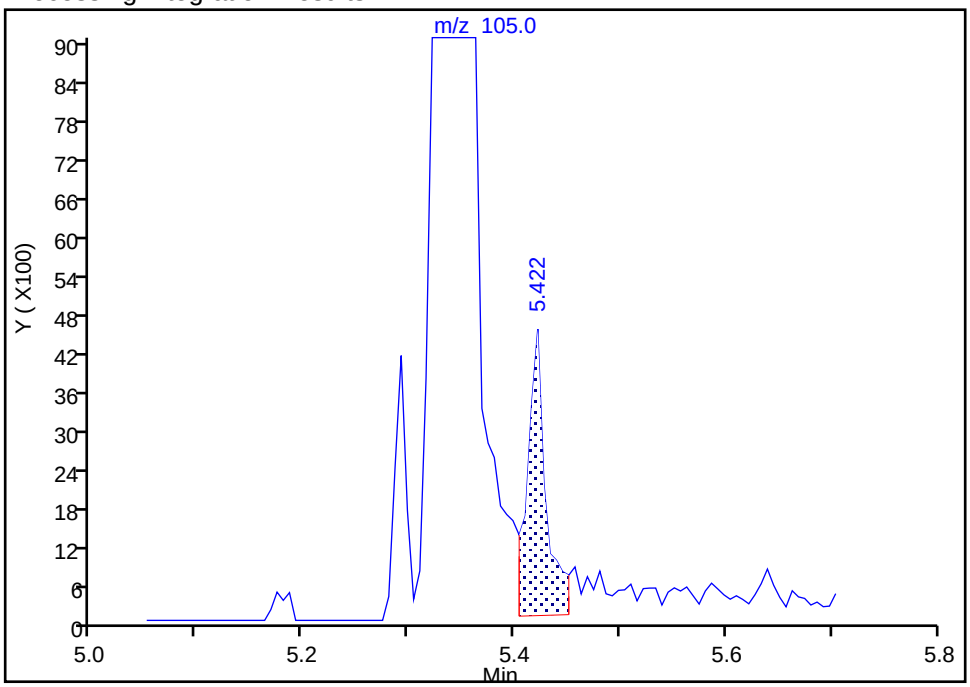
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27115.D
Injection Date: 23-Oct-2018 14:59:30 Instrument ID: SMS_K
Lims ID: STD020 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

68 Benzoic acid, CAS: 65-85-0

Signal: 1

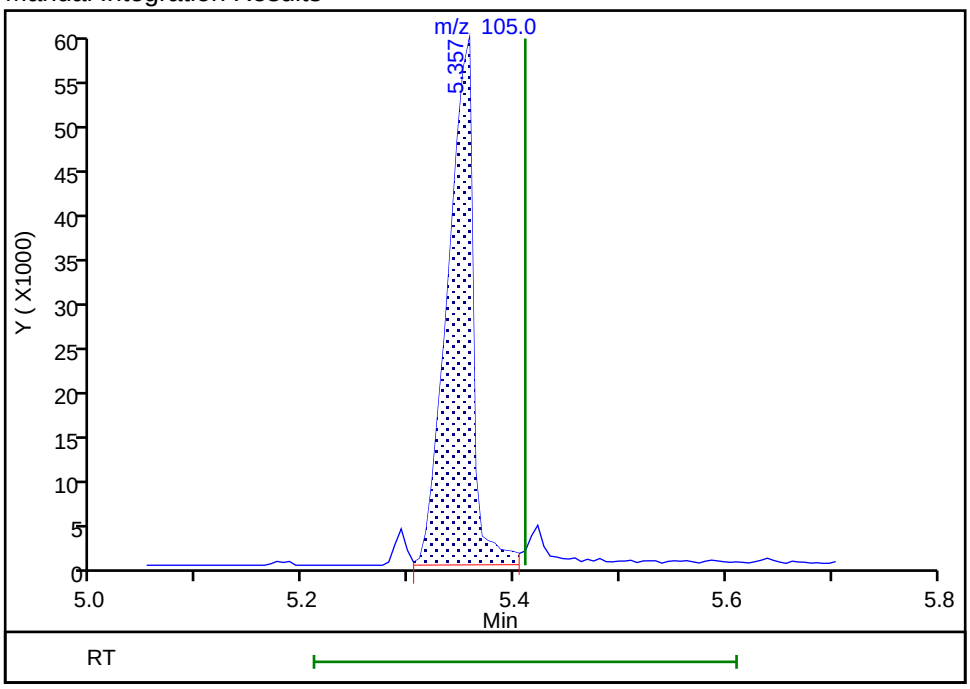
Processing Integration Results

RT: 5.42
Area: 5505
Amount: 2.430000
Amount Units: ug/ml



Manual Integration Results

RT: 5.36
Area: 99894
Amount: 37.608777
Amount Units: ug/ml



Reviewer: kiekeld, 23-Oct-2018 15:34:53
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27116.D
Lims ID: STD050 HSL
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 23-Oct-2018 15:28:30 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD050 HSL
Operator ID: KIEKELD Instrument ID: SMS_K
Sublist: chrom-SMSK_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 24-Oct-2018 06:02:26 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0307

First Level Reviewer: kiekeld Date: 23-Oct-2018 16:26:12

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.423	4.429	-0.006	96	137022	40.0	40.0	
* 2 Naphthalene-d8	136	5.639	5.639	0.000	99	527618	40.0	40.0	
* 3 Acenaphthene-d10	164	7.379	7.384	-0.005	95	260611	40.0	40.0	
* 4 Phenanthrene-d10	188	8.859	8.865	-0.006	98	401444	40.0	40.0	
* 5 Chrysene-d12	240	12.673	12.684	-0.011	99	311912	40.0	40.0	
* 6 Perylene-d12	264	16.415	16.433	-0.018	98	291218	40.0	40.0	
$ 7 2-Fluorophenol	112	3.266	3.266	0.000	94	254840	50.0	49.8	
$ 8 Phenol-d5	99	4.065	4.065	0.000	98	293396	50.0	50.5	
$ 9 Nitrobenzene-d5	82	4.934	4.940	-0.006	94	253784	50.0	50.9	
$ 11 2-Fluorobiphenyl	172	6.697	6.703	-0.006	100	467275	50.0	51.4	
$ 12 2,4,6-Tribromophenol	330	8.166	8.172	-0.006	93	55006	50.0	50.6	
$ 13 Terphenyl-d14	244	10.704	10.716	-0.012	98	381775	50.0	49.9	
19 1,4-Dioxane	88	1.961	1.961	0.000	93	106454	50.0	49.0	
20 N-Nitrosodimethylamine	74	2.173	2.173	0.000	84	169184	50.0	50.5	
21 Pyridine	79	2.220	2.220	0.000	82	537957	100.0	99.7	
32 Phenol	94	4.077	4.082	-0.005	97	304856	50.0	50.6	
34 Aniline	93	4.118	4.117	0.001	96	368614	50.0	50.0	
35 Alpha Methyl Styrene	118	4.171	4.170	0.001	93	254388	50.0	50.5	
36 Bis(2-chloroethyl)ether	93	4.159	4.164	-0.005	91	227822	50.0	50.9	
38 n-Decane	43	4.276	4.276	0.000	94	350802	50.0	50.1	
39 2-Chlorophenol	128	4.235	4.235	0.000	98	248427	50.0	50.2	
40 1,3-Dichlorobenzene	146	4.376	4.382	-0.006	98	279358	50.0	50.6	
42 1,4-Dichlorobenzene	146	4.441	4.446	-0.005	93	280118	50.0	50.5	
43 Benzyl alcohol	108	4.535	4.541	-0.005	92	163926	50.0	50.1	
44 1,2-Dichlorobenzene	146	4.588	4.588	0.000	97	267029	50.0	50.6	
45 2-Methylphenol	108	4.641	4.640	0.001	96	224342	50.0	49.5	
46 2,2'-oxybis[1-chloropropan	45	4.664	4.670	-0.006	91	443135	50.0	49.9	
47 Indene	116	4.670	4.670	0.000	92	777918	100.0	102.9	
49 3 & 4 Methylphenol	108	4.782	4.787	-0.005	81	227475	50.0	51.6	
50 3-Methylphenol	108	4.782	4.787	-0.005	90	227475	50.0	51.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
51 4-Methylphenol	108	4.782	4.787	-0.005	92	227475	50.0	51.6	
52 N-Nitrosodi-n-propylamine	70	4.788	4.787	0.001	92	160306	50.0	51.0	
54 Acetophenone	105	4.788	4.793	-0.005	85	314687	50.0	51.4	
58 Hexachloroethane	117	4.911	4.911	0.000	93	104828	50.0	51.1	
59 Nitrobenzene	77	4.952	4.958	-0.006	96	247152	50.0	51.1	
63 Isophorone	82	5.181	5.181	0.000	97	430676	50.0	50.5	
64 2-Nitrophenol	139	5.263	5.263	0.000	93	134133	50.0	52.1	
65 2,4-Dimethylphenol	107	5.293	5.298	-0.005	94	228913	50.0	50.7	
68 Benzoic acid	105	5.387	5.410	-0.023	92	315069	100.0	96.6	a
69 Bis(2-chloroethoxy)methane	93	5.381	5.381	0.000	95	263791	50.0	50.6	
71 3,5-Dimethylphenol	107	5.422	5.428	-0.006	83	233564	50.0	51.8	
74 2,4-Dichlorophenol	162	5.493	5.498	-0.005	95	195203	50.0	50.9	
76 1,2,4-Trichlorobenzene	180	5.581	5.586	-0.005	94	221855	50.0	50.8	
79 Naphthalene	128	5.657	5.663	-0.006	98	652648	50.0	50.8	
80 4-Chloroaniline	127	5.698	5.704	-0.006	96	276100	50.0	51.1	
81 2,6-Dichlorophenol	162	5.716	5.721	-0.005	96	194419	50.0	51.6	
83 Hexachlorobutadiene	225	5.792	5.792	0.000	95	123996	50.0	51.2	
86 Caprolactam	55	6.016	6.027	-0.011	73	113788	50.0	49.8	
89 4-Chloro-3-methylphenol	107	6.174	6.180	-0.006	96	184485	50.0	50.7	
93 2-Methylnaphthalene	142	6.339	6.344	-0.005	95	462867	50.0	51.3	
96 1-Methylnaphthalene	142	6.439	6.444	-0.005	96	431984	50.0	51.2	
97 Hexachlorocyclopentadiene	237	6.509	6.515	-0.006	95	142176	50.0	52.5	
98 1,2,4,5-Tetrachlorobenzene	216	6.509	6.515	-0.006	96	199821	50.0	49.9	
100 2,4,6-Trichlorophenol	196	6.615	6.620	-0.005	94	128093	50.0	51.6	
101 2,3-Dichlorobenzenamine	161	6.615	6.620	-0.005	96	213731	50.0	51.5	
102 2,4,5-Trichlorophenol	196	6.650	6.656	-0.006	94	136981	50.0	50.5	
104 1,1'-Biphenyl	154	6.797	6.803	-0.006	95	519755	50.0	50.8	
106 2-Chloronaphthalene	162	6.820	6.826	-0.006	96	404849	50.0	51.6	
108 2-Nitroaniline	65	6.909	6.914	-0.005	86	117021	50.0	50.0	
111 Dimethyl phthalate	163	7.091	7.096	-0.005	99	378089	50.0	49.1	
112 1,3-Dinitrobenzene	168	7.114	7.120	-0.006	88	67599	50.0	51.1	
113 2,6-Dinitrotoluene	165	7.149	7.155	-0.006	94	98117	50.0	49.9	
114 Acenaphthylene	152	7.238	7.243	-0.005	98	595453	50.0	50.4	
115 3-Nitroaniline	138	7.320	7.326	-0.006	95	103961	50.0	49.3	
117 Acenaphthene	153	7.408	7.414	-0.006	94	389499	50.0	50.8	
118 2,4-Dinitrophenol	184	7.420	7.425	-0.005	81	100089	100.0	93.2	
119 4-Nitrophenol	109	7.484	7.490	-0.006	94	96007	100.0	97.2	
122 2,4-Dinitrotoluene	165	7.555	7.561	-0.006	94	118745	50.0	48.8	
123 Dibenzofuran	168	7.578	7.584	-0.006	97	535174	50.0	49.8	
125 2,3,4,6-Tetrachlorophenol	232	7.708	7.707	0.001	71	107211	50.0	50.7	
127 Hexadecane	57	7.819	7.825	-0.006	90	355893	50.0	51.8	
130 Diethyl phthalate	149	7.796	7.801	-0.005	98	357575	50.0	48.9	
134 4-Chlorophenyl phenyl ethe	204	7.913	7.919	-0.006	94	196516	50.0	50.1	
135 Fluorene	166	7.925	7.931	-0.006	95	408081	50.0	50.1	
138 4-Nitroaniline	138	7.925	7.937	-0.012	86	94097	50.0	47.4	
139 4,6-Dinitro-2-methylphenol	198	7.966	7.972	-0.006	88	120246	100.0	99.6	
141 N-Nitrosodiphenylamine	169	8.031	8.036	-0.005	63	297106	50.0	52.0	
142 Diphenylamine	169	8.031	8.036	-0.005	95	297106	42.5	42.0	
143 1,2-Diphenylhydrazine	77	8.072	8.078	-0.006	41	399005	50.5	49.9	
144 Azobenzene	77	8.072	8.078	-0.006	98	399005	50.0	49.4	
147 2,4,6 - Tribromophenol	330	8.166	8.172	-0.006	93	55278	50.0	50.6	
156 4-Bromophenyl phenyl ether	248	8.407	8.413	-0.005	67	114899	50.0	51.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
157 Hexachlorobenzene	284	8.489	8.495	-0.006	94	112383	50.0	51.2	
159 Atrazine	200	8.554	8.565	-0.011	91	97129	50.0	50.7	
161 n-Octadecane	85	8.742	8.747	-0.005	91	108468	50.0	53.3	
163 Pentachlorophenol	266	8.677	8.683	-0.006	93	133668	100.0	103.0	
168 Phenanthrene	178	8.883	8.888	-0.005	97	545408	50.0	51.2	
169 Anthracene	178	8.936	8.941	-0.005	97	561054	50.0	50.8	
170 Carbazole	167	9.088	9.094	-0.006	95	489871	50.0	50.9	
171 Alachlor	188	9.229	9.235	-0.006	93	65765	50.0	49.3	
173 Di-n-butyl phthalate	149	9.429	9.435	-0.006	99	533508	50.0	50.4	
179 Fluoranthene	202	10.175	10.187	-0.012	98	536165	50.0	50.0	
182 Pyrene	202	10.481	10.492	-0.011	97	546967	50.0	49.5	
188 Famphur	218	11.421	11.433	-0.012	85	174335	50.0	53.6	
190 Butyl benzyl phthalate	149	11.544	11.556	-0.012	97	214504	50.0	50.1	
195 Bis(2-ethylhexyl) phthalat	149	12.843	12.860	-0.017	97	274553	50.0	50.3	
197 3,3'-Dichlorobenzidine	252	12.614	12.625	-0.011	73	137428	50.0	49.6	
198 Benzo[a]anthracene	228	12.649	12.661	-0.012	98	483658	50.0	49.8	
199 Chrysene	228	12.725	12.743	-0.018	97	472949	50.0	50.2	
201 Di-n-octyl phthalate	149	14.570	14.588	-0.018	99	440225	50.0	48.1	
203 Benzo[b]fluoranthene	252	15.364	15.387	-0.023	97	416573	50.0	49.7	
204 Benzo[k]fluoranthene	252	15.446	15.463	-0.017	99	468165	50.0	52.0	
206 Benzo[e]pyrene	252	16.116	16.139	-0.023	97	403388	50.0	50.5	
207 Benzo[a]pyrene	252	16.257	16.280	-0.023	84	430196	50.0	50.9	
213 Dibenz(a,h)anthracene	278	19.553	19.570	-0.017	94	358758	50.0	51.1	
214 Indeno[1,2,3-cd]pyrene	276	19.453	19.476	-0.023	98	340918	50.0	49.1	
215 Benzo[g,h,i]perylene	276	20.164	20.193	-0.029	98	397431	50.0	50.7	
S 217 Total Cresols	108				0			101.0	
S 218 Methyl Phenols,Total	108				0			101.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

MS-HSLA050_00040 Amount Added: 200.00 Units: uL

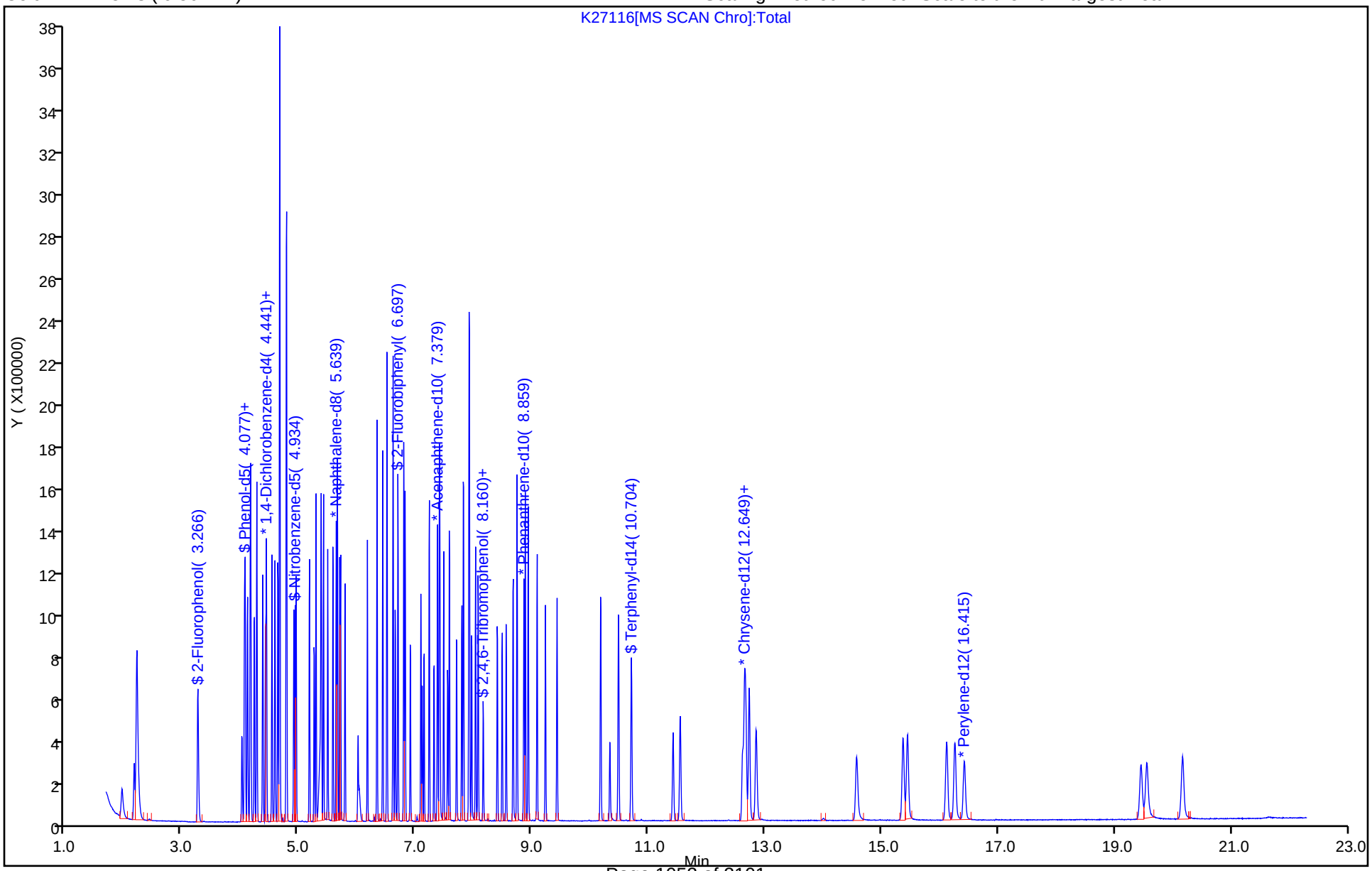
Report Date: 24-Oct-2018 06:02:26 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27116.D

Injection Date:	23-Oct-2018 15:28:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	STD050 HSL			Worklist Smp#:	7
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

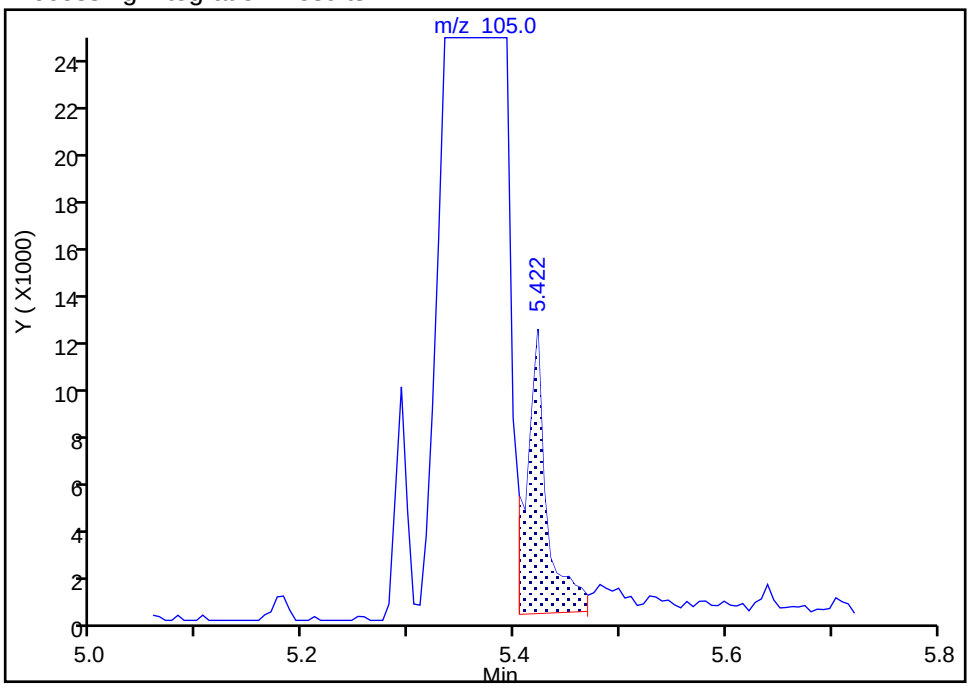
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27116.D
Injection Date: 23-Oct-2018 15:28:30 Instrument ID: SMS_K
Lims ID: STD050 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

68 Benzoic acid, CAS: 65-85-0

Signal: 1

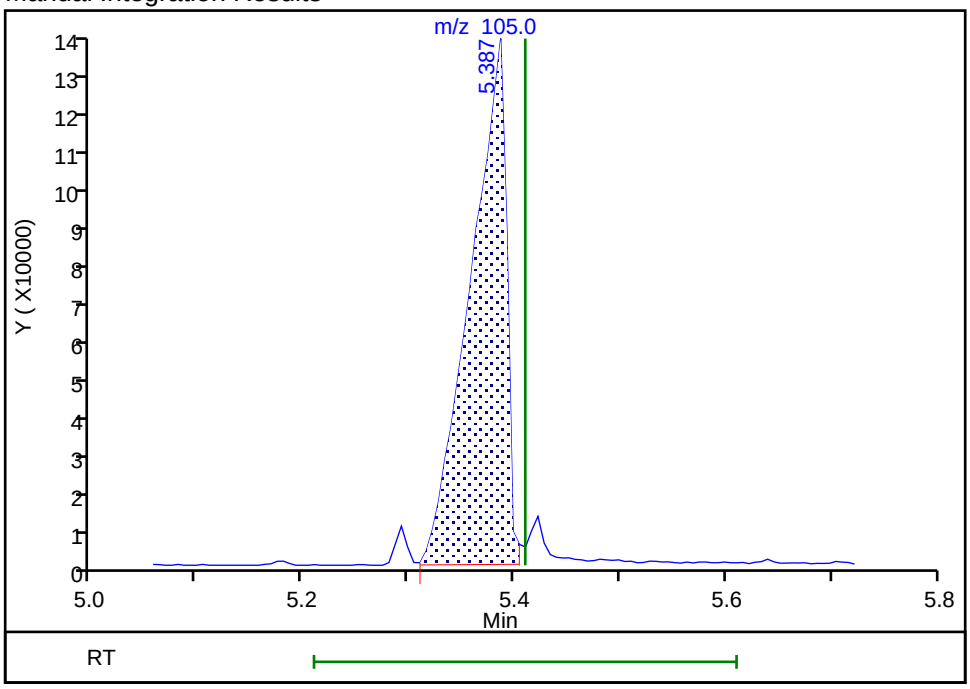
Processing Integration Results

RT: 5.42
Area: 15900
Amount: 6.828435
Amount Units: ug/ml



Manual Integration Results

RT: 5.39
Area: 315069
Amount: 96.640784
Amount Units: ug/ml



Reviewer: kiekeld, 23-Oct-2018 16:25:44
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27117.D
Lims ID: STD120 HSL
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 23-Oct-2018 15:57:30 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD120 HSL
Operator ID: KIEKELD Instrument ID: SMS_K
Sublist: chrom-SMSK_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 24-Oct-2018 06:02:32 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0307

First Level Reviewer: kiekeld Date: 23-Oct-2018 16:52:34

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.423	4.429	-0.006	96	131995	40.0	40.0	
* 2 Naphthalene-d8	136	5.639	5.639	0.000	100	505239	40.0	40.0	
* 3 Acenaphthene-d10	164	7.379	7.384	-0.005	94	241107	40.0	40.0	
* 4 Phenanthrene-d10	188	8.859	8.865	-0.006	97	363587	40.0	40.0	
* 5 Chrysene-d12	240	12.672	12.684	-0.012	99	300746	40.0	40.0	
* 6 Perylene-d12	264	16.421	16.433	-0.012	98	286291	40.0	40.0	
$ 7 2-Fluorophenol	112	3.266	3.266	0.000	94	578101	120.0	117.3	
$ 8 Phenol-d5	99	4.065	4.065	0.000	97	645279	120.0	115.3	
$ 9 Nitrobenzene-d5	82	4.934	4.940	-0.006	96	554555	120.0	116.2	
$ 11 2-Fluorobiphenyl	172	6.703	6.703	0.000	100	969077	120.0	115.1	
$ 12 2,4,6-Tribromophenol	330	8.166	8.172	-0.006	95	115739	120.0	115.2	
$ 13 Terphenyl-d14	244	10.710	10.716	-0.006	98	839737	120.0	113.8	
19 1,4-Dioxane	88	1.961	1.961	0.000	94	246043	120.0	117.6	
20 N-Nitrosodimethylamine	74	2.173	2.173	0.000	84	380707	120.0	117.9	
21 Pyridine	79	2.220	2.220	0.000	81	1218459	240.0	234.5	
32 Phenol	94	4.082	4.082	0.000	97	664889	120.0	114.7	
34 Aniline	93	4.118	4.117	0.001	96	821840	120.0	115.8	
35 Alpha Methyl Styrene	118	4.171	4.170	0.000	93	547019	120.0	112.6	
36 Bis(2-chloroethyl)ether	93	4.165	4.164	0.001	91	483741	120.0	112.1	
38 n-Decane	43	4.276	4.276	0.000	94	771667	120.0	114.3	
39 2-Chlorophenol	128	4.235	4.235	0.000	98	548316	120.0	115.1	
40 1,3-Dichlorobenzene	146	4.376	4.382	-0.006	98	611471	120.0	115.0	
42 1,4-Dichlorobenzene	146	4.441	4.446	-0.005	93	608129	120.0	113.9	
43 Benzyl alcohol	108	4.541	4.541	0.001	92	363072	120.0	115.3	
44 1,2-Dichlorobenzene	146	4.588	4.588	0.000	97	578422	120.0	113.8	
45 2-Methylphenol	108	4.641	4.640	0.001	95	506184	120.0	115.8	
46 2,2'-oxybis[1-chloropropan	45	4.664	4.670	-0.006	91	895961	120.0	118.0	
47 Indene	116	4.670	4.670	0.000	92	1575495	240.0	216.3	
49 3 & 4 Methylphenol	108	4.787	4.787	0.000	83	476623	120.0	112.1	
50 3-Methylphenol	108	4.787	4.787	0.000	93	476623	120.0	112.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
51 4-Methylphenol	108	4.787	4.787	0.000	92	476623	120.0	112.1	
52 N-Nitrosodi-n-propylamine	70	4.793	4.787	0.006	87	334309	120.0	110.5	
54 Acetophenone	105	4.793	4.793	0.000	88	639078	120.0	108.4	
58 Hexachloroethane	117	4.911	4.911	0.000	92	230014	120.0	116.4	
59 Nitrobenzene	77	4.958	4.958	0.000	94	538429	120.0	116.2	
63 Isophorone	82	5.181	5.181	0.000	97	914181	120.0	112.0	
64 2-Nitrophenol	139	5.263	5.263	0.000	94	292433	120.0	118.6	
65 2,4-Dimethylphenol	107	5.293	5.298	-0.005	95	493857	120.0	114.2	
68 Benzoic acid	105	5.422	5.410	0.012	69	769991	240.0	238.2	
69 Bis(2-chloroethoxy)methane	93	5.381	5.381	0.000	95	569686	120.0	114.1	
71 3,5-Dimethylphenol	107	5.422	5.428	-0.006	88	483398	120.0	112.1	
74 2,4-Dichlorophenol	162	5.498	5.498	0.000	94	423185	120.0	115.3	
76 1,2,4-Trichlorobenzene	180	5.587	5.586	0.001	94	470329	120.0	112.4	
79 Naphthalene	128	5.663	5.663	0.000	98	1374851	120.0	111.7	
80 4-Chloroaniline	127	5.704	5.704	0.000	96	584758	120.0	113.0	
81 2,6-Dichlorophenol	162	5.716	5.721	-0.005	96	410581	120.0	113.8	
83 Hexachlorobutadiene	225	5.792	5.792	0.000	95	272056	120.0	117.2	
86 Caprolactam	55	6.033	6.027	0.006	74	244082	120.0	111.7	M
89 4-Chloro-3-methylphenol	107	6.180	6.180	0.000	95	384208	120.0	110.2	
93 2-Methylnaphthalene	142	6.339	6.344	-0.005	95	962904	120.0	111.4	
96 1-Methylnaphthalene	142	6.438	6.444	-0.006	96	903894	120.0	111.9	
97 Hexachlorocyclopentadiene	237	6.509	6.515	-0.006	96	304466	120.0	121.6	
98 1,2,4,5-Tetrachlorobenzene	216	6.515	6.515	0.000	96	418508	120.0	109.2	
100 2,4,6-Trichlorophenol	196	6.621	6.620	0.001	92	263397	120.0	114.7	
101 2,3-Dichlorobenzenamine	161	6.615	6.620	-0.005	97	433773	120.0	112.9	
102 2,4,5-Trichlorophenol	196	6.656	6.656	0.000	94	292531	120.0	116.5	
104 1,1'-Biphenyl	154	6.803	6.803	0.000	95	1070372	120.0	113.1	
106 2-Chloronaphthalene	162	6.826	6.826	0.000	95	829374	120.0	114.3	
108 2-Nitroaniline	65	6.914	6.914	0.000	86	246498	120.0	113.9	
111 Dimethyl phthalate	163	7.097	7.096	0.001	99	787365	120.0	110.5	
112 1,3-Dinitrobenzene	168	7.120	7.120	0.000	88	147550	120.0	120.5	
113 2,6-Dinitrotoluene	165	7.149	7.155	-0.006	94	207218	120.0	114.0	
114 Acenaphthylene	152	7.238	7.243	-0.005	98	1229834	120.0	112.6	
115 3-Nitroaniline	138	7.320	7.326	-0.006	93	226696	120.0	116.1	
117 Acenaphthene	153	7.414	7.414	0.000	93	791508	120.0	111.6	
118 2,4-Dinitrophenol	184	7.426	7.425	0.001	83	234441	240.0	223.0	
119 4-Nitrophenol	109	7.490	7.490	0.000	95	211229	240.0	231.2	
122 2,4-Dinitrotoluene	165	7.555	7.561	-0.006	94	258642	120.0	114.9	
123 Dibenzofuran	168	7.584	7.584	0.000	98	1109480	120.0	111.6	
125 2,3,4,6-Tetrachlorophenol	232	7.708	7.707	0.001	71	229363	120.0	117.3	
127 Hexadecane	57	7.825	7.825	0.000	91	731044	120.0	115.1	
130 Diethyl phthalate	149	7.796	7.801	-0.005	98	729884	120.0	107.9	
134 4-Chlorophenyl phenyl ethe	204	7.919	7.919	0.000	93	395149	120.0	108.9	
135 Fluorene	166	7.925	7.931	-0.006	95	810470	120.0	107.6	
138 4-Nitroaniline	138	7.937	7.937	0.000	87	204160	120.0	111.1	
139 4,6-Dinitro-2-methylphenol	198	7.972	7.972	0.000	89	270449	240.0	237.7	
141 N-Nitrosodiphenylamine	169	8.031	8.036	-0.005	63	612960	120.0	118.4	
142 Diphenylamine	169	8.031	8.036	-0.005	95	612960	102.0	93.7	
143 1,2-Diphenylhydrazine	77	8.078	8.078	0.000	41	826606	121.3	111.8	
144 Azobenzene	77	8.078	8.078	0.000	97	826606	120.0	110.6	
147 2,4,6 - Tribromophenol	330	8.166	8.172	-0.006	95	115739	120.0	114.5	
156 4-Bromophenyl phenyl ether	248	8.407	8.413	-0.005	67	236026	120.0	117.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
157 Hexachlorobenzene	284	8.489	8.495	-0.006	95	228374	120.0	114.8	
159 Atrazine	200	8.560	8.565	-0.005	91	204308	120.0	117.8	
161 n-Octadecane	85	8.742	8.747	-0.005	91	223173	120.0	121.0	
163 Pentachlorophenol	266	8.677	8.683	-0.006	94	289744	240.0	242.8	
168 Phenanthrene	178	8.889	8.888	0.001	97	1100913	120.0	114.2	
169 Anthracene	178	8.936	8.941	-0.005	97	1143820	120.0	114.4	
170 Carbazole	167	9.088	9.094	-0.006	95	1021549	120.0	117.1	
171 Alachlor	188	9.235	9.235	0.000	95	141708	120.0	117.4	
173 Di-n-butyl phthalate	149	9.429	9.435	-0.006	99	1119612	120.0	116.8	
179 Fluoranthene	202	10.181	10.187	-0.006	98	1144918	120.0	117.8	
182 Pyrene	202	10.487	10.492	-0.005	97	1191627	120.0	112.0	
188 Famphur	218	11.427	11.433	-0.006	83	387210	120.0	123.5	
190 Butyl benzyl phthalate	149	11.544	11.556	-0.012	97	495896	120.0	120.1	
195 Bis(2-ethylhexyl) phthalat	149	12.849	12.860	-0.011	97	653813	120.0	124.3	
197 3,3'-Dichlorobenzidine	252	12.620	12.625	-0.005	73	316340	120.0	118.3	
198 Benzo[a]anthracene	228	12.655	12.661	-0.006	98	1097785	120.0	117.3	
199 Chrysene	228	12.737	12.743	-0.006	97	1074958	120.0	118.3	
201 Di-n-octyl phthalate	149	14.570	14.588	-0.018	99	1079412	120.0	120.3	
203 Benzo[b]fluoranthene	252	15.381	15.387	-0.006	97	999236	120.0	121.4	
204 Benzo[k]fluoranthene	252	15.452	15.463	-0.011	99	1074645	120.0	121.4	
206 Benzo[e]pyrene	252	16.127	16.139	-0.012	97	945155	120.0	120.3	
207 Benzo[a]pyrene	252	16.268	16.280	-0.012	77	1017763	120.0	122.6	
213 Dibenz(a,h)anthracene	278	19.565	19.570	-0.005	94	883744	120.0	128.2	
214 Indeno[1,2,3-cd]pyrene	276	19.465	19.476	-0.011	98	862769	120.0	129.0	
215 Benzo[g,h,i]perylene	276	20.181	20.193	-0.012	98	951206	120.0	123.4	
S 217 Total Cresols	108				0			228.0	
S 218 Methyl Phenols,Total	108				0			228.0	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLA120_00039 Amount Added: 200.00 Units: uL

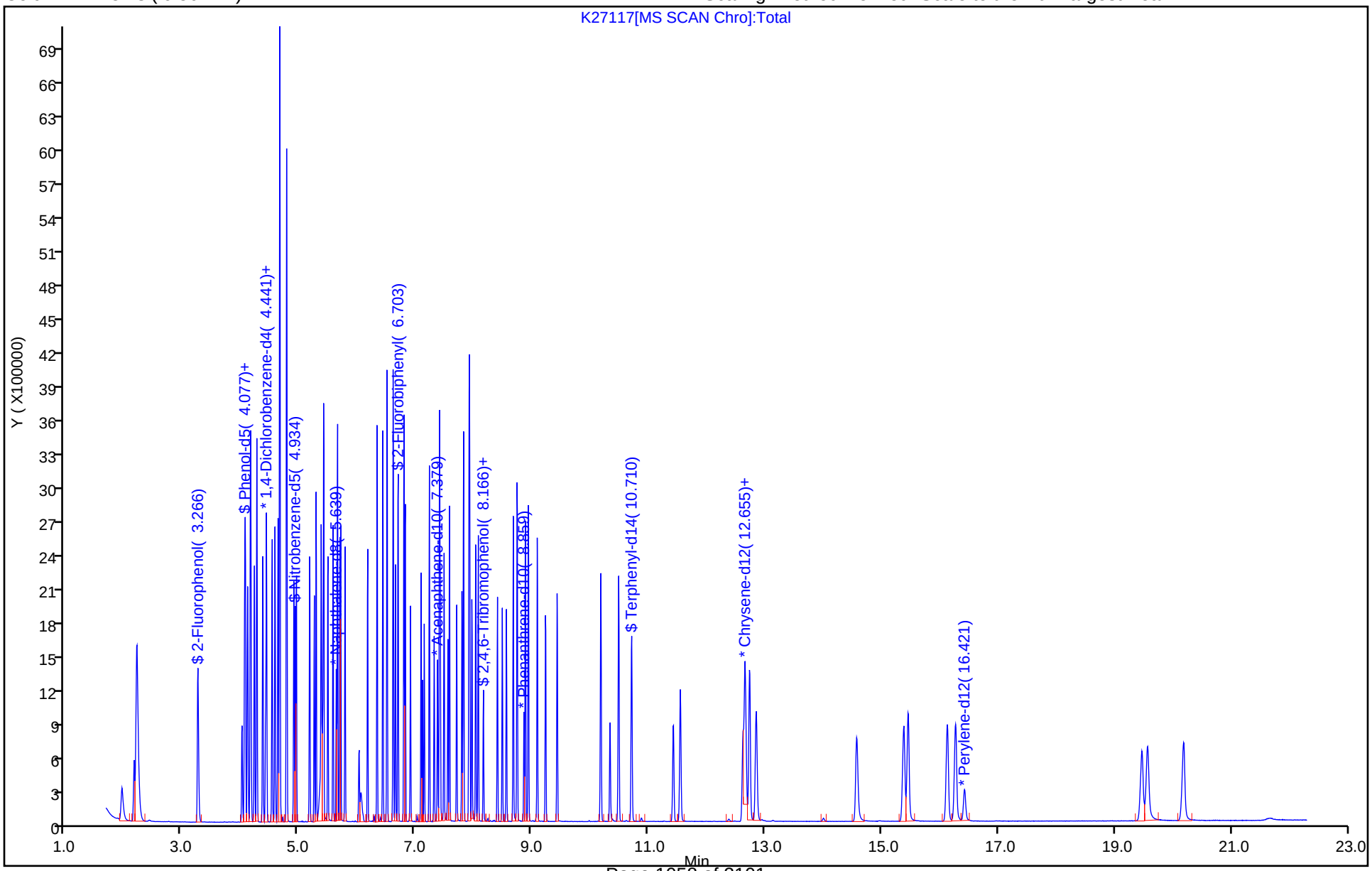
Report Date: 24-Oct-2018 06:02:33 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27117.D

Injection Date:	23-Oct-2018 15:57:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	STD120 HSL			Worklist Smp#:	8
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

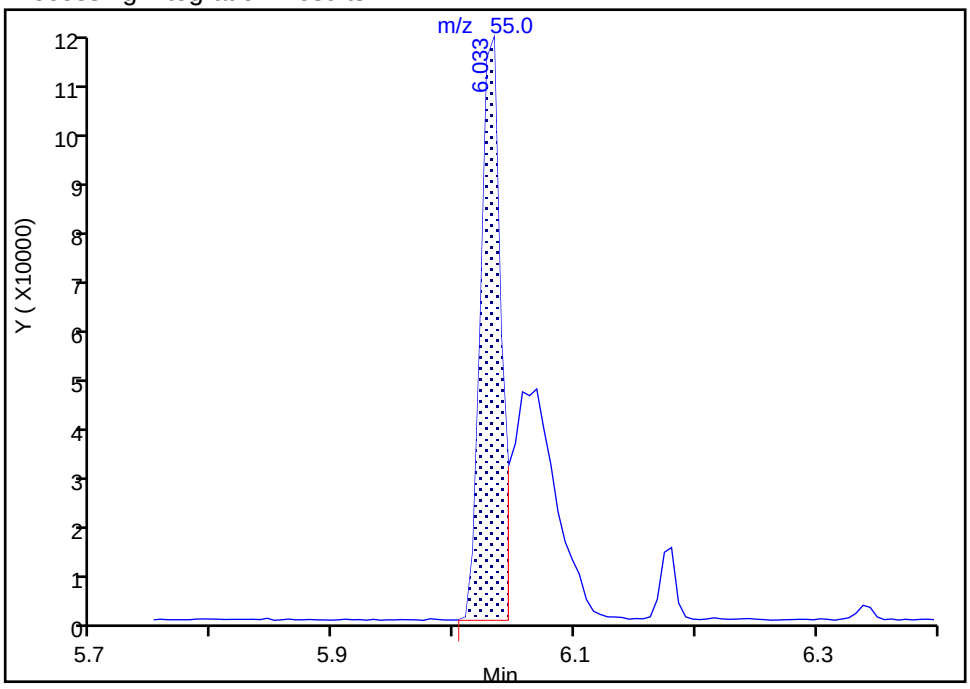
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27117.D
Injection Date: 23-Oct-2018 15:57:30 Instrument ID: SMS_K
Lims ID: STD120 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

86 Caprolactam, CAS: 105-60-2

Signal: 1

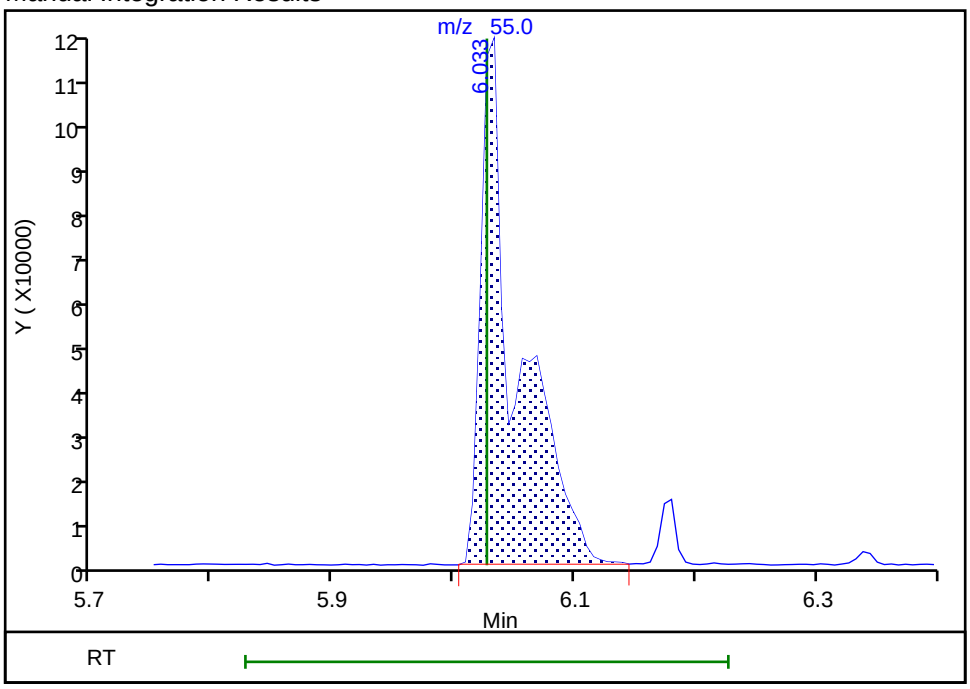
Processing Integration Results

RT: 6.03
Area: 136861
Amount: 68.429513
Amount Units: ug/ml



Manual Integration Results

RT: 6.03
Area: 244082
Amount: 111.6530
Amount Units: ug/ml



Reviewer: kiekeld, 23-Oct-2018 16:27:02
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27118.D
Lims ID: STD160 HSL
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 23-Oct-2018 16:25:30 ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD160 HSL
Operator ID: KIEKELD Instrument ID: SMS_K
Sublist: chrom-SMSK_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 24-Oct-2018 06:02:39 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0307

First Level Reviewer: kiekeld Date: 23-Oct-2018 16:57:22

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.429	4.429	0.000	95	130584	40.0	40.0	
* 2 Naphthalene-d8	136	5.639	5.639	0.000	99	488526	40.0	40.0	
* 3 Acenaphthene-d10	164	7.378	7.384	-0.006	95	230586	40.0	40.0	
* 4 Phenanthrene-d10	188	8.859	8.865	-0.006	97	368650	40.0	40.0	
* 5 Chrysene-d12	240	12.678	12.684	-0.006	99	313537	40.0	40.0	
* 6 Perylene-d12	264	16.427	16.433	-0.006	98	307756	40.0	40.0	
$ 7 2-Fluorophenol	112	3.266	3.266	0.000	94	750203	160.0	153.9	
$ 8 Phenol-d5	99	4.071	4.065	0.006	98	824915	160.0	149.1	
$ 9 Nitrobenzene-d5	82	4.940	4.940	0.000	95	705078	160.0	152.8	
$ 11 2-Fluorobiphenyl	172	6.703	6.703	0.000	100	1225804	160.0	152.3	
$ 12 2,4,6-Tribromophenol	330	8.166	8.172	-0.006	94	156471	160.0	162.8	
$ 13 Terphenyl-d14	244	10.710	10.716	-0.006	98	1168820	160.0	152.0	
19 1,4-Dioxane	88	1.961	1.961	0.000	94	324473	160.0	156.8	
20 N-Nitrosodimethylamine	74	2.173	2.173	0.000	85	497801	160.0	155.9	
21 Pyridine	79	2.220	2.220	0.000	81	1587997	320.0	309.0	
32 Phenol	94	4.082	4.082	0.000	97	845808	160.0	147.4	
34 Aniline	93	4.118	4.117	0.001	96	1062431	160.0	151.3	
35 Alpha Methyl Styrene	118	4.170	4.170	0.000	93	694429	160.0	144.5	
36 Bis(2-chloroethyl)ether	93	4.165	4.164	0.001	94	607630	160.0	142.4	
38 n-Decane	43	4.276	4.276	0.000	95	983645	160.0	147.3	
39 2-Chlorophenol	128	4.235	4.235	0.000	98	708112	160.0	150.2	
40 1,3-Dichlorobenzene	146	4.382	4.382	0.000	98	773378	160.0	147.0	
42 1,4-Dichlorobenzene	146	4.441	4.446	-0.005	94	784659	160.0	148.6	
43 Benzyl alcohol	108	4.541	4.541	0.001	92	470459	160.0	151.0	
44 1,2-Dichlorobenzene	146	4.588	4.588	0.000	97	743588	160.0	147.9	
45 2-Methylphenol	108	4.640	4.640	0.000	96	650738	160.0	150.5	
46 2,2'-oxybis[1-chloropropan	45	4.670	4.670	0.000	91	1095845	160.0	156.2	
47 Indene	116	4.676	4.670	0.006	92	1955254	320.0	271.4	
49 3 & 4 Methylphenol	108	4.787	4.787	0.000	83	591418	160.0	140.7	
50 3-Methylphenol	108	4.787	4.787	0.000	92	591418	160.0	140.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
51 4-Methylphenol	108	4.787	4.787	0.000	94	591418	160.0	140.7	
52 N-Nitrosodi-n-propylamine	70	4.793	4.787	0.006	92	418563	160.0	139.9	
54 Acetophenone	105	4.793	4.793	0.000	87	789897	160.0	135.5	
58 Hexachloroethane	117	4.911	4.911	0.000	93	296429	160.0	151.6	
59 Nitrobenzene	77	4.958	4.958	0.000	95	691307	160.0	154.3	
63 Isophorone	82	5.187	5.181	0.006	97	1176405	160.0	149.0	
64 2-Nitrophenol	139	5.263	5.263	0.000	94	376912	160.0	158.0	
65 2,4-Dimethylphenol	107	5.299	5.298	0.001	94	629641	160.0	150.6	
68 Benzoic acid	105	5.440	5.410	0.030	91	1024554	320.0	325.7	
69 Bis(2-chloroethoxy)methane	93	5.381	5.381	0.000	96	726216	160.0	150.4	
71 3,5-Dimethylphenol	107	5.428	5.428	0.000	89	610268	160.0	146.3	
74 2,4-Dichlorophenol	162	5.498	5.498	0.000	94	541680	160.0	152.6	
76 1,2,4-Trichlorobenzene	180	5.586	5.586	0.000	94	607007	160.0	150.1	
79 Naphthalene	128	5.663	5.663	0.000	98	1748807	160.0	146.9	
80 4-Chloroaniline	127	5.704	5.704	0.000	95	738390	160.0	147.6	
81 2,6-Dichlorophenol	162	5.716	5.721	-0.005	96	518163	160.0	148.5	
83 Hexachlorobutadiene	225	5.792	5.792	0.000	95	343986	160.0	153.3	
86 Caprolactam	55	6.039	6.027	0.012	73	325215	160.0	153.9	M
89 4-Chloro-3-methylphenol	107	6.180	6.180	0.000	96	499389	160.0	148.1	
93 2-Methylnaphthalene	142	6.344	6.344	0.000	95	1200850	160.0	143.6	
96 1-Methylnaphthalene	142	6.438	6.444	-0.006	95	1131813	160.0	144.9	
97 Hexachlorocyclopentadiene	237	6.509	6.515	-0.006	95	384728	160.0	160.7	
98 1,2,4,5-Tetrachlorobenzene	216	6.515	6.515	0.000	96	529068	160.0	142.8	
100 2,4,6-Trichlorophenol	196	6.621	6.620	0.001	92	333096	160.0	151.7	
101 2,3-Dichlorobenzenamine	161	6.615	6.620	-0.005	97	542074	160.0	147.6	
102 2,4,5-Trichlorophenol	196	6.656	6.656	0.000	94	377263	160.0	157.1	
104 1,1'-Biphenyl	154	6.803	6.803	0.000	95	1349283	160.0	149.0	
106 2-Chloronaphthalene	162	6.826	6.826	0.000	95	1051253	160.0	151.4	
108 2-Nitroaniline	65	6.914	6.914	0.000	85	325903	160.0	157.4	
111 Dimethyl phthalate	163	7.096	7.096	0.000	99	1020756	160.0	149.8	
112 1,3-Dinitrobenzene	168	7.120	7.120	0.000	89	201254	160.0	171.9	
113 2,6-Dinitrotoluene	165	7.155	7.155	0.000	94	272641	160.0	156.8	
114 Acenaphthylene	152	7.237	7.243	-0.006	98	1572215	160.0	150.5	
115 3-Nitroaniline	138	7.326	7.326	0.000	95	299418	160.0	160.3	
117 Acenaphthene	153	7.414	7.414	0.000	94	996673	160.0	147.0	
118 2,4-Dinitrophenol	184	7.425	7.425	0.000	82	335434	320.0	329.4	
119 4-Nitrophenol	109	7.496	7.490	0.006	95	285246	320.0	326.5	
122 2,4-Dinitrotoluene	165	7.561	7.561	0.000	94	341504	160.0	158.7	
123 Dibenzofuran	168	7.584	7.584	0.000	97	1407539	160.0	148.0	
125 2,3,4,6-Tetrachlorophenol	232	7.708	7.707	0.001	71	298957	160.0	159.8	
127 Hexadecane	57	7.825	7.825	0.000	90	929387	160.0	152.9	
130 Diethyl phthalate	149	7.802	7.801	0.001	99	960471	160.0	148.4	
134 4-Chlorophenyl phenyl ethe	204	7.919	7.919	0.000	90	510072	160.0	147.0	
135 Fluorene	166	7.925	7.931	-0.006	94	1023040	160.0	142.1	
138 4-Nitroaniline	138	7.937	7.937	0.000	86	283554	160.0	161.3	
139 4,6-Dinitro-2-methylphenol	198	7.972	7.972	0.000	85	377001	320.0	324.4	
141 N-Nitrosodiphenylamine	169	8.037	8.036	0.001	62	806978	160.0	153.8	
142 Diphenylamine	169	8.037	8.036	0.001	96	806978	136.0	129.0	
143 1,2-Diphenylhydrazine	77	8.078	8.078	0.000	41	1075371	161.8	152.1	
144 Azobenzene	77	8.078	8.078	0.000	97	1075371	160.0	150.4	
147 2,4,6 - Tribromophenol	330	8.166	8.172	-0.006	94	156471	160.0	161.9	
156 4-Bromophenyl phenyl ether	248	8.407	8.413	-0.005	67	315774	160.0	154.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
157 Hexachlorobenzene	284	8.489	8.495	-0.006	95	306214	160.0	151.8	
159 Atrazine	200	8.559	8.565	-0.006	91	275278	160.0	156.5	
161 n-Octadecane	85	8.742	8.747	-0.005	92	282871	160.0	151.3	
163 Pentachlorophenol	266	8.677	8.683	-0.006	93	385679	320.0	317.9	
168 Phenanthrene	178	8.888	8.888	0.000	97	1465907	160.0	150.0	
169 Anthracene	178	8.936	8.941	-0.005	97	1522931	160.0	150.3	
170 Carbazole	167	9.088	9.094	-0.006	95	1384033	160.0	156.5	
171 Alachlor	188	9.235	9.235	0.000	95	196003	160.0	160.2	
173 Di-n-butyl phthalate	149	9.429	9.435	-0.006	99	1535501	160.0	157.9	
179 Fluoranthene	202	10.181	10.187	-0.006	98	1577733	160.0	160.1	
182 Pyrene	202	10.487	10.492	-0.005	97	1654087	160.0	149.1	
188 Famphur	218	11.427	11.433	-0.006	84	511190	160.0	156.3	
190 Butyl benzyl phthalate	149	11.544	11.556	-0.012	97	699401	160.0	162.5	
195 Bis(2-ethylhexyl) phthalat	149	12.849	12.860	-0.011	97	928194	160.0	169.3	
197 3,3'-Dichlorobenzidine	252	12.619	12.625	-0.006	73	461656	160.0	165.6	
198 Benzo[a]anthracene	228	12.655	12.661	-0.006	98	1556759	160.0	159.6	
199 Chrysene	228	12.737	12.743	-0.006	97	1525563	160.0	161.0	
201 Di-n-octyl phthalate	149	14.576	14.588	-0.012	99	1607220	160.0	171.2	
203 Benzo[b]fluoranthene	252	15.387	15.387	0.000	97	1445354	160.0	163.3	
204 Benzo[k]fluoranthene	252	15.463	15.463	0.000	99	1525112	160.0	160.2	
206 Benzo[e]pyrene	252	16.133	16.139	-0.006	96	1365296	160.0	161.6	
207 Benzo[a]pyrene	252	16.274	16.280	-0.006	77	1489555	160.0	166.9	
213 Dibenz(a,h)anthracene	278	19.570	19.570	0.000	94	1279318	160.0	172.6	
214 Indeno[1,2,3-cd]pyrene	276	19.476	19.476	0.000	98	1265753	160.0	181.5	
215 Benzo[g,h,i]perylene	276	20.193	20.193	0.000	98	1406320	160.0	169.8	
S 217 Total Cresols	108				0			291.2	
S 218 Methyl Phenols,Total	108				0			291.2	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLA160_00039 Amount Added: 200.00 Units: uL

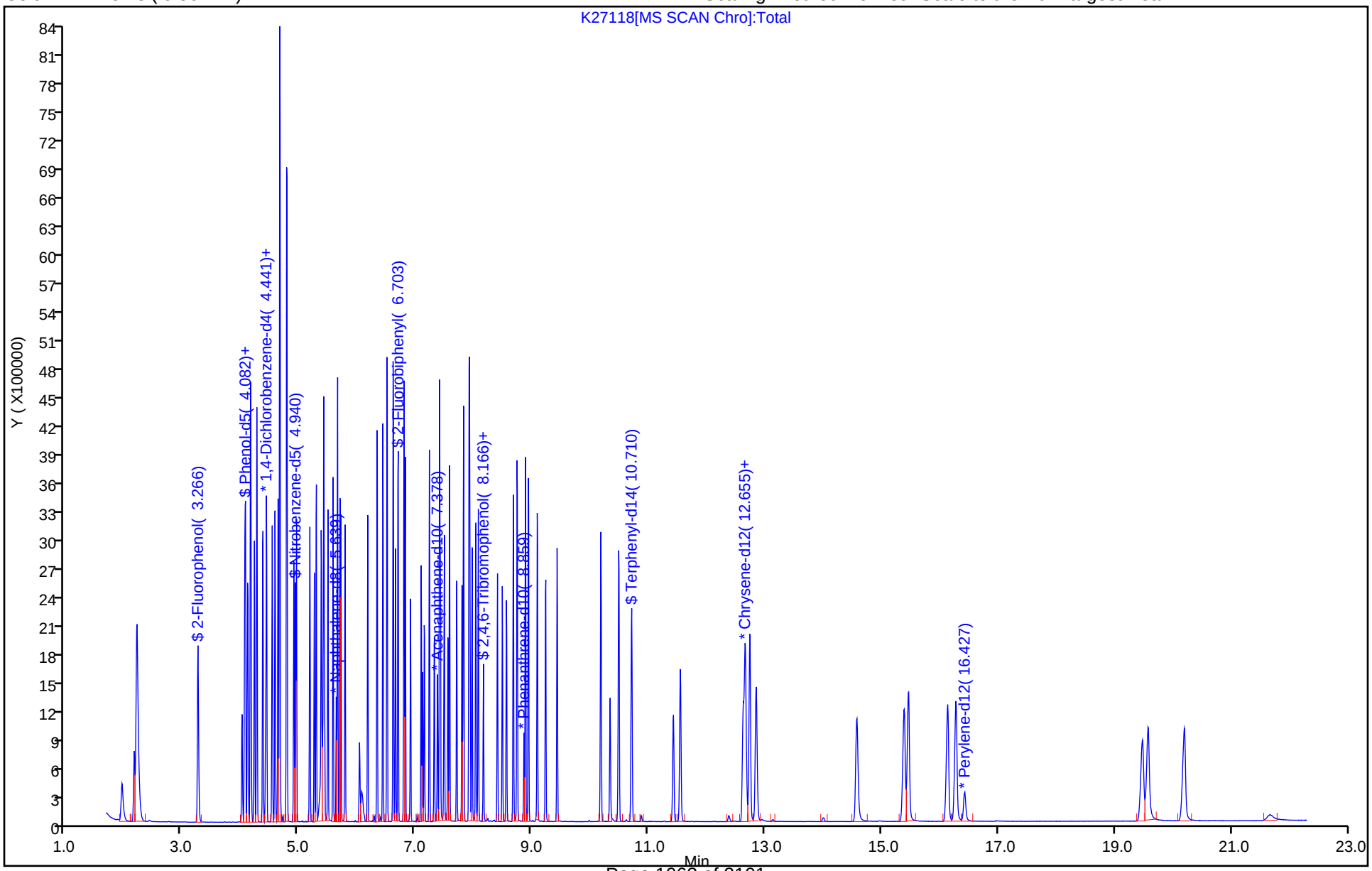
Report Date: 24-Oct-2018 06:02:40 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27118.D

Injection Date:	23-Oct-2018 16:25:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	STD160 HSL			Worklist Smp#:	9
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

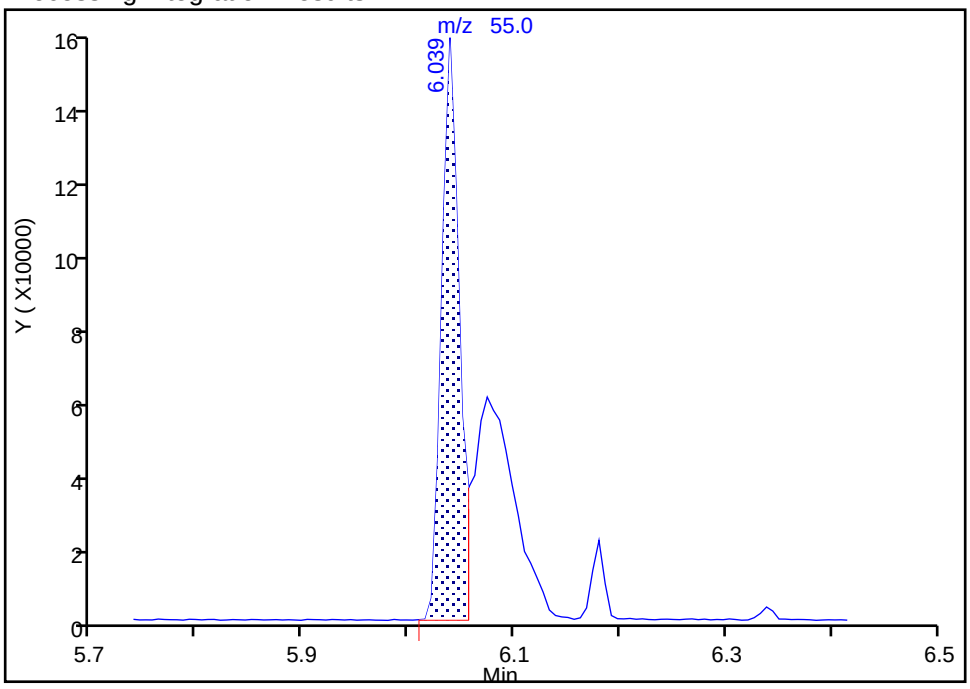
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27118.D
Injection Date: 23-Oct-2018 16:25:30 Instrument ID: SMS_K
Lims ID: STD160 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

86 Caprolactam, CAS: 105-60-2

Signal: 1

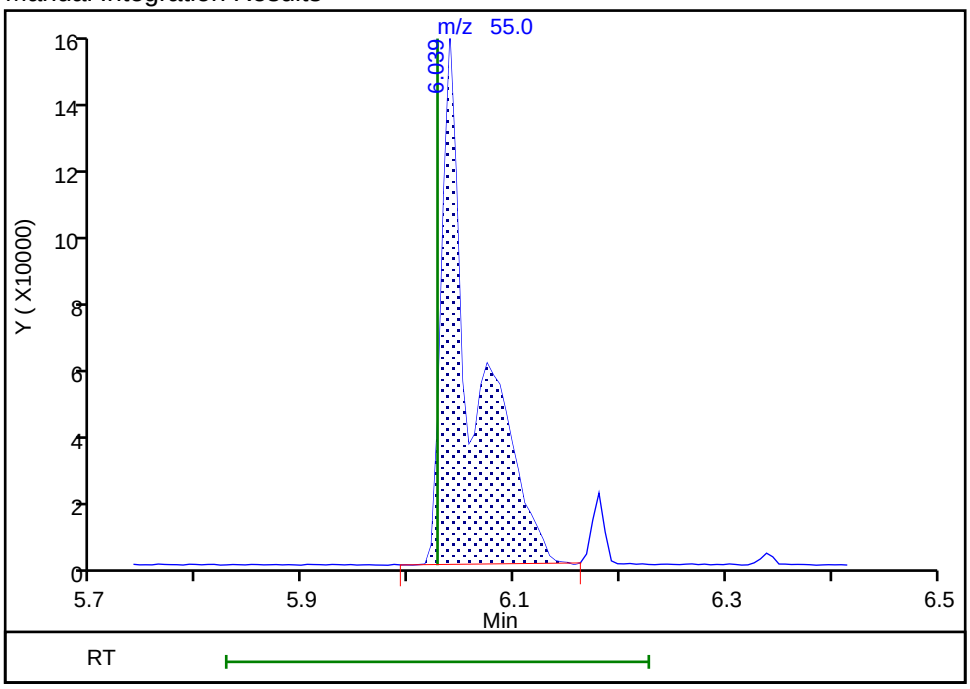
Processing Integration Results

RT: 6.04
Area: 179913
Amount: 92.659356
Amount Units: ug/ml



Manual Integration Results

RT: 6.04
Area: 325215
Amount: 153.8560
Amount Units: ug/ml



Reviewer: kiekeld, 23-Oct-2018 16:53:45
Audit Action: Manually Integrated Audit Reason: Split Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D
Lims ID: STD200 HSL
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 23-Oct-2018 16:54:30 ALS Bottle#: 9 Worklist Smp#: 10
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: STD200 HSL
Operator ID: KIEKELD Instrument ID: SMS_K
Sublist: chrom-SMSK_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 24-Oct-2018 06:02:43 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0307

First Level Reviewer: kiekeld Date: 24-Oct-2018 05:21:43

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.429	4.429	0.000	95	127016	40.0	40.0	
* 2 Naphthalene-d8	136	5.639	5.639	0.000	99	490380	40.0	40.0	
* 3 Acenaphthene-d10	164	7.378	7.384	-0.006	94	252099	40.0	40.0	
* 4 Phenanthrene-d10	188	8.865	8.865	0.000	97	461193	40.0	40.0	
* 5 Chrysene-d12	240	12.684	12.684	0.000	99	416647	40.0	40.0	
* 6 Perylene-d12	264	16.433	16.433	0.000	98	415691	40.0	40.0	
$ 7 2-Fluorophenol	112	3.266	3.266	0.000	94	906416	200.0	191.2	
$ 8 Phenol-d5	99	4.070	4.065	0.005	99	992075	200.0	184.3	
$ 9 Nitrobenzene-d5	82	4.940	4.940	0.000	95	857019	200.0	185.0	
$ 11 2-Fluorobiphenyl	172	6.703	6.703	0.000	100	1532807	200.0	174.2	
$ 12 2,4,6-Tribromophenol	330	8.172	8.172	0.000	94	222763	200.0	212.0	
$ 13 Terphenyl-d14	244	10.710	10.716	-0.006	98	1814405	200.0	177.5	
19 1,4-Dioxane	88	1.961	1.961	0.000	94	393695	200.0	195.6	
20 N-Nitrosodimethylamine	74	2.173	2.173	0.000	85	606080	200.0	195.1	
21 Pyridine	79	2.220	2.220	0.000	81	1917863	400.0	383.6	
32 Phenol	94	4.082	4.082	0.000	97	1011432	200.0	181.3	
34 Aniline	93	4.123	4.117	0.006	96	1317520	200.0	192.9	
35 Alpha Methyl Styrene	118	4.176	4.170	0.006	93	829991	200.0	177.6	
36 Bis(2-chloroethyl)ether	93	4.164	4.164	0.000	95	723186	200.0	174.2	
38 n-Decane	43	4.276	4.276	0.000	94	1163893	200.0	179.2	
39 2-Chlorophenol	128	4.235	4.235	0.000	98	852396	200.0	185.9	
40 1,3-Dichlorobenzene	146	4.382	4.382	0.000	98	934555	200.0	182.7	
42 1,4-Dichlorobenzene	146	4.441	4.446	-0.005	93	924921	200.0	180.0	
43 Benzyl alcohol	108	4.546	4.541	0.006	92	565727	200.0	186.7	
44 1,2-Dichlorobenzene	146	4.588	4.588	0.000	97	895169	200.0	183.1	
45 2-Methylphenol	108	4.640	4.640	0.000	95	780872	200.0	185.7	
46 2,2'-oxybis[1-chloropropan	45	4.670	4.670	0.000	90	1267878	200.0	203.2	
47 Indene	116	4.676	4.670	0.006	91	2263846	400.0	323.0	
49 3 & 4 Methylphenol	108	4.787	4.787	0.000	79	689990	200.0	168.7	
50 3-Methylphenol	108	4.787	4.787	0.000	92	689990	200.0	168.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
51 4-Methylphenol	108	4.787	4.787	0.000	91	689990	200.0	168.7	
52 N-Nitrosodi-n-propylamine	70	4.799	4.787	0.012	94	503716	200.0	173.0	
54 Acetophenone	105	4.793	4.793	0.000	87	939950	200.0	165.8	
58 Hexachloroethane	117	4.911	4.911	0.000	92	348747	200.0	183.4	
59 Nitrobenzene	77	4.958	4.958	0.000	96	823757	200.0	183.2	
63 Isophorone	82	5.193	5.181	0.012	97	1468168	200.0	185.2	
64 2-Nitrophenol	139	5.263	5.263	0.000	94	458023	200.0	191.3	
65 2,4-Dimethylphenol	107	5.298	5.298	0.000	95	763326	200.0	181.9	
68 Benzoic acid	105	5.457	5.410	0.047	92	1326877	400.0	418.7	
69 Bis(2-chloroethoxy)methane	93	5.387	5.381	0.006	96	879688	200.0	181.5	
71 3,5-Dimethylphenol	107	5.428	5.428	0.000	86	739442	200.0	176.6	
74 2,4-Dichlorophenol	162	5.498	5.498	0.000	95	668491	200.0	187.6	
76 1,2,4-Trichlorobenzene	180	5.586	5.586	0.000	94	725459	200.0	178.7	
79 Naphthalene	128	5.663	5.663	0.000	98	2079988	200.0	174.1	
80 4-Chloroaniline	127	5.704	5.704	0.000	96	935656	200.0	186.4	
81 2,6-Dichlorophenol	162	5.722	5.721	0.001	96	634081	200.0	181.0	
83 Hexachlorobutadiene	225	5.792	5.792	0.000	95	405687	200.0	180.1	
86 Caprolactam	55	6.051	6.027	0.024	73	483898	200.0	228.1	M
89 4-Chloro-3-methylphenol	107	6.186	6.180	0.006	95	642467	200.0	189.8	
93 2-Methylnaphthalene	142	6.344	6.344	0.000	95	1478843	200.0	176.2	
96 1-Methylnaphthalene	142	6.444	6.444	0.000	96	1380102	200.0	176.0	
97 Hexachlorocyclopentadiene	237	6.509	6.515	-0.006	95	470449	200.0	179.7	
98 1,2,4,5-Tetrachlorobenzene	216	6.515	6.515	0.000	97	648636	200.0	174.4	
100 2,4,6-Trichlorophenol	196	6.620	6.620	0.000	93	420507	200.0	175.1	
101 2,3-Dichlorobenzenamine	161	6.615	6.620	-0.005	97	680918	200.0	169.5	
102 2,4,5-Trichlorophenol	196	6.662	6.656	0.006	94	498611	200.0	190.0	
104 1,1'-Biphenyl	154	6.803	6.803	0.000	95	1702046	200.0	171.9	
106 2-Chloronaphthalene	162	6.826	6.826	0.000	96	1332768	200.0	175.6	
108 2-Nitroaniline	65	6.920	6.914	0.006	86	457682	200.0	202.2	
111 Dimethyl phthalate	163	7.102	7.096	0.006	99	1413397	200.0	189.8	
112 1,3-Dinitrobenzene	168	7.126	7.120	0.006	89	288701	200.0	225.5	
113 2,6-Dinitrotoluene	165	7.155	7.155	0.000	94	392124	200.0	206.3	
114 Acenaphthylene	152	7.237	7.243	-0.006	98	2034677	200.0	178.2	
115 3-Nitroaniline	138	7.326	7.326	0.000	94	443090	200.0	217.0	
117 Acenaphthene	153	7.414	7.414	0.000	94	1300166	200.0	175.3	
118 2,4-Dinitrophenol	184	7.431	7.425	0.006	82	513584	400.0	457.9	
119 4-Nitrophenol	109	7.502	7.490	0.012	95	439292	400.0	459.9	
122 2,4-Dinitrotoluene	165	7.561	7.561	0.000	95	510758	200.0	217.1	
123 Dibenzofuran	168	7.584	7.584	0.000	97	1886729	200.0	181.5	
125 2,3,4,6-Tetrachlorophenol	232	7.707	7.707	0.000	71	430677	200.0	210.6	
127 Hexadecane	57	7.825	7.825	0.000	91	1144989	200.0	172.3	
130 Diethyl phthalate	149	7.801	7.801	0.000	98	1372470	200.0	194.0	
134 4-Chlorophenyl phenyl ethe	204	7.919	7.919	0.000	93	694772	200.0	183.2	
135 Fluorene	166	7.931	7.931	0.000	95	1393076	200.0	177.0	
138 4-Nitroaniline	138	7.948	7.937	0.011	86	445099	200.0	231.6	
139 4,6-Dinitro-2-methylphenol	198	7.978	7.972	0.006	84	575387	400.0	394.4	
141 N-Nitrosodiphenylamine	169	8.036	8.036	0.000	62	1135262	200.0	172.9	
142 Diphenylamine	169	8.036	8.036	0.000	95	1135262	170.0	166.0	
143 1,2-Diphenylhydrazine	77	8.078	8.078	0.000	41	1484315	202.2	192.0	
144 Azobenzene	77	8.078	8.078	0.000	97	1484315	200.0	189.9	
147 2,4,6 - Tribromophenol	330	8.172	8.172	0.000	94	222718	200.0	210.8	
156 4-Bromophenyl phenyl ether	248	8.407	8.413	-0.005	66	451115	200.0	176.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
157 Hexachlorobenzene	284	8.495	8.495	0.000	94	437360	200.0	173.3	
159 Atrazine	200	8.565	8.565	0.000	91	415351	200.0	188.8	
161 n-Octadecane	85	8.747	8.747	0.000	91	376092	200.0	160.8	
163 Pentachlorophenol	266	8.683	8.683	0.000	94	587054	400.0	386.2	
168 Phenanthrene	178	8.888	8.888	0.000	98	2145671	200.0	175.5	
169 Anthracene	178	8.941	8.941	0.000	97	2226050	200.0	175.6	
170 Carbazole	167	9.094	9.094	0.000	95	2048930	200.0	185.2	
171 Alachlor	188	9.235	9.235	0.000	94	294319	200.0	192.2	
173 Di-n-butyl phthalate	149	9.435	9.435	0.000	99	2279983	200.0	187.5	
179 Fluoranthene	202	10.187	10.187	0.000	98	2418055	200.0	196.1	
182 Pyrene	202	10.492	10.492	0.000	97	2518499	200.0	170.8	
188 Famphur	218	11.427	11.433	-0.006	84	696705	200.0	160.4	
190 Butyl benzyl phthalate	149	11.550	11.556	-0.006	97	1110823	200.0	194.2	
195 Bis(2-ethylhexyl) phthalat	149	12.849	12.860	-0.011	97	1499308	200.0	205.8	
197 3,3'-Dichlorobenzidine	252	12.631	12.625	0.006	73	755169	200.0	203.8	
198 Benzo[a]anthracene	228	12.661	12.661	0.000	98	2468166	200.0	190.4	
199 Chrysene	228	12.743	12.743	0.000	97	2398580	200.0	190.5	
201 Di-n-octyl phthalate	149	14.582	14.588	-0.006	99	2606177	200.0	208.7	
203 Benzo[b]fluoranthene	252	15.393	15.387	0.006	97	2372432	200.0	198.5	
204 Benzo[k]fluoranthene	252	15.475	15.463	0.012	99	2436374	200.0	189.5	
206 Benzo[e]pyrene	252	16.151	16.139	0.012	97	2213624	200.0	194.0	
207 Benzo[a]pyrene	252	16.292	16.280	0.012	77	2407134	200.0	199.7	
213 Dibenz(a,h)anthracene	278	19.594	19.570	0.024	92	2098766	200.0	209.6	
214 Indeno[1,2,3-cd]pyrene	276	19.494	19.476	0.018	98	2116080	200.0	228.4	
215 Benzo[g,h,i]perylene	276	20.217	20.193	0.024	98	2271057	200.0	203.0	
S 217 Total Cresols	108				0			354.4	
S 218 Methyl Phenols,Total	108				0			354.4	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-HSLA200_00039 Amount Added: 200.00 Units: uL

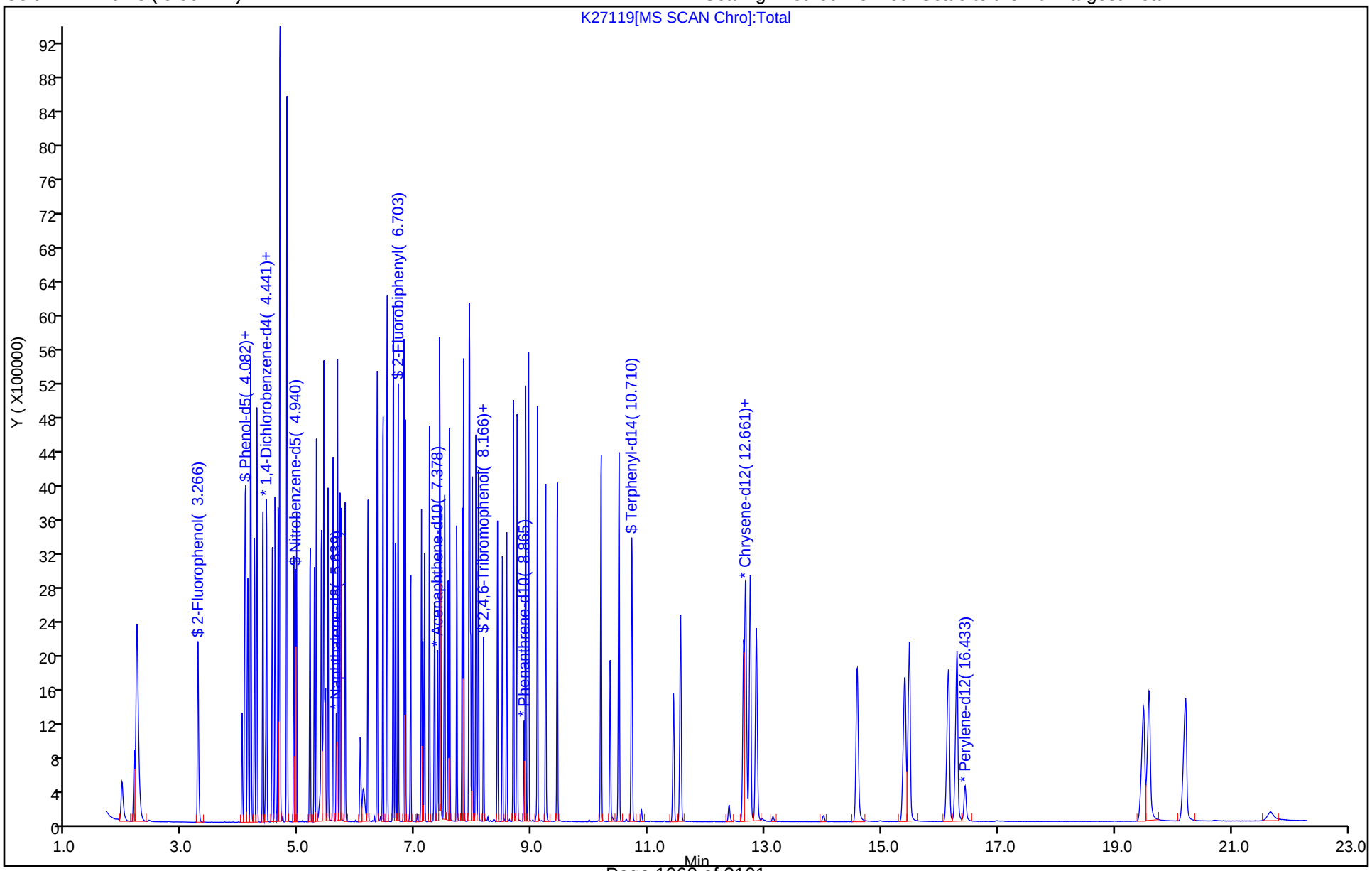
Report Date: 24-Oct-2018 06:02:44 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Injection Date:	23-Oct-2018 16:54:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	STD200 HSL			Worklist Smp#:	10
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

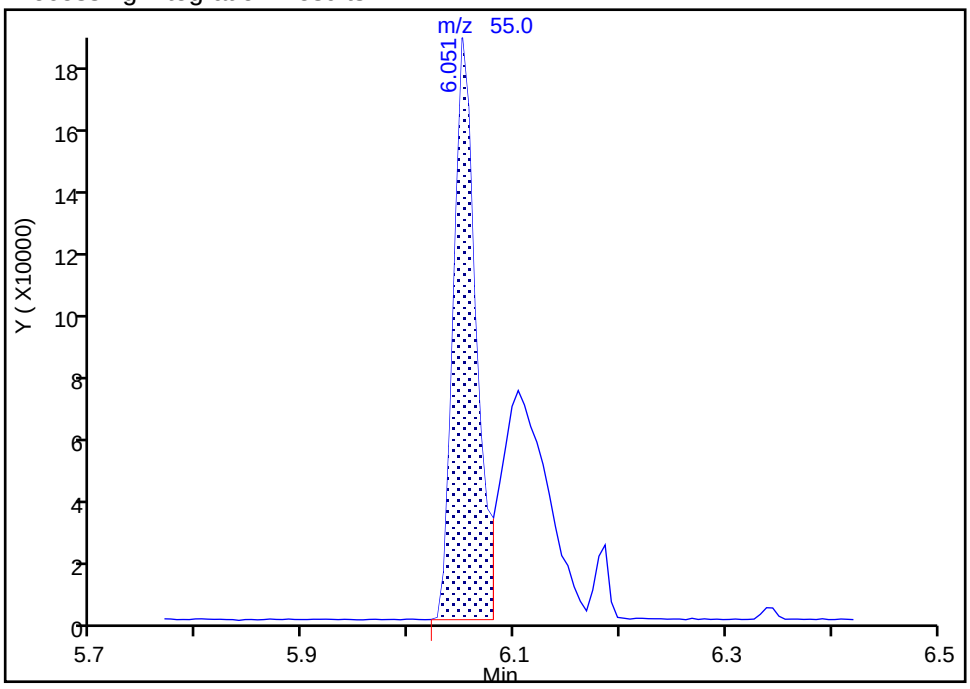
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D
Injection Date: 23-Oct-2018 16:54:30 Instrument ID: SMS_K
Lims ID: STD200 HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 9 Worklist Smp#: 10
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

86 Caprolactam, CAS: 105-60-2

Signal: 1

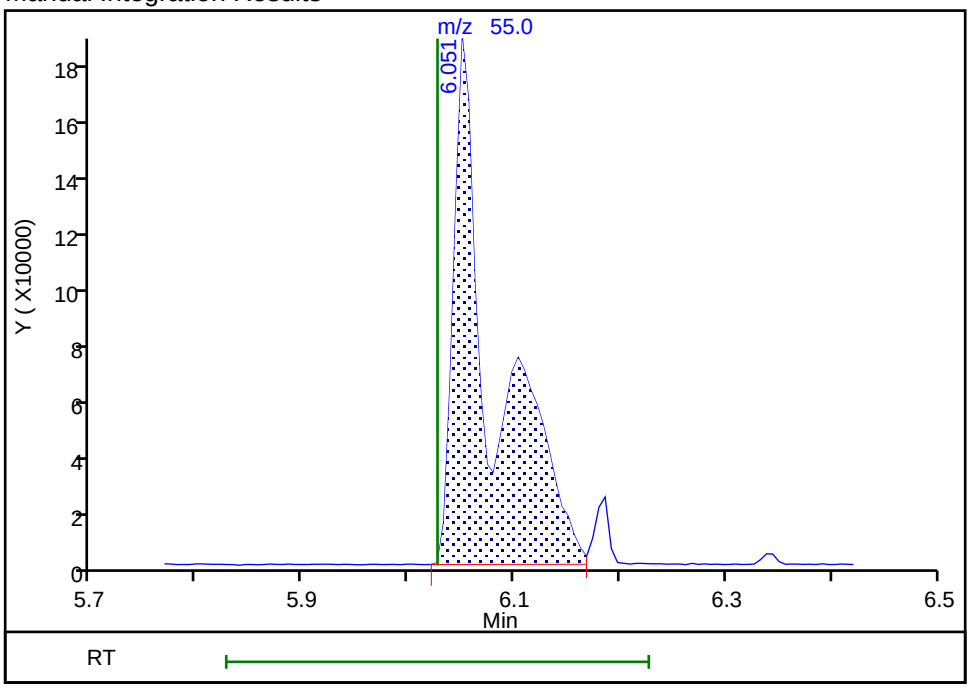
Processing Integration Results

RT: 6.05
Area: 274378
Amount: 137.8206
Amount Units: ug/ml



Manual Integration Results

RT: 6.05
Area: 483898
Amount: 228.0618
Amount Units: ug/ml



Reviewer: kiekeld, 24-Oct-2018 05:19:01
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-434399/11 Calibration Date: 10/23/2018 17:23

Instrument ID: SMS_K Calib Start Date: 10/23/2018 13:33

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/23/2018 16:54

Lab File ID: K27120.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.6338	0.6334		99900	100000	-0.0	20.0
N-Nitrosodimethylamine	Ave	0.9782	0.9508		97200	100000	-2.8	20.0
Pyridine	Ave	1.574	1.629		207000	200000	3.5	20.0
Phenol	Ave	1.757	1.702	0.8000	96800	100000	-3.2	20.0
Aniline	Ave	2.151	2.065		96000	100000	-4.0	20.0
Bis(2-chloroethyl)ether	Ave	1.307	1.227	0.7000	93900	100000	-6.1	20.0
2-Chlorophenol	Ave	1.444	1.389	0.8000	96200	100000	-3.8	20.0
1,3-Dichlorobenzene	Ave	1.611	1.525		94600	100000	-5.4	20.0
1,4-Dichlorobenzene	Ave	1.618	1.551		95800	100000	-4.2	20.0
Benzyl alcohol	Ave	0.9545	0.9354		98000	100000	-2.0	20.0
1,2-Dichlorobenzene	Ave	1.540	1.473		95700	100000	-4.3	20.0
2-Methylphenol	Ave	1.324	1.266	0.7000	95600	100000	-4.4	20.0
2,2'-oxybis[1-chloropropane]	Qua		2.123	0.0100	87500	100000	-12.5	20.0
3 & 4 Methylphenol	Ave	1.288	1.222		94900	100000	-5.1	20.0
N-Nitrosodi-n-propylamine	Ave	0.9168	0.8468	0.5000	92400	100000	-7.6	20.0
Acetophenone	Ave	1.786	1.621	0.0100	90800	100000	-9.2	20.0
Hexachloroethane	Ave	0.5990	0.5701	0.3000	95200	100000	-4.8	20.0
Nitrobenzene	Ave	0.3668	0.3514		95800	100000	-4.2	20.0
Isophorone	Ave	0.6465	0.5978	0.4000	92500	100000	-7.5	20.0
2-Nitrophenol	Ave	0.1953	0.1915	0.1000	98100	100000	-1.9	20.0
2,4-Dimethylphenol	Ave	0.3423	0.3217	0.2000	94000	100000	-6.0	20.0
Bis(2-chloroethoxy)methane	Ave	0.3953	0.3751	0.3000	94900	100000	-5.1	20.0
Benzoic acid	Lin2		0.2661		209000	200000	4.3	20.0
2,4-Dichlorophenol	Ave	0.2906	0.2816	0.2000	96900	100000	-3.1	20.0
1,2,4-Trichlorobenzene	Ave	0.3312	0.3104		93700	100000	-6.3	20.0
Naphthalene	Ave	0.9745	0.9108	0.7000	93500	100000	-6.5	20.0
4-Chloroaniline	Ave	0.4095	0.3999	0.0100	97700	100000	-2.3	20.0
2,6-Dichlorophenol	Ave	0.2857	0.2734		95700	100000	-4.3	20.0
Hexachlorobutadiene	Ave	0.1837	0.1812	0.0100	98600	100000	-1.4	20.0
4-Chloro-3-methylphenol	Ave	0.2761	0.2626	0.2000	95100	100000	-4.9	20.0
2-Methylnaphthalene	Ave	0.6846	0.6333	0.4000	92500	100000	-7.5	20.0
1-Methylnaphthalene	Ave	0.6396	0.6023		94200	100000	-5.8	20.0
Hexachlorocyclopentadiene	Ave	0.4154	0.4207	0.0500	101000	100000	1.3	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.3034	0.2795	0.0100	92100	100000	-7.9	20.0
2,4,6-Trichlorophenol	Ave	0.3810	0.3826	0.2000	100000	100000	0.4	20.0
2,4,5-Trichlorophenol	Ave	0.4165	0.4303	0.2000	103000	100000	3.3	20.0
1,1'-Biphenyl	Ave	1.571	1.521		96800	100000	-3.2	20.0
2-Chloronaphthalene	Ave	1.204	1.168	0.8000	97000	100000	-3.0	20.0
2-Nitroaniline	Ave	0.3591	0.3539	0.0100	98500	100000	-1.5	20.0
Dimethyl phthalate	Ave	1.182	1.107	0.0100	93700	100000	-6.3	20.0
1,3-Dinitrobenzene	Ave	0.2031	0.2102		103000	100000	3.5	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-434399/11 Calibration Date: 10/23/2018 17:23

Instrument ID: SMS_K Calib Start Date: 10/23/2018 13:33

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/23/2018 16:54

Lab File ID: K27120.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-Dinitrotoluene	Ave	0.3016	0.3019	0.2000	100000	100000	0.1	20.0
Acenaphthylene	Ave	1.812	1.736	0.9000	95800	100000	-4.2	20.0
3-Nitroaniline	Ave	0.3240	0.3222	0.0100	99500	100000	-0.5	20.0
Acenaphthene	Ave	1.177	1.118	0.9000	95000	100000	-5.0	20.0
2,4-Dinitrophenol	Lin2		0.1712	0.0100	197000	200000	-1.3	20.0
4-Nitrophenol	Ave	0.1516	0.1542	0.0100	203000	200000	1.7	20.0
2,4-Dinitrotoluene	Ave	0.3733	0.3633	0.2000	97300	100000	-2.7	20.0
Dibenzofuran	Ave	1.650	1.563	0.8000	94800	100000	-5.2	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3245	0.3239	0.0100	99800	100000	-0.2	20.0
Diethyl phthalate	Ave	1.122	1.052	0.0100	93700	100000	-6.3	20.0
4-Chlorophenyl phenyl ether	Ave	0.6017	0.5610	0.4000	93200	100000	-6.8	20.0
Fluorene	Ave	1.249	1.164	0.9000	93200	100000	-6.8	20.0
4-Nitroaniline	Ave	0.3050	0.2817	0.0100	92400	100000	-7.6	20.0
4,6-Dinitro-2-methylphenol	Lin2		0.1436	0.0100	230000	200000	14.9	20.0
Diphenylamine	Ave	1.085	1.045		81800	85000	-3.7	20.0
N-Nitrosodiphenylamine	Ave	0.5695	0.5778	0.0100	101000	100000	1.5	20.0
1,2-Diphenylhydrazine	Ave	1.227	1.163		95800	101000	-5.2	20.0
Azobenzene	Ave	1.240	1.176		94800	100000	-5.2	20.0
4-Bromophenyl phenyl ether	Ave	0.2219	0.2171	0.1000	97900	100000	-2.1	20.0
Hexachlorobenzene	Ave	0.2189	0.2164	0.1000	98900	100000	-1.1	20.0
Pentachlorophenol	Lin2		0.1415	0.0500	216000	200000	7.9	20.0
Phenanthrene	Ave	1.060	1.032	0.7000	97300	100000	-2.7	20.0
Anthracene	Ave	1.100	1.063	0.7000	96700	100000	-3.3	20.0
Carbazole	Ave	0.9596	0.9424	0.0100	98200	100000	-1.8	20.0
Alachlor	Ave	0.1328	0.1281		96500	100000	-3.5	20.0
Di-n-butyl phthalate	Ave	1.055	1.038	0.0100	98400	100000	-1.6	20.0
Fluoranthene	Ave	1.069	1.027	0.6000	96000	100000	-4.0	20.0
Pyrene	Ave	1.416	1.310	0.6000	92500	100000	-7.5	20.0
Butyl benzyl phthalate	Ave	0.5492	0.5430	0.0100	98900	100000	-1.1	20.0
Benzo[a]anthracene	Ave	1.245	1.174	0.8000	94300	100000	-5.7	20.0
Chrysene	Ave	1.209	1.180	0.7000	97700	100000	-2.3	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.6994	0.7126	0.0100	102000	100000	1.9	20.0
Di-n-octyl phthalate	Lin2		1.162	0.0100	97600	100000	-2.4	20.0
Benzo[b]fluoranthene	Ave	1.150	1.130	0.7000	98200	100000	-1.8	20.0
Benzo[k]fluoranthene	Ave	1.237	1.226	0.7000	99100	100000	-0.9	20.0
Benzo[a]pyrene	Ave	1.160	1.182	0.7000	102000	100000	1.9	20.0
Indeno[1,2,3-cd]pyrene	Ave	0.8896	0.8799	0.5000	98900	100000	-1.1	20.0
Dibenz(a,h)anthracene	Ave	0.9634	1.011	0.4000	105000	100000	4.9	20.0
Benzo[g,h,i]perylene	Ave	1.077	1.080	0.5000	100000	100000	0.3	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27120.D
Lims ID: ICV HSL 1
Client ID:
Sample Type: ICV
Inject. Date: 23-Oct-2018 17:23:30 ALS Bottle#: 10 Worklist Smp#: 11
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: ICV HSL 1
Operator ID: KIEKELD Instrument ID: SMS_K
Sublist:

Method: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 24-Oct-2018 06:02:43 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0307

First Level Reviewer: kiekeld Date: 24-Oct-2018 05:23:10

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.423	4.429	-0.006	95	134518	40.0	40.0	
* 2 Naphthalene-d8	136	5.639	5.639	0.000	99	517949	40.0	40.0	
* 3 Acenaphthene-d10	164	7.379	7.384	-0.005	95	245531	40.0	40.0	
* 4 Phenanthrene-d10	188	8.859	8.865	-0.006	97	377480	40.0	40.0	
* 5 Chrysene-d12	240	12.672	12.684	-0.012	99	306147	40.0	40.0	
* 6 Perylene-d12	264	16.421	16.433	-0.012	98	286910	40.0	40.0	
19 1,4-Dioxane	88	1.961	1.961	0.000	95	213018	100.0	99.9	
20 N-Nitrosodimethylamine	74	2.173	2.173	0.000	84	319756	100.0	97.2	
21 Pyridine	79	2.220	2.220	0.000	82	1095525	200.0	206.9	
32 Phenol	94	4.077	4.082	-0.005	97	572264	100.0	96.8	
34 Aniline	93	4.118	4.117	0.001	96	694393	100.0	96.0	
35 Alpha Methyl Styrene	118	4.171	4.170	0.001	93	458322	100.0	92.6	
36 Bis(2-chloroethyl)ether	93	4.165	4.164	0.001	91	412769	100.0	93.9	
38 n-Decane	43	4.276	4.276	0.000	94	649681	100.0	94.4	
39 2-Chlorophenol	128	4.235	4.235	0.000	98	467123	100.0	96.2	
40 1,3-Dichlorobenzene	146	4.376	4.382	-0.006	98	512856	100.0	94.6	
42 1,4-Dichlorobenzene	146	4.441	4.446	-0.005	93	521495	100.0	95.8	
43 Benzyl alcohol	108	4.541	4.541	0.001	92	314567	100.0	98.0	
44 1,2-Dichlorobenzene	146	4.588	4.588	0.000	97	495493	100.0	95.7	
45 2-Methylphenol	108	4.641	4.640	0.001	95	425608	100.0	95.6	
46 2,2'-oxybis[1-chloropropan	45	4.670	4.670	0.000	66	713858	100.0	87.5	
47 Indene	116	4.670	4.670	0.000	92	1370254	200.0	184.6	
49 3 & 4 Methylphenol	108	4.782	4.787	-0.005	81	411002	100.0	94.9	
50 3-Methylphenol	108	4.782	4.787	-0.005	89	411002	100.0	94.9	
51 4-Methylphenol	108	4.782	4.787	-0.005	93	411002	100.0	94.9	
52 N-Nitrosodi-n-propylamine	70	4.787	4.787	0.000	94	284775	100.0	92.4	
54 Acetophenone	105	4.793	4.793	0.000	90	545092	100.0	90.8	
58 Hexachloroethane	117	4.911	4.911	0.000	93	191711	100.0	95.2	
59 Nitrobenzene	77	4.952	4.958	-0.006	96	455016	100.0	95.8	
63 Isophorone	82	5.181	5.181	0.000	97	774021	100.0	92.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
64 2-Nitrophenol	139	5.263	5.263	0.000	94	248016	100.0	98.1	
65 2,4-Dimethylphenol	107	5.293	5.298	-0.005	95	416539	100.0	94.0	
68 Benzoic acid	105	5.416	5.410	0.006	95	689013	200.0	208.6	
69 Bis(2-chloroethoxy)methane	93	5.381	5.381	0.000	95	485650	100.0	94.9	
71 3,5-Dimethylphenol	107	5.422	5.428	-0.006	90	412319	100.0	93.2	
74 2,4-Dichlorophenol	162	5.493	5.498	-0.005	96	364629	100.0	96.9	
76 1,2,4-Trichlorobenzene	180	5.587	5.586	0.001	94	401933	100.0	93.7	
79 Naphthalene	128	5.663	5.663	0.000	97	1179396	100.0	93.5	
80 4-Chloroaniline	127	5.698	5.704	-0.006	96	517854	100.0	97.7	
81 2,6-Dichlorophenol	162	5.716	5.721	-0.005	96	353989	100.0	95.7	
83 Hexachlorobutadiene	225	5.792	5.792	0.000	96	234583	100.0	98.6	
89 4-Chloro-3-methylphenol	107	6.174	6.180	-0.006	95	340089	100.0	95.1	
93 2-Methylnaphthalene	142	6.339	6.344	-0.005	95	820038	100.0	92.5	
96 1-Methylnaphthalene	142	6.439	6.444	-0.006	96	779857	100.0	94.2	
97 Hexachlorocyclopentadiene	237	6.509	6.515	-0.006	95	258235	100.0	101.3	
98 1,2,4,5-Tetrachlorobenzene	216	6.515	6.515	0.000	96	361857	100.0	92.1	
100 2,4,6-Trichlorophenol	196	6.615	6.620	-0.005	81	234866	100.0	100.4	
101 2,3-Dichlorobenzenamine	161	6.615	6.620	-0.005	96	374019	100.0	95.6	
102 2,4,5-Trichlorophenol	196	6.650	6.656	-0.006	95	264146	100.0	103.3	
104 1,1'-Biphenyl	154	6.797	6.803	-0.006	95	933451	100.0	96.8	
106 2-Chloronaphthalene	162	6.820	6.826	-0.006	96	716773	100.0	97.0	
108 2-Nitroaniline	65	6.914	6.914	0.000	85	217228	100.0	98.5	
111 Dimethyl phthalate	163	7.097	7.096	0.001	99	679343	100.0	93.7	
112 1,3-Dinitrobenzene	168	7.120	7.120	0.000	91	129011	100.0	103.5	
113 2,6-Dinitrotoluene	165	7.149	7.155	-0.006	94	185315	100.0	100.1	
114 Acenaphthylene	152	7.238	7.243	-0.005	98	1065826	100.0	95.8	
115 3-Nitroaniline	138	7.320	7.326	-0.006	94	197793	100.0	99.5	
117 Acenaphthene	153	7.408	7.414	-0.006	94	686399	100.0	95.0	
118 2,4-Dinitrophenol	184	7.426	7.425	0.001	83	210165	200.0	197.3	
119 4-Nitrophenol	109	7.490	7.490	0.000	94	189294	200.0	203.5	
122 2,4-Dinitrotoluene	165	7.555	7.561	-0.006	94	223029	100.0	97.3	
123 Dibenzofuran	168	7.584	7.584	0.000	98	959455	100.0	94.8	
125 2,3,4,6-Tetrachlorophenol	232	7.708	7.707	0.001	71	198797	100.0	99.8	
127 Hexadecane	57	7.825	7.825	0.000	91	624048	100.0	96.4	
130 Diethyl phthalate	149	7.796	7.801	-0.005	98	645496	100.0	93.7	
134 4-Chlorophenyl phenyl ethe	204	7.913	7.919	-0.006	94	344337	100.0	93.2	
135 Fluorene	166	7.925	7.931	-0.006	95	714253	100.0	93.2	
138 4-Nitroaniline	138	7.931	7.937	-0.006	85	172939	100.0	92.4	
139 4,6-Dinitro-2-methylphenol	198	7.966	7.972	-0.006	84	271097	200.0	229.7	
141 N-Nitrosodiphenylamine	169	8.031	8.036	-0.005	62	545291	100.0	101.5	
142 Diphenylamine	169	8.031	8.036	-0.005	96	545291	85.0	81.8	
143 1,2-Diphenylhydrazine	77	8.078	8.078	0.000	41	721655	101.1	95.8	
144 Azobenzene	77	8.078	8.078	0.000	97	721655	100.0	94.8	
156 4-Bromophenyl phenyl ether	248	8.407	8.413	-0.005	68	204906	100.0	97.9	
157 Hexachlorobenzene	284	8.489	8.495	-0.006	95	204205	100.0	98.9	
161 n-Octadecane	85	8.742	8.747	-0.005	91	191474	100.0	100.0	
163 Pentachlorophenol	266	8.677	8.683	-0.006	94	267092	200.0	215.9	
168 Phenanthrene	178	8.883	8.888	-0.005	98	973712	100.0	97.3	
169 Anthracene	178	8.936	8.941	-0.005	97	1003040	100.0	96.7	
170 Carbazole	167	9.088	9.094	-0.006	95	889344	100.0	98.2	
171 Alachlor	188	9.229	9.235	-0.006	92	120928	100.0	96.5	
173 Di-n-butyl phthalate	149	9.429	9.435	-0.006	99	979722	100.0	98.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
179 Fluoranthene	202	10.175	10.187	-0.012	98	969276	100.0	96.0	
182 Pyrene	202	10.487	10.492	-0.005	97	1002593	100.0	92.5	
190 Butyl benzyl phthalate	149	11.544	11.556	-0.012	97	415617	100.0	98.9	
195 Bis(2-ethylhexyl) phthalat	149	12.843	12.860	-0.017	97	545402	100.0	101.9	
198 Benzo[a]anthracene	228	12.649	12.661	-0.012	98	898203	100.0	94.3	
199 Chrysene	228	12.731	12.743	-0.012	97	903296	100.0	97.7	
201 Di-n-octyl phthalate	149	14.570	14.588	-0.018	99	889691	100.0	97.6	
203 Benzo[b]fluoranthene	252	15.375	15.387	-0.012	97	810173	100.0	98.2	
204 Benzo[k]fluoranthene	252	15.446	15.463	-0.017	99	879062	100.0	99.1	
206 Benzo[e]pyrene	252	16.121	16.139	-0.018	97	775327	100.0	98.4	
207 Benzo[a]pyrene	252	16.262	16.280	-0.018	81	848089	100.0	101.9	
213 Dibenz(a,h)anthracene	278	19.559	19.570	-0.011	93	725011	100.0	104.9	
214 Indeno[1,2,3-cd]pyrene	276	19.459	19.476	-0.017	98	673463	100.0	98.9	
215 Benzo[g,h,i]perylene	276	20.176	20.193	-0.017	99	774323	100.0	100.3	

Reagents:

MS-HSLB1B3SSV_00052 Amount Added: 200.00 Units: uL

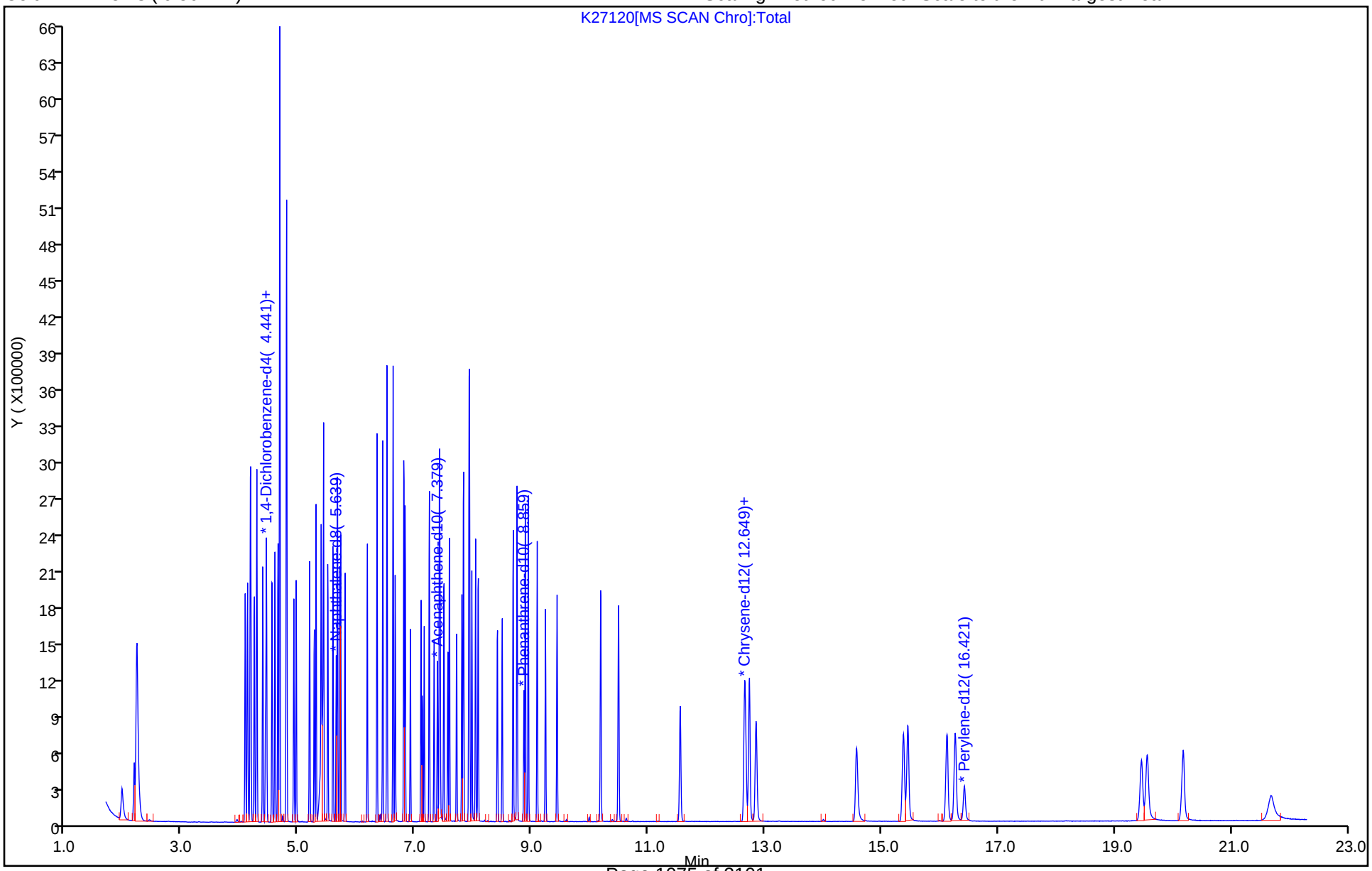
Report Date: 24-Oct-2018 06:02:51 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27120.D

Injection Date:	23-Oct-2018 17:23:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	ICV HSL 1			Worklist Smp#:	11
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-434399/12 Calibration Date: 10/23/2018 17:52

Instrument ID: SMS_K Calib Start Date: 10/23/2018 13:33

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/23/2018 16:54

Lab File ID: K27121.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Caprolactam	Ave	0.1731	0.1842		106000	100000	6.4	20.0
Atrazine	Ave	0.1908	0.1858		97400	100000	-2.6	20.0
3,3'-Dichlorobenzidine	Ave	0.3557	0.4257	0.0100	120000	100000	19.7	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27121.D
Lims ID: ICV HSL 2
Client ID:
Sample Type: ICV
Inject. Date: 23-Oct-2018 17:52:30 ALS Bottle#: 11 Worklist Smp#: 12
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: ICV HSL 2
Operator ID: KIEKELD Instrument ID: SMS_K
Sublist:

Method: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 24-Oct-2018 06:02:43 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0307

First Level Reviewer: kiekeld Date: 24-Oct-2018 05:23:31

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.423	4.429	-0.006	96	131874	40.0	40.0	
* 2 Naphthalene-d8	136	5.639	5.639	0.000	99	520626	40.0	40.0	
* 3 Acenaphthene-d10	164	7.378	7.384	-0.006	94	272288	40.0	40.0	
* 4 Phenanthrene-d10	188	8.859	8.865	-0.006	97	453943	40.0	40.0	
* 5 Chrysene-d12	240	12.661	12.684	-0.023	99	330739	40.0	40.0	
* 6 Perylene-d12	264	16.415	16.433	-0.018	98	273298	40.0	40.0	
86 Caprolactam	55	6.009	6.027	-0.018	73	239728	100.0	106.4	a
159 Atrazine	200	8.559	8.565	-0.006	91	210874	100.0	97.4	
197 3,3'-Dichlorobenzidine	252	12.614	12.625	-0.011	74	352016	100.0	119.7	

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

MS-HSLB2SSV_00047 Amount Added: 200.00 Units: uL

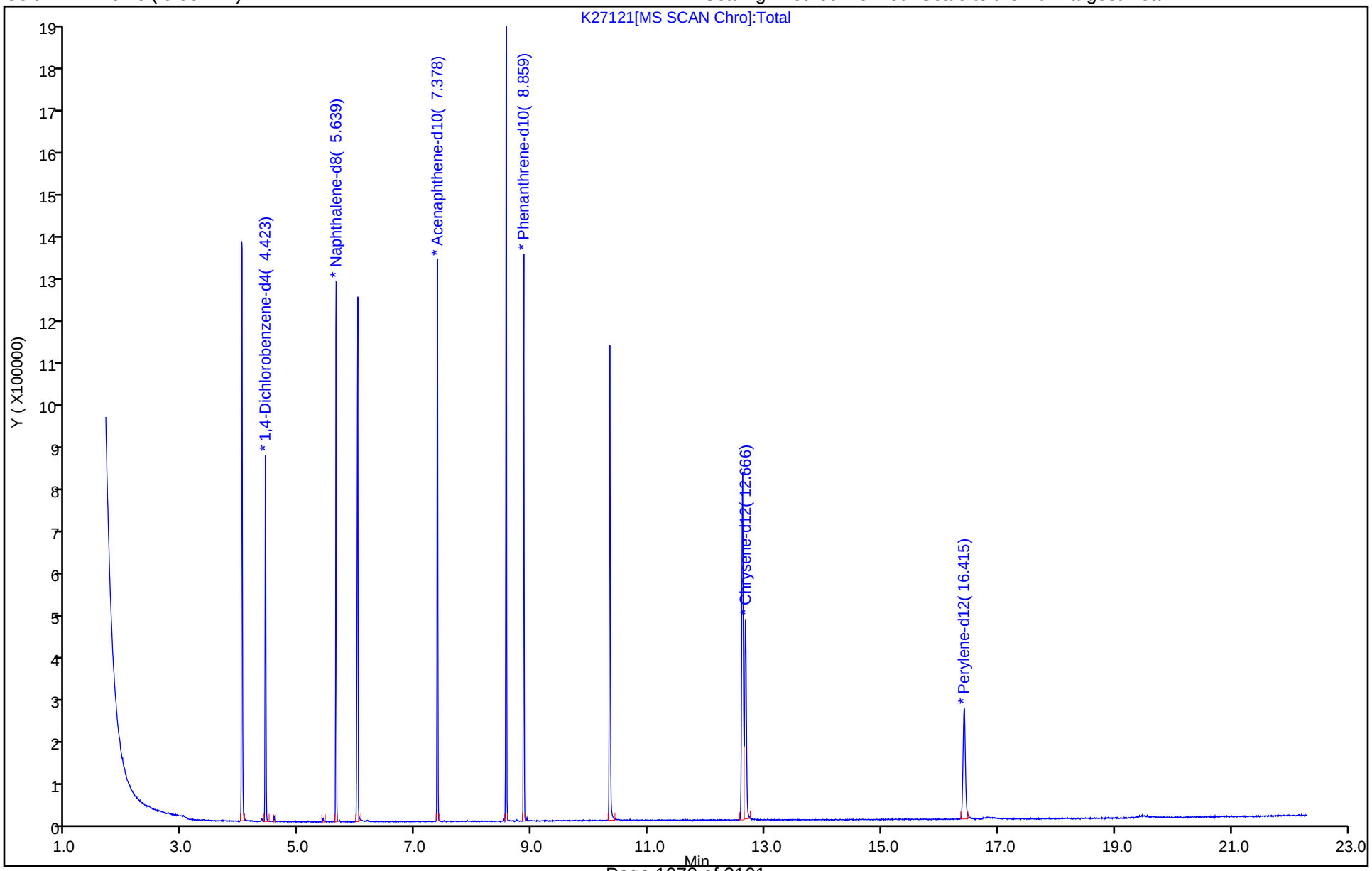
Report Date: 24-Oct-2018 06:02:55 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27121.D

Injection Date:	23-Oct-2018 17:52:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	ICV HSL 2			Worklist Smp#:	12
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

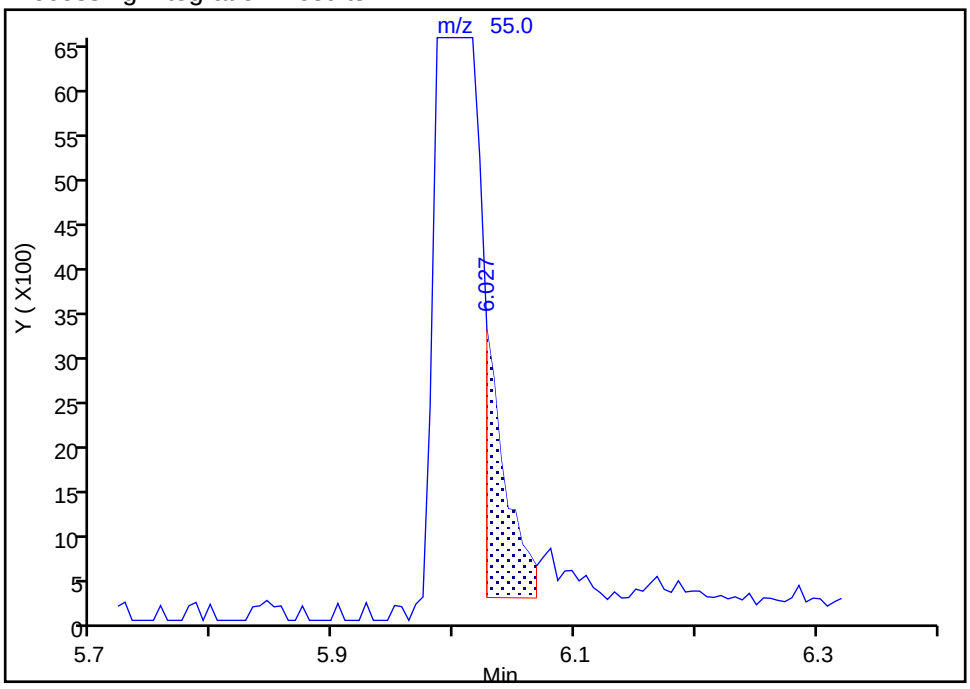
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27121.D
Injection Date: 23-Oct-2018 17:52:30 Instrument ID: SMS_K
Lims ID: ICV HSL 2
Client ID:
Operator ID: KIEKELD ALS Bottle#: 11 Worklist Smp#: 12
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

86 Caprolactam, CAS: 105-60-2

Signal: 1

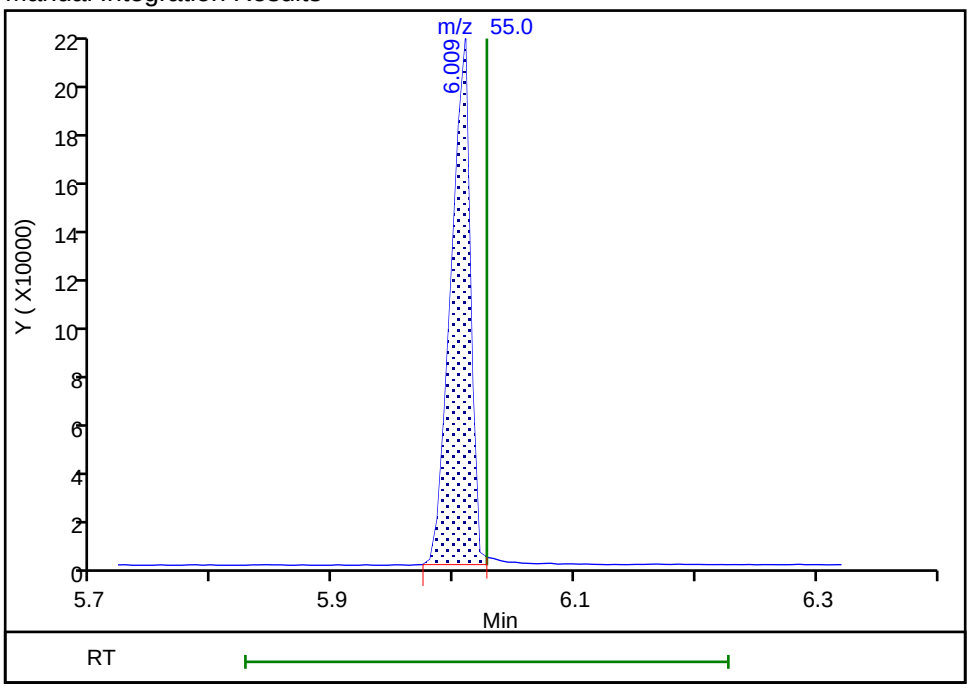
Processing Integration Results

RT: 6.03
Area: 3712
Amount: 1.647834
Amount Units: ug/ml



Manual Integration Results

RT: 6.01
Area: 239728
Amount: 106.4203
Amount Units: ug/ml



Reviewer: kiekeld, 24-Oct-2018 05:23:22
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-434399/13 Calibration Date: 10/23/2018 18:21

Instrument ID: SMS_K Calib Start Date: 10/23/2018 13:33

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/23/2018 16:54

Lab File ID: K27122.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Famphur	Ave	0.4171	0.4255		102000	100000	2.0	20.0

Report Date: 24-Oct-2018 06:02:58 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27122.D
Lims ID: ICV FAM
Client ID:
Sample Type: ICV
Inject. Date: 23-Oct-2018 18:21:30 ALS Bottle#: 12 Worklist Smp#: 13
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: ICV FAM
Operator ID: KIEKELD Instrument ID: SMS_K
Sublist:

Method: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 24-Oct-2018 06:02:43 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0307

First Level Reviewer: kiekeld Date: 24-Oct-2018 05:24:00

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.423	4.429	-0.006	96	132168	40.0	40.0	
* 2 Naphthalene-d8	136	5.639	5.639	0.000	100	513964	40.0	40.0	
* 3 Acenaphthene-d10	164	7.373	7.384	-0.011	94	274012	40.0	40.0	
* 4 Phenanthrene-d10	188	8.859	8.865	-0.006	97	456581	40.0	40.0	
* 5 Chrysene-d12	240	12.661	12.684	-0.023	99	299167	40.0	40.0	
* 6 Perylene-d12	264	16.415	16.433	-0.018	98	250155	40.0	40.0	
188 Famphur	218	11.421	11.433	-0.012	83	318271	100.0	102.0	

Reagents:

MS-FAMSSV_100_00020 Amount Added: 200.00 Units: uL

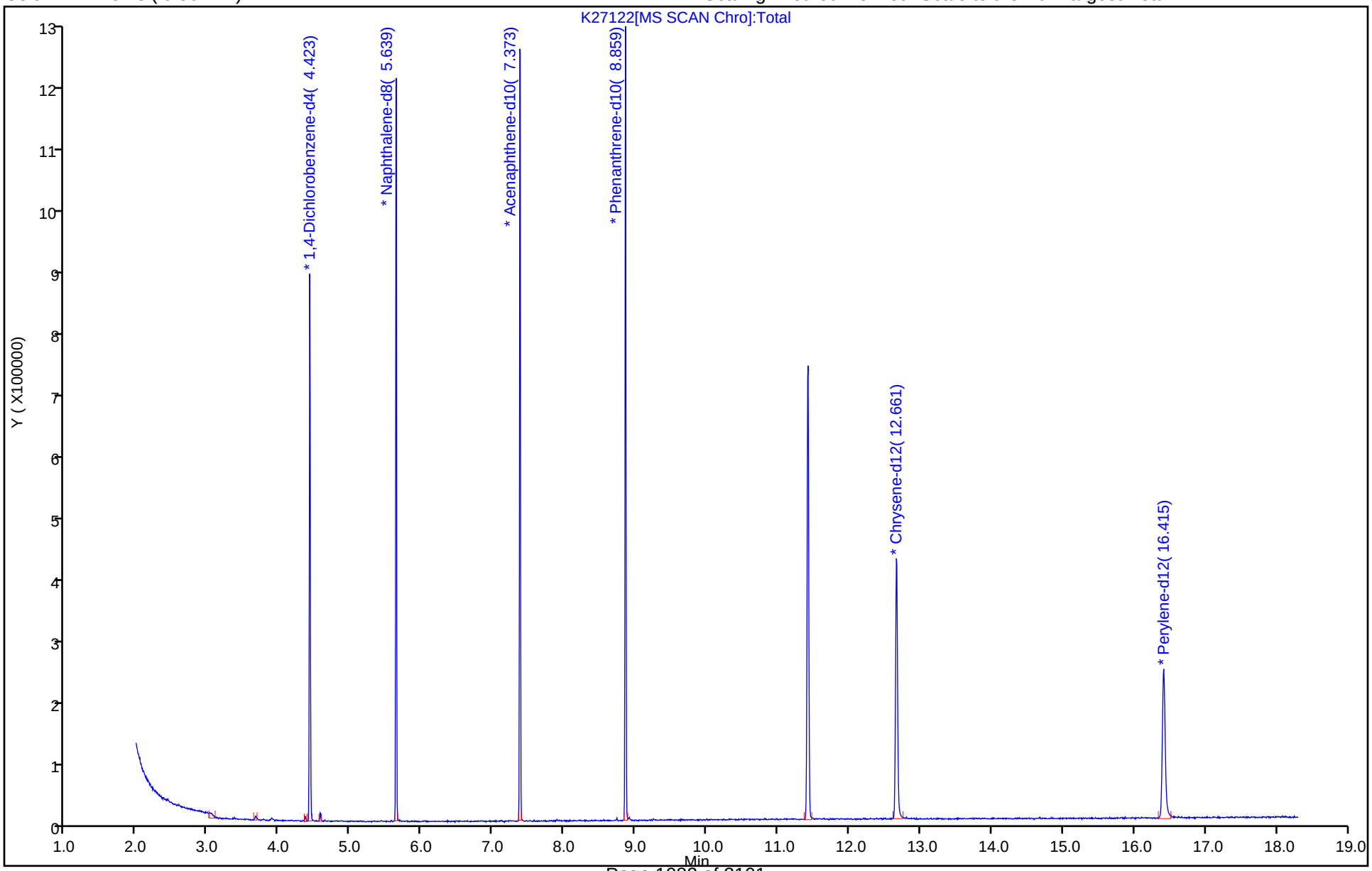
Report Date: 24-Oct-2018 06:02:58 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27122.D

Injection Date:	23-Oct-2018 18:21:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	ICV FAM			Worklist Smp#:	13
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-435306/3 Calibration Date: 10/29/2018 09:03

Instrument ID: SMS_K Calib Start Date: 10/23/2018 13:33

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/23/2018 16:54

Lab File ID: K27217.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.6338	0.6515		82200	80000	2.8	20.0
N-Nitrosodimethylamine	Ave	0.9782	1.006		82200	80000	2.8	20.0
Pyridine	Ave	1.574	1.601		163000	160000	1.7	20.0
Phenol	Ave	1.757	1.768	0.8000	80500	80000	0.6	20.0
Aniline	Ave	2.151	2.144		79800	80000	-0.3	20.0
Bis(2-chloroethyl)ether	Ave	1.307	1.318	0.7000	80700	80000	0.8	20.0
2-Chlorophenol	Ave	1.444	1.476	0.8000	81800	80000	2.2	20.0
1,3-Dichlorobenzene	Ave	1.611	1.635		81200	80000	1.5	20.0
1,4-Dichlorobenzene	Ave	1.618	1.634		80800	80000	1.0	20.0
Benzyl alcohol	Ave	0.9545	0.9663		81000	80000	1.2	20.0
1,2-Dichlorobenzene	Ave	1.540	1.545		80300	80000	0.3	20.0
2-Methylphenol	Ave	1.324	1.320	0.7000	79800	80000	-0.3	20.0
2,2'-oxybis[1-chloropropane]	Qua		2.446	0.0100	79500	80000	-0.6	20.0
3 & 4 Methylphenol	Ave	1.288	1.260		78300	80000	-2.2	20.0
N-Nitrosodi-n-propylamine	Ave	0.9168	0.8880	0.5000	77500	80000	-3.1	20.0
Acetophenone	Ave	1.786	1.729	0.0100	77500	80000	-3.2	20.0
Hexachloroethane	Ave	0.5990	0.6132	0.3000	81900	80000	2.4	20.0
Nitrobenzene	Ave	0.3668	0.3693		80500	80000	0.7	20.0
Isophorone	Ave	0.6465	0.6344	0.4000	78500	80000	-1.9	20.0
2-Nitrophenol	Ave	0.1953	0.2011	0.1000	82400	80000	3.0	20.0
2,4-Dimethylphenol	Ave	0.3423	0.3448	0.2000	80600	80000	0.7	20.0
Bis(2-chloroethoxy)methane	Ave	0.3953	0.3954	0.3000	80000	80000	0.0	20.0
Benzoic acid	Lin2		0.2209		140000	160000	-12.3	20.0
2,4-Dichlorophenol	Ave	0.2906	0.2923	0.2000	80500	80000	0.6	20.0
1,2,4-Trichlorobenzene	Ave	0.3312	0.3359		81100	80000	1.4	20.0
Naphthalene	Ave	0.9745	0.9723	0.7000	79800	80000	-0.2	20.0
4-Chloroaniline	Ave	0.4095	0.4036	0.0100	78800	80000	-1.5	20.0
2,6-Dichlorophenol	Ave	0.2857	0.2861		80100	80000	0.1	20.0
Hexachlorobutadiene	Ave	0.1837	0.1822	0.0100	79300	80000	-0.8	20.0
Caprolactam	Ave	0.1731	0.1591		73500	80000	-8.1	20.0
4-Chloro-3-methylphenol	Ave	0.2761	0.2679	0.2000	77600	80000	-2.9	20.0
2-Methylnaphthalene	Ave	0.6846	0.6802	0.4000	79500	80000	-0.6	20.0
1-Methylnaphthalene	Ave	0.6396	0.6322		79100	80000	-1.2	20.0
Hexachlorocyclopentadiene	Ave	0.4154	0.4474	0.0500	86200	80000	7.7	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.3034	0.2927	0.0100	77200	80000	-3.5	20.0
2,4,6-Trichlorophenol	Ave	0.3810	0.3933	0.2000	82600	80000	3.2	20.0
2,4,5-Trichlorophenol	Ave	0.4165	0.4320	0.2000	83000	80000	3.7	20.0
1,1'-Biphenyl	Ave	1.571	1.642		83700	80000	4.6	20.0
2-Chloronaphthalene	Ave	1.204	1.236	0.8000	82100	80000	2.6	20.0
2-Nitroaniline	Ave	0.3591	0.3610	0.0100	80400	80000	0.5	20.0
Dimethyl phthalate	Ave	1.182	1.163	0.0100	78800	80000	-1.6	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-435306/3 Calibration Date: 10/29/2018 09:03

Instrument ID: SMS_K Calib Start Date: 10/23/2018 13:33

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/23/2018 16:54

Lab File ID: K27217.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,3-Dinitrobenzene	Ave	0.2031	0.2102		82800	80000	3.5	20.0
2,6-Dinitrotoluene	Ave	0.3016	0.3092	0.2000	82000	80000	2.5	20.0
Acenaphthylene	Ave	1.812	1.839	0.9000	81200	80000	1.5	20.0
3-Nitroaniline	Ave	0.3240	0.3188	0.0100	78700	80000	-1.6	20.0
Acenaphthene	Ave	1.177	1.181	0.9000	80300	80000	0.4	20.0
2,4-Dinitrophenol	Lin2		0.1577	0.0100	148000	160000	-7.7	20.0
4-Nitrophenol	Ave	0.1516	0.1497	0.0100	158000	160000	-1.2	20.0
2,4-Dinitrotoluene	Ave	0.3733	0.3680	0.2000	78900	80000	-1.4	20.0
Dibenzofuran	Ave	1.650	1.634	0.8000	79300	80000	-0.9	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3245	0.3192	0.0100	78700	80000	-1.6	20.0
Diethyl phthalate	Ave	1.122	1.087	0.0100	77400	80000	-3.2	20.0
4-Chlorophenyl phenyl ether	Ave	0.6017	0.5691	0.4000	75700	80000	-5.4	20.0
Fluorene	Ave	1.249	1.213	0.9000	77700	80000	-2.9	20.0
4-Nitroaniline	Ave	0.3050	0.2899	0.0100	76100	80000	-4.9	20.0
4,6-Dinitro-2-methylphenol	Lin2		0.1259	0.0100	163000	160000	1.9	20.0
Diphenylamine	Ave	1.085	1.070		67000	68000	-1.4	20.0
N-Nitrosodiphenylamine	Ave	0.5695	0.6018	0.0100	84500	80000	5.7	20.0
1,2-Diphenylhydrazine	Ave	1.227	1.213		80000	80900	-1.1	20.0
Azobenzene	Ave	1.240	1.227		79100	80000	-1.1	20.0
4-Bromophenyl phenyl ether	Ave	0.2219	0.2233	0.1000	80500	80000	0.6	20.0
Hexachlorobenzene	Ave	0.2189	0.2171	0.1000	79400	80000	-0.8	20.0
Atrazine	Ave	0.1908	0.1940		81300	80000	1.7	20.0
Pentachlorophenol	Lin2		0.1357	0.0500	166000	160000	3.9	20.0
Phenanthrene	Ave	1.060	1.086	0.7000	81900	80000	2.4	20.0
Anthracene	Ave	1.100	1.122	0.7000	81700	80000	2.1	20.0
Carbazole	Ave	0.9596	1.003	0.0100	83600	80000	4.5	20.0
Alachlor	Ave	0.1328	0.1356		81700	80000	2.1	20.0
Di-n-butyl phthalate	Ave	1.055	1.100	0.0100	83400	80000	4.2	20.0
Fluoranthene	Ave	1.069	1.076	0.6000	80500	80000	0.7	20.0
Pyrene	Ave	1.416	1.418	0.6000	80100	80000	0.2	20.0
Famphur	Ave	0.4171	0.4530		86900	80000	8.6	20.0
Butyl benzyl phthalate	Ave	0.5492	0.5772	0.0100	84100	80000	5.1	20.0
3,3'-Dichlorobenzidine	Ave	0.3557	0.3447	0.0100	77500	80000	-3.1	20.0
Benzo[a]anthracene	Ave	1.245	1.243	0.8000	79900	80000	-0.1	20.0
Chrysene	Ave	1.209	1.257	0.7000	83200	80000	4.0	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.6994	0.7494	0.0100	85700	80000	7.1	20.0
Di-n-octyl phthalate	Lin2		1.216	0.0100	81900	80000	2.4	20.0
Benzo[b]fluoranthene	Ave	1.150	1.169	0.7000	81300	80000	1.6	20.0
Benzo[k]fluoranthene	Ave	1.237	1.381	0.7000	89300	80000	11.7	20.0
Benzo[a]pyrene	Ave	1.160	1.266	0.7000	87400	80000	9.2	20.0
Indeno[1,2,3-cd]pyrene	Ave	0.8896	0.9140	0.5000	82200	80000	2.7	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-435306/3 Calibration Date: 10/29/2018 09:03

Instrument ID: SMS_K Calib Start Date: 10/23/2018 13:33

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/23/2018 16:54

Lab File ID: K27217.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibenz(a,h)anthracene	Ave	0.9634	1.017	0.4000	84500	80000	5.6	20.0
Benzo[g,h,i]perylene	Ave	1.077	1.141	0.5000	84800	80000	5.9	20.0
2-Fluorophenol (Surr)	Ave	1.493	1.524		81700	80000	2.1	20.0
Phenol-d5 (Surr)	Ave	1.695	1.722		81300	80000	1.6	20.0
Nitrobenzene-d5 (Surr)	Ave	0.3778	0.3832		81100	80000	1.4	20.0
2-Fluorobiphenyl	Ave	1.396	1.478		84700	80000	5.8	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.1667	0.1557		74700	80000	-6.6	20.0
Terphenyl-d14 (Surr)	Ave	0.9813	0.9949		81100	80000	1.4	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27217.D
Lims ID: CCV HSL
Client ID:
Sample Type: CCV
Inject. Date: 29-Oct-2018 09:03:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: CCV HSL
Operator ID: KIEKELD Instrument ID: SMS_K
Sublist: chrom-SMSK_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 30-Oct-2018 07:24:12 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0312

First Level Reviewer: kiekeld Date: 29-Oct-2018 10:27:12

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.376	4.376	0.000	96	125176	40.0	40.0	
* 2 Naphthalene-d8	136	5.592	5.592	0.000	100	476670	40.0	40.0	
* 3 Acenaphthene-d10	164	7.332	7.332	0.000	95	221308	40.0	40.0	
* 4 Phenanthrene-d10	188	8.806	8.806	0.000	98	334420	40.0	40.0	a
* 5 Chrysene-d12	240	12.561	12.561	0.000	99	262439	40.0	40.0	
* 6 Perylene-d12	264	16.268	16.268	0.000	98	237620	40.0	40.0	
$ 7 2-Fluorophenol	112	3.207	3.207	0.000	94	381660	80.0	81.7	
$ 8 Phenol-d5	99	4.018	4.018	0.000	97	431196	80.0	81.3	
$ 9 Nitrobenzene-d5	82	4.887	4.887	0.000	96	365361	80.0	81.1	
$ 11 2-Fluorobiphenyl	172	6.656	6.656	0.000	100	654155	80.0	84.7	
$ 12 2,4,6-Tribromophenol	330	8.113	8.113	0.000	92	68900	80.0	74.7	
$ 13 Terphenyl-d14	244	10.634	10.634	0.000	98	522173	80.0	81.1	
19 1,4-Dioxane	88	1.867	1.867	0.000	95	163096	80.0	82.2	
20 N-Nitrosodimethylamine	74	2.085	2.085	0.000	86	251735	80.0	82.2	
21 Pyridine	79	2.132	2.132	0.000	82	801401	160.0	162.7	
32 Phenol	94	4.030	4.030	0.000	97	442704	80.0	80.5	
34 Aniline	93	4.065	4.065	0.000	96	536840	80.0	79.8	
35 Alpha Methyl Styrene	118	4.124	4.124	0.000	93	367040	80.0	79.7	
36 Bis(2-chloroethyl)ether	93	4.112	4.112	0.000	96	329977	80.0	80.7	
38 n-Decane	43	4.229	4.229	0.000	94	507379	80.0	79.3	
39 2-Chlorophenol	128	4.182	4.182	0.000	98	369514	80.0	81.8	
40 1,3-Dichlorobenzene	146	4.329	4.329	0.000	98	409405	80.0	81.2	
42 1,4-Dichlorobenzene	146	4.394	4.394	0.000	94	408996	80.0	80.8	
43 Benzyl alcohol	108	4.494	4.494	0.000	93	241925	80.0	81.0	
44 1,2-Dichlorobenzene	146	4.541	4.541	0.000	97	386783	80.0	80.3	
45 2-Methylphenol	108	4.594	4.594	0.000	96	330493	80.0	79.8	
46 2,2'-oxybis[1-chloropropan	45	4.623	4.623	0.000	90	612419	80.0	79.5	
47 Indene	116	4.623	4.623	0.000	92	1086076	160.0	157.2	
49 3 & 4 Methylphenol	108	4.741	4.741	0.000	82	315428	80.0	78.3	
50 3-Methylphenol	108	4.741	4.741	0.000	91	315428	80.0	78.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
51 4-Methylphenol	108	4.741	4.741	0.000	93	315428	80.0	78.3	
52 N-Nitrosodi-n-propylamine	70	4.741	4.741	0.000	86	222320	80.0	77.5	
54 Acetophenone	105	4.746	4.746	0.000	86	432932	80.0	77.5	
58 Hexachloroethane	117	4.864	4.864	0.000	93	153503	80.0	81.9	
59 Nitrobenzene	77	4.905	4.905	0.000	96	352049	80.0	80.5	
63 Isophorone	82	5.134	5.134	0.000	97	604787	80.0	78.5	
64 2-Nitrophenol	139	5.216	5.216	0.000	93	191678	80.0	82.4	
65 2,4-Dimethylphenol	107	5.252	5.252	0.000	94	328720	80.0	80.6	
68 Benzoic acid	105	5.363	5.363	0.000	90	421135	160.0	140.4	
69 Bis(2-chloroethoxy)methane	93	5.340	5.340	0.000	95	376956	80.0	80.0	
71 3,5-Dimethylphenol	107	5.381	5.381	0.000	84	331579	80.0	81.5	
74 2,4-Dichlorophenol	162	5.451	5.451	0.000	95	278633	80.0	80.5	
76 1,2,4-Trichlorobenzene	180	5.540	5.540	0.000	94	320203	80.0	81.1	
79 Naphthalene	128	5.616	5.616	0.000	97	926969	80.0	79.8	
80 4-Chloroaniline	127	5.657	5.657	0.000	96	384743	80.0	78.8	
81 2,6-Dichlorophenol	162	5.669	5.669	0.000	96	272726	80.0	80.1	
83 Hexachlorobutadiene	225	5.745	5.745	0.000	96	173714	80.0	79.3	
86 Caprolactam	55	5.980	5.980	0.000	75	151632	80.0	73.5	
89 4-Chloro-3-methylphenol	107	6.133	6.133	0.000	96	255430	80.0	77.6	
93 2-Methylnaphthalene	142	6.292	6.292	0.000	95	648472	80.0	79.5	
96 1-Methylnaphthalene	142	6.392	6.392	0.000	96	602660	80.0	79.1	
97 Hexachlorocyclopentadiene	237	6.462	6.462	0.000	96	198022	80.0	86.2	
98 1,2,4,5-Tetrachlorobenzene	216	6.468	6.468	0.000	97	279082	80.0	77.2	
100 2,4,6-Trichlorophenol	196	6.574	6.574	0.000	92	174092	80.0	82.6	
101 2,3-Dichlorobenzenamine	161	6.568	6.568	0.000	96	281328	80.0	79.8	
102 2,4,5-Trichlorophenol	196	6.609	6.609	0.000	94	191222	80.0	83.0	
104 1,1'-Biphenyl	154	6.756	6.756	0.000	94	726928	80.0	83.7	
106 2-Chloronaphthalene	162	6.779	6.779	0.000	96	546968	80.0	82.1	
108 2-Nitroaniline	65	6.867	6.867	0.000	85	159772	80.0	80.4	
111 Dimethyl phthalate	163	7.050	7.050	0.000	99	514910	80.0	78.8	
112 1,3-Dinitrobenzene	168	7.073	7.073	0.000	90	93028	80.0	82.8	
113 2,6-Dinitrotoluene	165	7.103	7.103	0.000	94	136839	80.0	82.0	
114 Acenaphthylene	152	7.191	7.191	0.000	98	813966	80.0	81.2	
115 3-Nitroaniline	138	7.273	7.273	0.000	94	141099	80.0	78.7	
117 Acenaphthene	153	7.361	7.361	0.000	94	522587	80.0	80.3	
118 2,4-Dinitrophenol	184	7.379	7.379	0.000	85	139574	160.0	147.6	
119 4-Nitrophenol	109	7.443	7.443	0.000	94	132518	160.0	158.0	
122 2,4-Dinitrotoluene	165	7.508	7.508	0.000	94	162886	80.0	78.9	
123 Dibenzofuran	168	7.531	7.531	0.000	98	723427	80.0	79.3	
125 2,3,4,6-Tetrachlorophenol	232	7.655	7.655	0.000	73	141291	80.0	78.7	
127 Hexadecane	57	7.778	7.778	0.000	90	482657	80.0	82.8	
130 Diethyl phthalate	149	7.749	7.749	0.000	98	480902	80.0	77.4	
134 4-Chlorophenyl phenyl ethe	204	7.866	7.866	0.000	94	251891	80.0	75.7	
135 Fluorene	166	7.878	7.878	0.000	94	536891	80.0	77.7	
138 4-Nitroaniline	138	7.884	7.884	0.000	89	128331	80.0	76.1	
139 4,6-Dinitro-2-methylphenol	198	7.919	7.919	0.000	88	168434	160.0	163.0	
141 N-Nitrosodiphenylamine	169	7.984	7.984	0.000	61	402530	80.0	84.5	a
142 Diphenylamine	169	7.984	7.984	0.000	95	402530	68.0	67.0	
143 1,2-Diphenylhydrazine	77	8.025	8.025	0.000	41	542881	80.9	80.0	
144 Azobenzene	77	8.025	8.025	0.000	98	542881	80.0	79.1	
147 2,4,6 - Tribromophenol	330	8.113	8.113	0.000	92	68900	80.0	74.3	
156 4-Bromophenyl phenyl ether	248	8.354	8.354	0.000	68	149359	80.0	80.5	a

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
157 Hexachlorobenzene	284	8.436	8.436	0.000	95	145199	80.0	79.4	
159 Atrazine	200	8.513	8.513	0.000	90	129767	80.0	81.3	
161 n-Octadecane	85	8.695	8.695	0.000	92	148228	80.0	87.4	
163 Pentachlorophenol	266	8.624	8.624	0.000	93	181493	160.0	166.2	
168 Phenanthrene	178	8.836	8.836	0.000	97	726199	80.0	81.9	a
169 Anthracene	178	8.883	8.883	0.000	96	750639	80.0	81.7	a
170 Carbazole	167	9.036	9.036	0.000	95	670860	80.0	83.6	
171 Alachlor	188	9.182	9.182	0.000	94	90722	80.0	81.7	
173 Di-n-butyl phthalate	149	9.376	9.376	0.000	99	735502	80.0	83.4	
179 Fluoranthene	202	10.111	10.111	0.000	98	720001	80.0	80.5	
182 Pyrene	202	10.410	10.410	0.000	97	744362	80.0	80.1	
188 Famphur	218	11.333	11.333	0.000	84	237769	80.0	86.9	
190 Butyl benzyl phthalate	149	11.456	11.456	0.000	97	302973	80.0	84.1	
195 Bis(2-ethylhexyl) phthalat	149	12.737	12.737	0.000	97	393343	80.0	85.7	
197 3,3'-Dichlorobenzidine	252	12.508	12.508	0.000	73	180944	80.0	77.5	
198 Benzo[a]anthracene	228	12.543	12.543	0.000	99	652373	80.0	79.9	
199 Chrysene	228	12.620	12.620	0.000	97	659632	80.0	83.2	
201 Di-n-octyl phthalate	149	14.441	14.441	0.000	99	638160	80.0	81.9	
203 Benzo[b]fluoranthene	252	15.228	15.228	0.000	97	555412	80.0	81.3	
204 Benzo[k]fluoranthene	252	15.305	15.305	0.000	99	656487	80.0	89.3	
206 Benzo[e]pyrene	252	15.969	15.969	0.000	97	551396	80.0	84.5	
207 Benzo[a]pyrene	252	16.110	16.110	0.000	79	601877	80.0	87.4	
213 Dibenz(a,h)anthracene	278	19.377	19.377	0.000	94	483538	80.0	84.5	
214 Indeno[1,2,3-cd]pyrene	276	19.277	19.277	0.000	99	479726	80.0	82.2	
215 Benzo[g,h,i]perylene	276	19.988	19.988	0.000	98	542050	80.0	84.8	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

MS-HSLACCV080_00173 Amount Added: 200.00 Units: uL

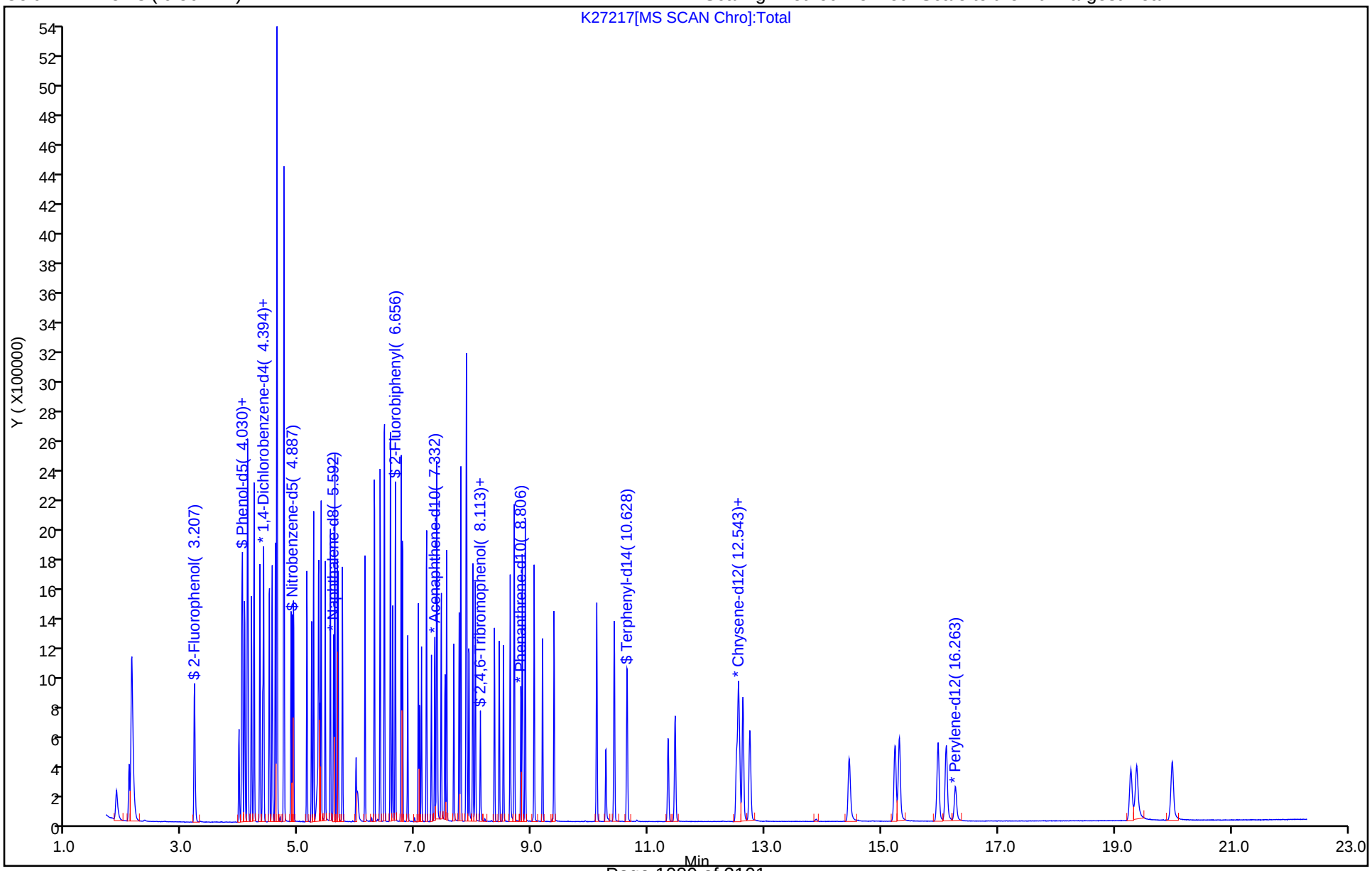
Report Date: 30-Oct-2018 07:24:12 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27217.D

Injection Date:	29-Oct-2018 09:03:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	CCV HSL			Worklist Smp#:	3
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

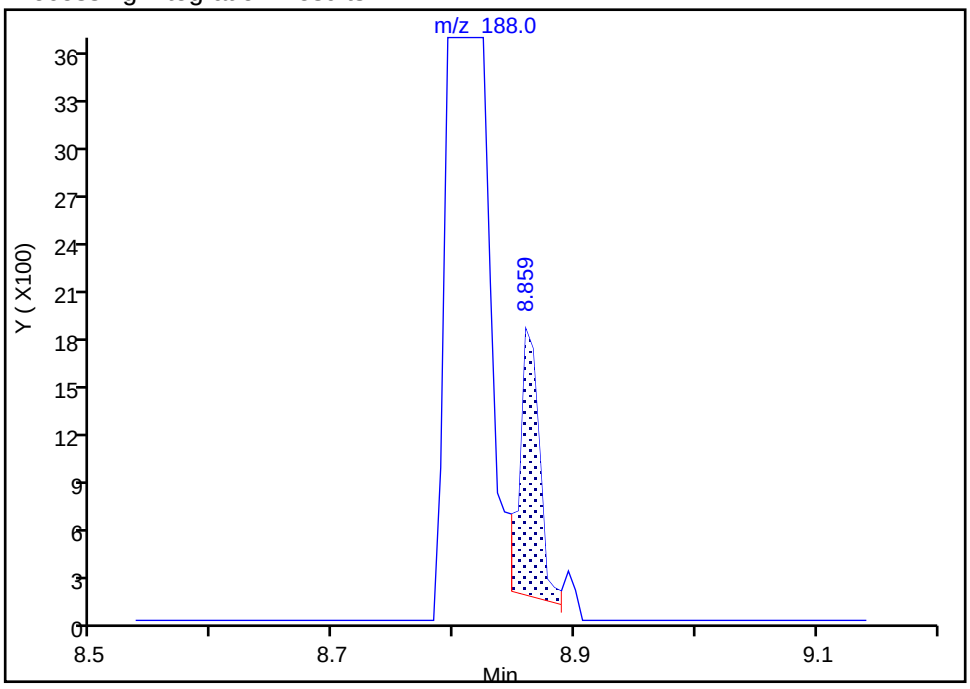
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27217.D
Injection Date: 29-Oct-2018 09:03:30 Instrument ID: SMS_K
Lims ID: CCV HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

* 4 Phenanthrene-d10, CAS: 1517-22-2

Signal: 1

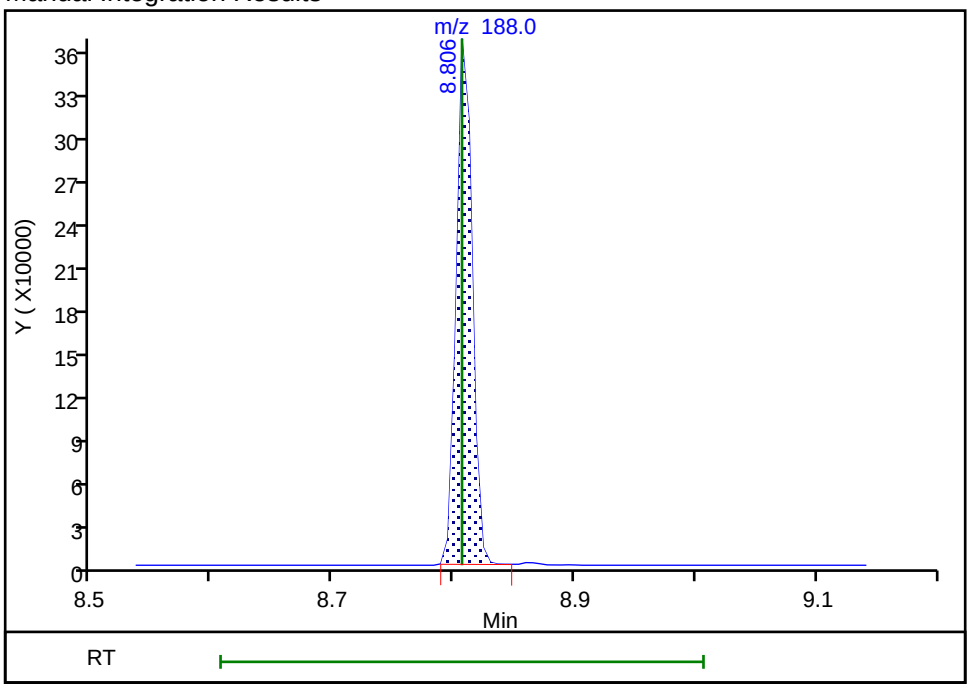
Processing Integration Results

RT: 8.86
Area: 1932
Amount: 40.000000
Amount Units: ug/ml



Manual Integration Results

RT: 8.81
Area: 334420
Amount: 40.000000
Amount Units: ug/ml



Reviewer: kiekeld, 29-Oct-2018 09:29:40
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

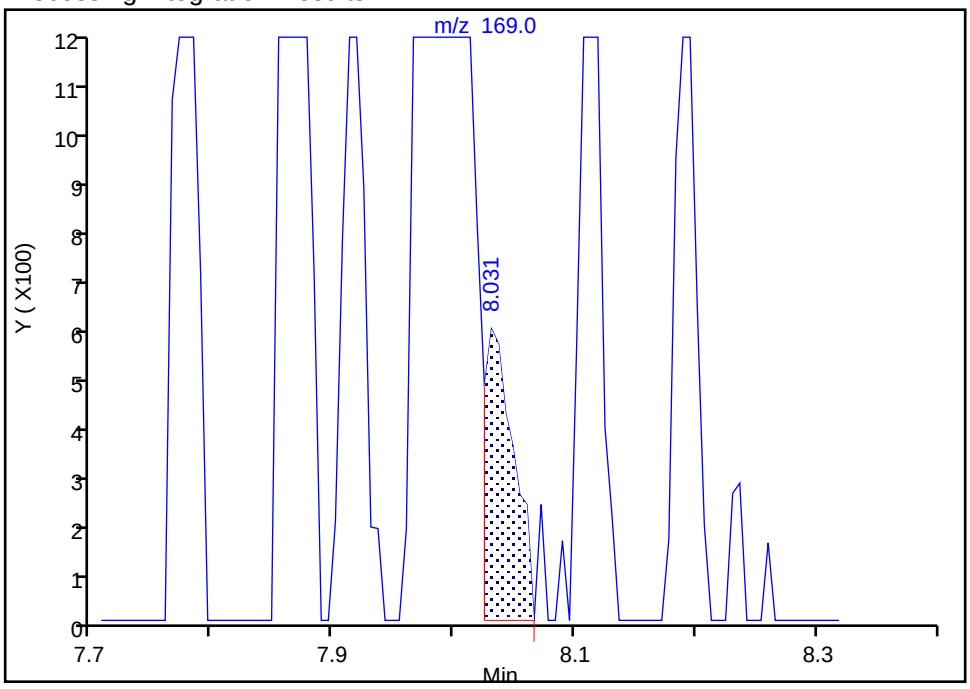
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27217.D
Injection Date: 29-Oct-2018 09:03:30 Instrument ID: SMS_K
Lims ID: CCV HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

141 N-Nitrosodiphenylamine, CAS: 86-30-6

Signal: 1

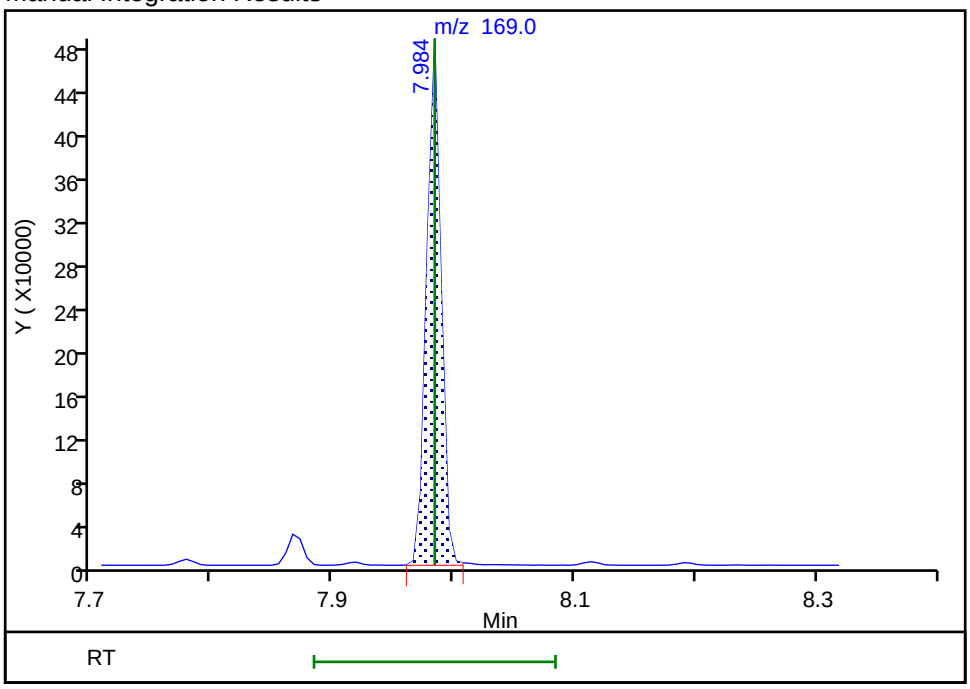
Processing Integration Results

RT: 8.03
Area: 985
Amount: 0.206880
Amount Units: ug/ml



Manual Integration Results

RT: 7.98
Area: 402530
Amount: 84.543582
Amount Units: ug/ml



Reviewer: kiekeld, 29-Oct-2018 09:30:10
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

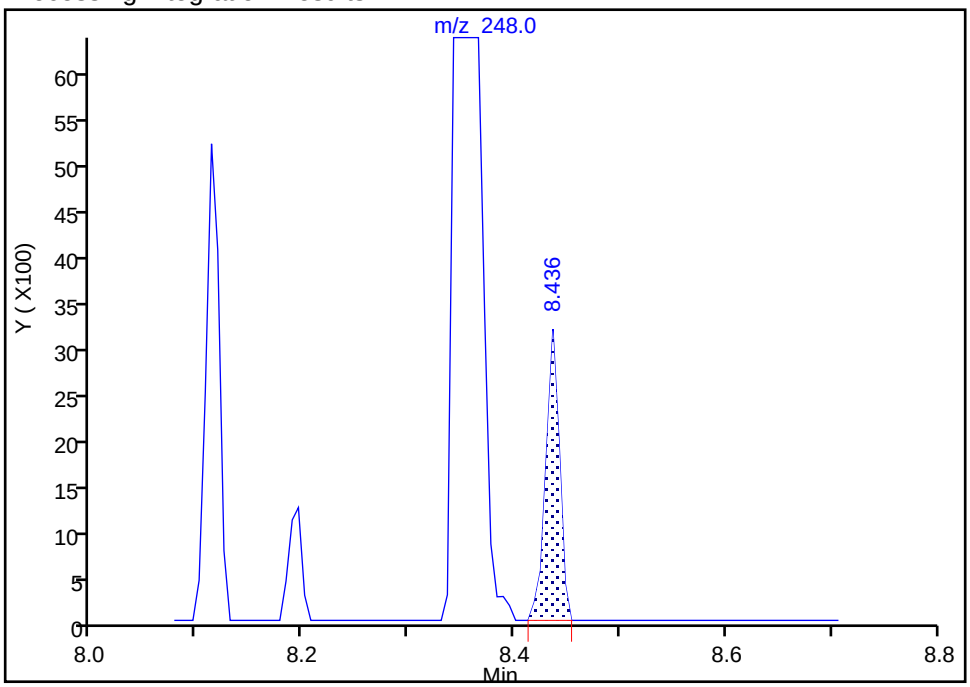
Data File:	\\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27217.D				
Injection Date:	29-Oct-2018 09:03:30	Instrument ID:	SMS_K		
Lims ID:	CCV HSL				
Client ID:					
Operator ID:	KIEKELD	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	0.5 ul	Dil. Factor:	1.0000		
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		
Column:	VF-5ms (0.50 mm)	Detector	MS SCAN		

156 4-Bromophenyl phenyl ether, CAS: 101-55-3

Signal: 1

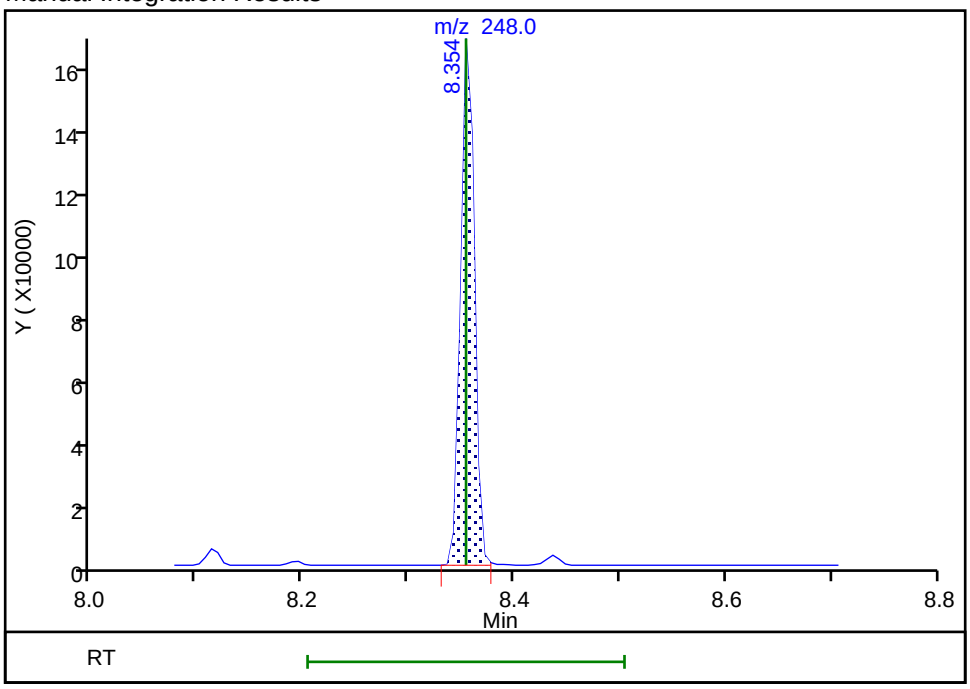
Processing Integration Results

RT: 8.44
Area: 2860
Amount: 1.541773
Amount Units: ug/ml



Manual Integration Results

RT: 8.35
Area: 149359
Amount: 80.516655
Amount Units: ug/ml



Reviewer: kiekeld, 29-Oct-2018 09:30:20

Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

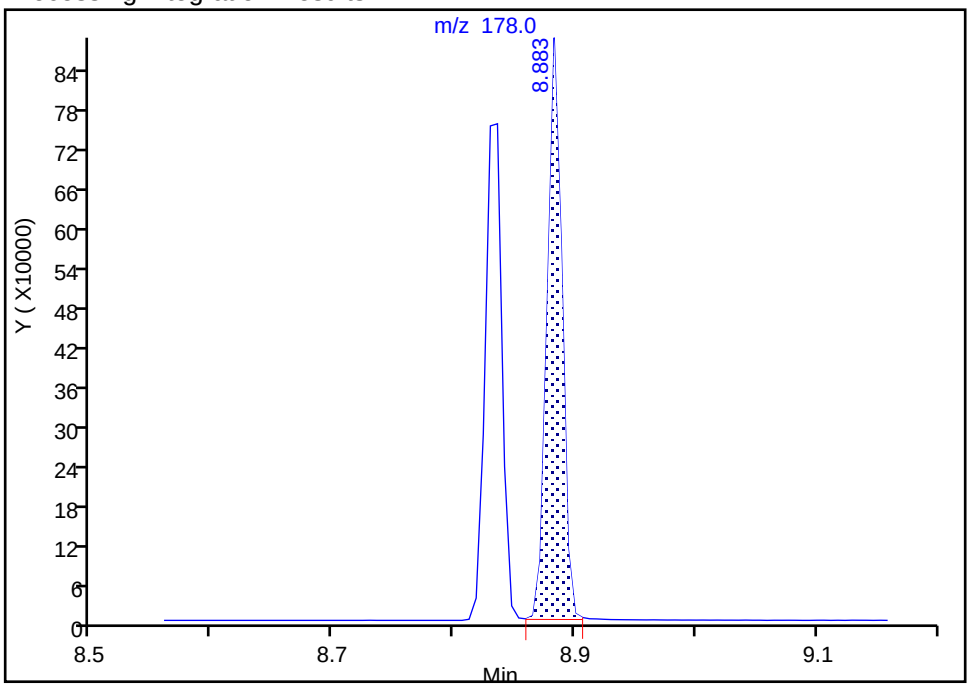
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27217.D
Injection Date: 29-Oct-2018 09:03:30 Instrument ID: SMS_K
Lims ID: CCV HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

168 Phenanthrene, CAS: 85-01-8

Signal: 1

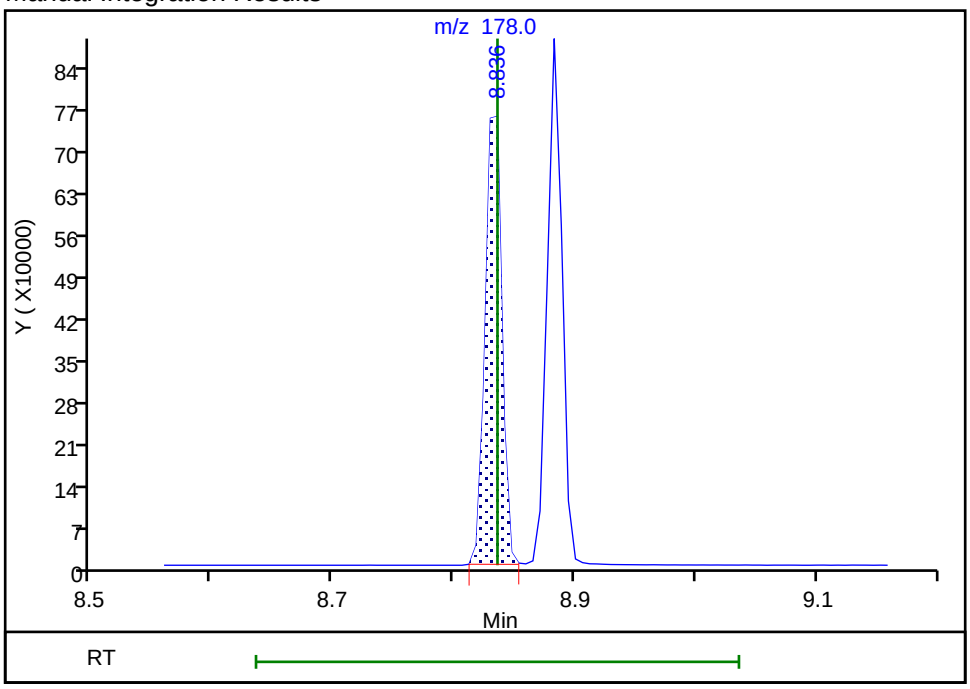
Processing Integration Results

RT: 8.88
Area: 750639
Amount: 84.664716
Amount Units: ug/ml



Manual Integration Results

RT: 8.84
Area: 726199
Amount: 81.908124
Amount Units: ug/ml



Reviewer: kiekeld, 29-Oct-2018 09:30:28
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

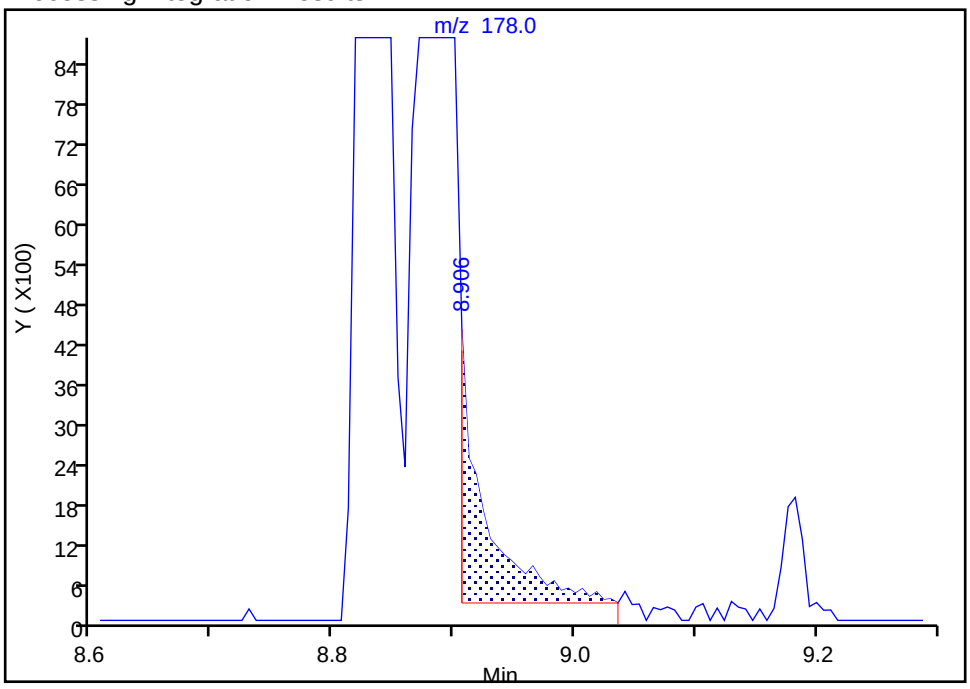
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27217.D
Injection Date: 29-Oct-2018 09:03:30 Instrument ID: SMS_K
Lims ID: CCV HSL
Client ID:
Operator ID: KIEKELD ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625
Column: VF-5ms (0.50 mm) Detector MS SCAN

169 Anthracene, CAS: 120-12-7

Signal: 1

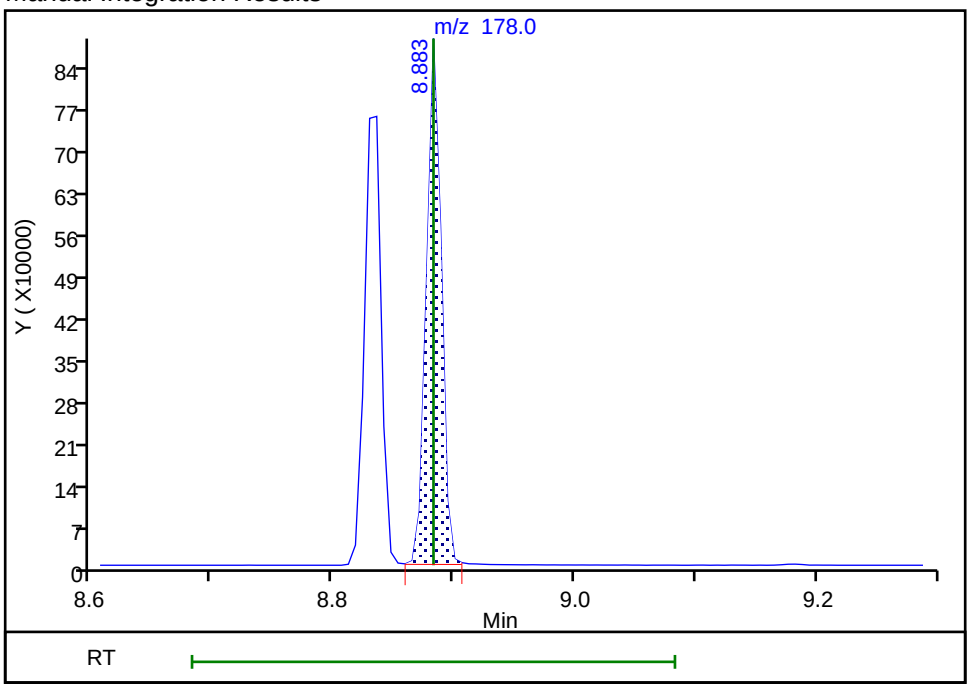
Processing Integration Results

RT: 8.91
Area: 5749
Amount: 0.625351
Amount Units: ug/ml



Manual Integration Results

RT: 8.88
Area: 750639
Amount: 81.651277
Amount Units: ug/ml



Reviewer: kiekeld, 29-Oct-2018 09:30:31
Audit Action: Assigned Compound ID Audit Reason: Wrong peak

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCVC 280-435306/28 Calibration Date: 10/29/2018 20:28

Instrument ID: SMS_K Calib Start Date: 10/23/2018 13:33

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/23/2018 16:54

Lab File ID: K27242.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.6338	0.6047		76300	80000	-4.6	50.0
N-Nitrosodimethylamine	Ave	0.9782	0.9334		76300	80000	-4.6	50.0
Pyridine	Ave	1.574	1.508		153000	160000	-4.2	50.0
Phenol	Ave	1.757	1.691	0.8000	77000	80000	-3.8	50.0
Aniline	Ave	2.151	2.026		75400	80000	-5.8	50.0
Bis(2-chloroethyl)ether	Ave	1.307	1.240	0.7000	75900	80000	-5.1	50.0
2-Chlorophenol	Ave	1.444	1.413	0.8000	78300	80000	-2.1	50.0
1,3-Dichlorobenzene	Ave	1.611	1.560		77500	80000	-3.2	50.0
1,4-Dichlorobenzene	Ave	1.618	1.574		77800	80000	-2.7	50.0
Benzyl alcohol	Ave	0.9545	0.9031		75700	80000	-5.4	50.0
1,2-Dichlorobenzene	Ave	1.540	1.492		77500	80000	-3.1	50.0
2-Methylphenol	Ave	1.324	1.274	0.7000	77000	80000	-3.8	50.0
2,2'-oxybis[1-chloropropane]	Qua		2.256	0.0100	72500	80000	-9.4	50.0
3 & 4 Methylphenol	Ave	1.288	1.218		75700	80000	-5.4	50.0
N-Nitrosodi-n-propylamine	Ave	0.9168	0.8559	0.5000	74700	80000	-6.6	50.0
Acetophenone	Ave	1.786	1.678	0.0100	75200	80000	-6.1	50.0
Hexachloroethane	Ave	0.5990	0.5904	0.3000	78900	80000	-1.4	50.0
Nitrobenzene	Ave	0.3668	0.3506		76500	80000	-4.4	50.0
Isophorone	Ave	0.6465	0.5978	0.4000	74000	80000	-7.5	50.0
2-Nitrophenol	Ave	0.1953	0.1903	0.1000	78000	80000	-2.6	50.0
2,4-Dimethylphenol	Ave	0.3423	0.3259	0.2000	76200	80000	-4.8	50.0
Bis(2-chloroethoxy)methane	Ave	0.3953	0.3731	0.3000	75500	80000	-5.6	50.0
Benzoic acid	Lin2		0.2316		147000	160000	-8.2	50.0
2,4-Dichlorophenol	Ave	0.2906	0.2756	0.2000	75900	80000	-5.2	50.0
1,2,4-Trichlorobenzene	Ave	0.3312	0.3196		77200	80000	-3.5	50.0
Naphthalene	Ave	0.9745	0.9395	0.7000	77100	80000	-3.6	50.0
4-Chloroaniline	Ave	0.4095	0.3799	0.0100	74200	80000	-7.2	50.0
2,6-Dichlorophenol	Ave	0.2857	0.2725		76300	80000	-4.6	50.0
Hexachlorobutadiene	Ave	0.1837	0.1731	0.0100	75400	80000	-5.8	50.0
Caprolactam	Ave	0.1731	0.1530		70700	80000	-11.6	50.0
4-Chloro-3-methylphenol	Ave	0.2761	0.2557	0.2000	74100	80000	-7.4	50.0
2-Methylnaphthalene	Ave	0.6846	0.6633	0.4000	77500	80000	-3.1	50.0
1-Methylnaphthalene	Ave	0.6396	0.5990		74900	80000	-6.3	50.0
1,2,4,5-Tetrachlorobenzene	Ave	0.3034	0.2842	0.0100	74900	80000	-6.3	50.0
Hexachlorocyclopentadiene	Ave	0.4154	0.3888	0.0500	74900	80000	-6.4	50.0
2,4,6-Trichlorophenol	Ave	0.3810	0.3712	0.2000	77900	80000	-2.6	50.0
2,4,5-Trichlorophenol	Ave	0.4165	0.4066	0.2000	78100	80000	-2.4	50.0
1,1'-Biphenyl	Ave	1.571	1.530		77900	80000	-2.6	50.0
2-Chloronaphthalene	Ave	1.204	1.152	0.8000	76500	80000	-4.4	50.0
2-Nitroaniline	Ave	0.3591	0.3328	0.0100	74100	80000	-7.3	50.0
Dimethyl phthalate	Ave	1.182	1.091	0.0100	73900	80000	-7.7	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCVC 280-435306/28 Calibration Date: 10/29/2018 20:28

Instrument ID: SMS_K Calib Start Date: 10/23/2018 13:33

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/23/2018 16:54

Lab File ID: K27242.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,3-Dinitrobenzene	Ave	0.2031	0.1953		76900	80000	-3.8	50.0
2,6-Dinitrotoluene	Ave	0.3016	0.2834	0.2000	75200	80000	-6.0	50.0
Acenaphthylene	Ave	1.812	1.729	0.9000	76400	80000	-4.5	50.0
3-Nitroaniline	Ave	0.3240	0.2880	0.0100	71100	80000	-11.1	50.0
Acenaphthene	Ave	1.177	1.126	0.9000	76600	80000	-4.3	50.0
2,4-Dinitrophenol	Lin2		0.1386	0.0100	131000	160000	-18.3	50.0
4-Nitrophenol	Ave	0.1516	0.1373	0.0100	145000	160000	-9.4	50.0
2,4-Dinitrotoluene	Ave	0.3733	0.3373	0.2000	72300	80000	-9.7	50.0
Dibenzofuran	Ave	1.650	1.572	0.8000	76200	80000	-4.7	50.0
2,3,4,6-Tetrachlorophenol	Ave	0.3245	0.3068	0.0100	75600	80000	-5.5	50.0
Diethyl phthalate	Ave	1.122	1.013	0.0100	72200	80000	-9.7	50.0
4-Chlorophenyl phenyl ether	Ave	0.6017	0.5543	0.4000	73700	80000	-7.9	50.0
Fluorene	Ave	1.249	1.143	0.9000	73200	80000	-8.5	50.0
4-Nitroaniline	Ave	0.3050	0.2653	0.0100	69600	80000	-13.0	50.0
4,6-Dinitro-2-methylphenol	Lin2		0.1132	0.0100	147000	160000	-8.0	50.0
Diphenylamine	Ave	1.085	1.003		62800	68000	-7.6	50.0
N-Nitrosodiphenylamine	Ave	0.5695	0.5623	0.0100	79000	80000	-1.3	50.0
1,2-Diphenylhydrazine	Ave	1.227	1.115		73500	80900	-9.1	50.0
Azobenzene	Ave	1.240	1.128		72700	80000	-9.1	50.0
4-Bromophenyl phenyl ether	Ave	0.2219	0.2143	0.1000	77300	80000	-3.4	50.0
Hexachlorobenzene	Ave	0.2189	0.2108	0.1000	77000	80000	-3.7	50.0
Atrazine	Ave	0.1908	0.1748		73300	80000	-8.4	50.0
Pentachlorophenol	Lin2		0.1221	0.0500	150000	160000	-6.3	50.0
Phenanthrene	Ave	1.060	1.006	0.7000	75900	80000	-5.2	50.0
Anthracene	Ave	1.100	1.036	0.7000	75400	80000	-5.8	50.0
Carbazole	Ave	0.9596	0.8896	0.0100	74200	80000	-7.3	50.0
Alachlor	Ave	0.1328	0.1217		73300	80000	-8.3	50.0
Di-n-butyl phthalate	Ave	1.055	0.9811	0.0100	74400	80000	-7.0	50.0
Fluoranthene	Ave	1.069	0.9859	0.6000	73700	80000	-7.8	50.0
Pyrene	Ave	1.416	1.279	0.6000	72300	80000	-9.7	50.0
Famphur	Ave	0.4171	0.3920		75200	80000	-6.0	50.0
Butyl benzyl phthalate	Ave	0.5492	0.5085	0.0100	74100	80000	-7.4	50.0
3,3'-Dichlorobenzidine	Ave	0.3557	0.2874	0.0100	64700	80000	-19.2	50.0
Benzo[a]anthracene	Ave	1.245	1.100	0.8000	70700	80000	-11.6	50.0
Chrysene	Ave	1.209	1.131	0.7000	74900	80000	-6.4	50.0
Bis(2-ethylhexyl) phthalate	Ave	0.6994	0.6336	0.0100	72500	80000	-9.4	50.0
Di-n-octyl phthalate	Lin2		0.8790	0.0100	59600	80000	-25.5	50.0
Benzo[b]fluoranthene	Ave	1.150	1.029	0.7000	71600	80000	-10.5	50.0
Benzo[k]fluoranthene	Ave	1.237	1.293	0.7000	83600	80000	4.5	50.0
Benzo[a]pyrene	Ave	1.160	1.138	0.7000	78500	80000	-1.9	50.0
Indeno[1,2,3-cd]pyrene	Ave	0.8896	0.6851	0.5000	61600	80000	-23.0	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCVC 280-435306/28 Calibration Date: 10/29/2018 20:28

Instrument ID: SMS_K Calib Start Date: 10/23/2018 13:33

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/23/2018 16:54

Lab File ID: K27242.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibenz(a,h)anthracene	Ave	0.9634	0.8685	0.4000	72100	80000	-9.9	50.0
Benzo[g,h,i]perylene	Ave	1.077	1.021	0.5000	75900	80000	-5.2	50.0
2-Fluorophenol (Surr)	Ave	1.493	1.414		75700	80000	-5.3	50.0
Phenol-d5 (Surr)	Ave	1.695	1.627		76800	80000	-4.0	50.0
Nitrobenzene-d5 (Surr)	Ave	0.3778	0.3548		75100	80000	-6.1	50.0
2-Fluorobiphenyl	Ave	1.396	1.355		77600	80000	-3.0	50.0
2,4,6-Tribromophenol (Surr)	Ave	0.1667	0.1476		70800	80000	-11.4	50.0
Terphenyl-d14 (Surr)	Ave	0.9813	0.8706		71000	80000	-11.3	50.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27242.D
Lims ID: CCVC HSL
Client ID:
Sample Type: CCVC
Inject. Date: 29-Oct-2018 20:28:30 ALS Bottle#: 27 Worklist Smp#: 28
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: CCVC HSL
Operator ID: KIEKELD Instrument ID: SMS_K
Sublist: chrom-SMSK_8270C*sub25

Method: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 30-Oct-2018 07:25:08 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0312

First Level Reviewer: kiekeld Date: 30-Oct-2018 07:10:18

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.376	4.376	0.000	96	128359	40.0	40.0	
* 2 Naphthalene-d8	136	5.592	5.593	-0.001	100	502403	40.0	40.0	
* 3 Acenaphthene-d10	164	7.326	7.326	0.000	94	242545	40.0	40.0	
* 4 Phenanthrene-d10	188	8.806	8.807	0.000	97	367675	40.0	40.0	
* 5 Chrysene-d12	240	12.555	12.555	0.000	99	292259	40.0	40.0	
* 6 Perylene-d12	264	16.257	16.263	-0.006	98	255229	40.0	40.0	
$ 7 2-Fluorophenol	112	3.207	3.207	0.000	94	362892	80.0	75.7	
$ 8 Phenol-d5	99	4.018	4.018	0.000	97	417613	80.0	76.8	
$ 9 Nitrobenzene-d5	82	4.887	4.887	0.000	94	356488	80.0	75.1	
$ 11 2-Fluorobiphenyl	172	6.650	6.656	-0.006	100	657320	80.0	77.6	
$ 12 2,4,6-Tribromophenol	330	8.113	8.113	0.000	94	71611	80.0	70.8	
$ 13 Terphenyl-d14	244	10.622	10.634	-0.012	98	508886	80.0	71.0	
19 1,4-Dioxane	88	1.867	1.867	0.000	96	155228	80.0	76.3	
20 N-Nitrosodimethylamine	74	2.085	2.085	0.000	85	239608	80.0	76.3	
21 Pyridine	79	2.132	2.132	0.000	83	774180	160.0	153.2	
32 Phenol	94	4.029	4.030	-0.001	98	434030	80.0	77.0	
34 Aniline	93	4.065	4.065	0.000	97	520184	80.0	75.4	
35 Alpha Methyl Styrene	118	4.123	4.124	-0.001	93	357646	80.0	75.7	
36 Bis(2-chloroethyl)ether	93	4.112	4.112	0.000	95	318434	80.0	75.9	
38 n-Decane	43	4.229	4.229	0.000	93	474297	80.0	72.3	
39 2-Chlorophenol	128	4.182	4.182	0.000	98	362686	80.0	78.3	
40 1,3-Dichlorobenzene	146	4.329	4.329	0.000	98	400532	80.0	77.5	
42 1,4-Dichlorobenzene	146	4.394	4.394	0.000	94	404004	80.0	77.8	
43 Benzyl alcohol	108	4.494	4.494	0.000	92	231830	80.0	75.7	
44 1,2-Dichlorobenzene	146	4.541	4.541	0.000	97	382939	80.0	77.5	
45 2-Methylphenol	108	4.594	4.594	0.000	96	327015	80.0	77.0	
46 2,2'-oxybis[1-chloropropan	45	4.623	4.623	0.000	90	579247	80.0	72.5	
47 Indene	116	4.623	4.623	0.000	91	1067360	160.0	150.7	
49 3 & 4 Methylphenol	108	4.740	4.741	-0.001	84	312723	80.0	75.7	
50 3-Methylphenol	108	4.740	4.741	-0.001	92	312723	80.0	75.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
51 4-Methylphenol	108	4.740	4.741	-0.001	93	312723	80.0	75.7	
52 N-Nitrosodi-n-propylamine	70	4.740	4.741	-0.001	83	219719	80.0	74.7	
54 Acetophenone	105	4.746	4.746	0.000	90	430660	80.0	75.2	
58 Hexachloroethane	117	4.864	4.864	0.000	93	151569	80.0	78.9	
59 Nitrobenzene	77	4.905	4.905	0.000	95	352283	80.0	76.5	
63 Isophorone	82	5.134	5.134	0.000	97	600683	80.0	74.0	
64 2-Nitrophenol	139	5.216	5.216	0.000	94	191203	80.0	78.0	
65 2,4-Dimethylphenol	107	5.252	5.252	0.000	94	327429	80.0	76.2	
68 Benzoic acid	105	5.369	5.363	0.006	89	465351	160.0	146.9	
69 Bis(2-chloroethoxy)methane	93	5.334	5.340	-0.006	96	374931	80.0	75.5	
71 3,5-Dimethylphenol	107	5.381	5.381	0.000	84	331446	80.0	77.3	
74 2,4-Dichlorophenol	162	5.451	5.451	0.000	94	276908	80.0	75.9	
76 1,2,4-Trichlorobenzene	180	5.540	5.540	0.000	94	321102	80.0	77.2	
79 Naphthalene	128	5.616	5.616	0.000	98	944008	80.0	77.1	
80 4-Chloroaniline	127	5.657	5.657	0.000	96	381686	80.0	74.2	
81 2,6-Dichlorophenol	162	5.669	5.669	0.000	96	273787	80.0	76.3	
83 Hexachlorobutadiene	225	5.745	5.745	0.000	96	173899	80.0	75.4	
86 Caprolactam	55	5.980	5.980	0.000	74	153773	80.0	70.7	
89 4-Chloro-3-methylphenol	107	6.133	6.133	0.000	95	256948	80.0	74.1	
93 2-Methylnaphthalene	142	6.292	6.292	0.000	95	666524	80.0	77.5	
96 1-Methylnaphthalene	142	6.391	6.392	-0.001	95	601918	80.0	74.9	
97 Hexachlorocyclopentadiene	237	6.462	6.462	0.000	96	188593	80.0	74.9	
98 1,2,4,5-Tetrachlorobenzene	216	6.462	6.468	-0.006	96	285520	80.0	74.9	
100 2,4,6-Trichlorophenol	196	6.568	6.574	-0.006	78	180064	80.0	77.9	
101 2,3-Dichlorobenzenamine	161	6.568	6.568	0.000	93	299144	80.0	77.4	
102 2,4,5-Trichlorophenol	196	6.609	6.609	0.000	95	197252	80.0	78.1	
104 1,1'-Biphenyl	154	6.750	6.756	-0.006	95	741984	80.0	77.9	
106 2-Chloronaphthalene	162	6.773	6.779	-0.006	96	558691	80.0	76.5	
108 2-Nitroaniline	65	6.862	6.867	-0.005	85	161415	80.0	74.1	
111 Dimethyl phthalate	163	7.050	7.050	0.000	99	529349	80.0	73.9	
112 1,3-Dinitrobenzene	168	7.067	7.073	-0.006	89	94742	80.0	76.9	
113 2,6-Dinitrotoluene	165	7.102	7.103	0.000	95	137460	80.0	75.2	
114 Acenaphthylene	152	7.185	7.191	-0.006	99	838944	80.0	76.4	
115 3-Nitroaniline	138	7.273	7.273	0.000	95	139724	80.0	71.1	
117 Acenaphthene	153	7.361	7.361	0.000	94	546189	80.0	76.6	
118 2,4-Dinitrophenol	184	7.373	7.379	-0.006	84	134440	160.0	130.8	
119 4-Nitrophenol	109	7.437	7.443	-0.006	95	133238	160.0	145.0	
122 2,4-Dinitrotoluene	165	7.502	7.508	-0.006	95	163602	80.0	72.3	
123 Dibenzofuran	168	7.531	7.531	0.000	98	762365	80.0	76.2	
125 2,3,4,6-Tetrachlorophenol	232	7.655	7.655	0.000	72	148844	80.0	75.6	
127 Hexadecane	57	7.772	7.778	-0.006	91	482405	80.0	75.5	
130 Diethyl phthalate	149	7.749	7.749	0.000	98	491497	80.0	72.2	
134 4-Chlorophenyl phenyl ethe	204	7.866	7.866	0.000	95	268874	80.0	73.7	
135 Fluorene	166	7.872	7.878	-0.006	95	554529	80.0	73.2	
138 4-Nitroaniline	138	7.878	7.884	-0.006	85	128681	80.0	69.6	
139 4,6-Dinitro-2-methylphenol	198	7.913	7.919	-0.006	84	166425	160.0	147.2	
141 N-Nitrosodiphenylamine	169	7.978	7.984	-0.006	62	413518	80.0	79.0	
142 Diphenylamine	169	7.978	7.984	-0.006	96	413518	68.0	62.8	
143 1,2-Diphenylhydrazine	77	8.025	8.025	0.000	41	547022	80.9	73.5	
144 Azobenzene	77	8.025	8.025	0.000	97	547022	80.0	72.7	
147 2,4,6 - Tribromophenol	330	8.113	8.113	0.000	94	71451	80.0	70.3	
156 4-Bromophenyl phenyl ether	248	8.354	8.354	0.000	67	157598	80.0	77.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
157 Hexachlorobenzene	284	8.436	8.436	0.000	95	154993	80.0	77.0	
159 Atrazine	200	8.507	8.513	-0.006	91	128557	80.0	73.3	
161 n-Octadecane	85	8.689	8.695	-0.006	92	151010	80.0	81.0	
163 Pentachlorophenol	266	8.624	8.624	0.000	93	179620	160.0	149.9	
168 Phenanthrene	178	8.830	8.836	-0.006	97	739534	80.0	75.9	
169 Anthracene	178	8.877	8.883	-0.006	97	761814	80.0	75.4	
170 Carbazole	167	9.035	9.036	-0.001	95	654170	80.0	74.2	
171 Alachlor	188	9.176	9.182	-0.006	94	89516	80.0	73.3	
173 Di-n-butyl phthalate	149	9.376	9.376	0.000	99	721423	80.0	74.4	
179 Fluoranthene	202	10.105	10.111	-0.006	98	724987	80.0	73.7	
182 Pyrene	202	10.404	10.410	-0.006	97	747372	80.0	72.3	
188 Famphur	218	11.327	11.333	-0.006	83	229145	80.0	75.2	
190 Butyl benzyl phthalate	149	11.444	11.456	-0.012	96	297232	80.0	74.1	
195 Bis(2-ethylhexyl) phthalat	149	12.731	12.737	-0.006	97	370375	80.0	72.5	
197 3,3'-Dichlorobenzidine	252	12.502	12.508	-0.006	76	168010	80.0	64.7	
198 Benzo[a]anthracene	228	12.531	12.543	-0.012	98	643099	80.0	70.7	
199 Chrysene	228	12.608	12.620	-0.012	97	661160	80.0	74.9	
201 Di-n-octyl phthalate	149	14.441	14.441	0.000	99	513760	80.0	59.6	
203 Benzo[b]fluoranthene	252	15.222	15.228	-0.006	97	525354	80.0	71.6	
204 Benzo[k]fluoranthene	252	15.299	15.305	-0.006	99	659993	80.0	83.6	
206 Benzo[e]pyrene	252	15.957	15.969	-0.012	97	541947	80.0	77.4	
207 Benzo[a]pyrene	252	16.098	16.110	-0.012	77	581029	80.0	78.5	
213 Dibenz(a,h)anthracene	278	19.371	19.377	-0.006	94	443322	80.0	72.1	
214 Indeno[1,2,3-cd]pyrene	276	19.265	19.277	-0.012	98	400463	80.0	61.6	
215 Benzo[g,h,i]perylene	276	19.982	19.988	-0.006	98	521173	80.0	75.9	
S 217 Total Cresols	108				0			152.6	
S 218 Methyl Phenols,Total	108				0			152.6	

Reagents:

MS-HSLACCV080_00173 Amount Added: 200.00 Units: uL

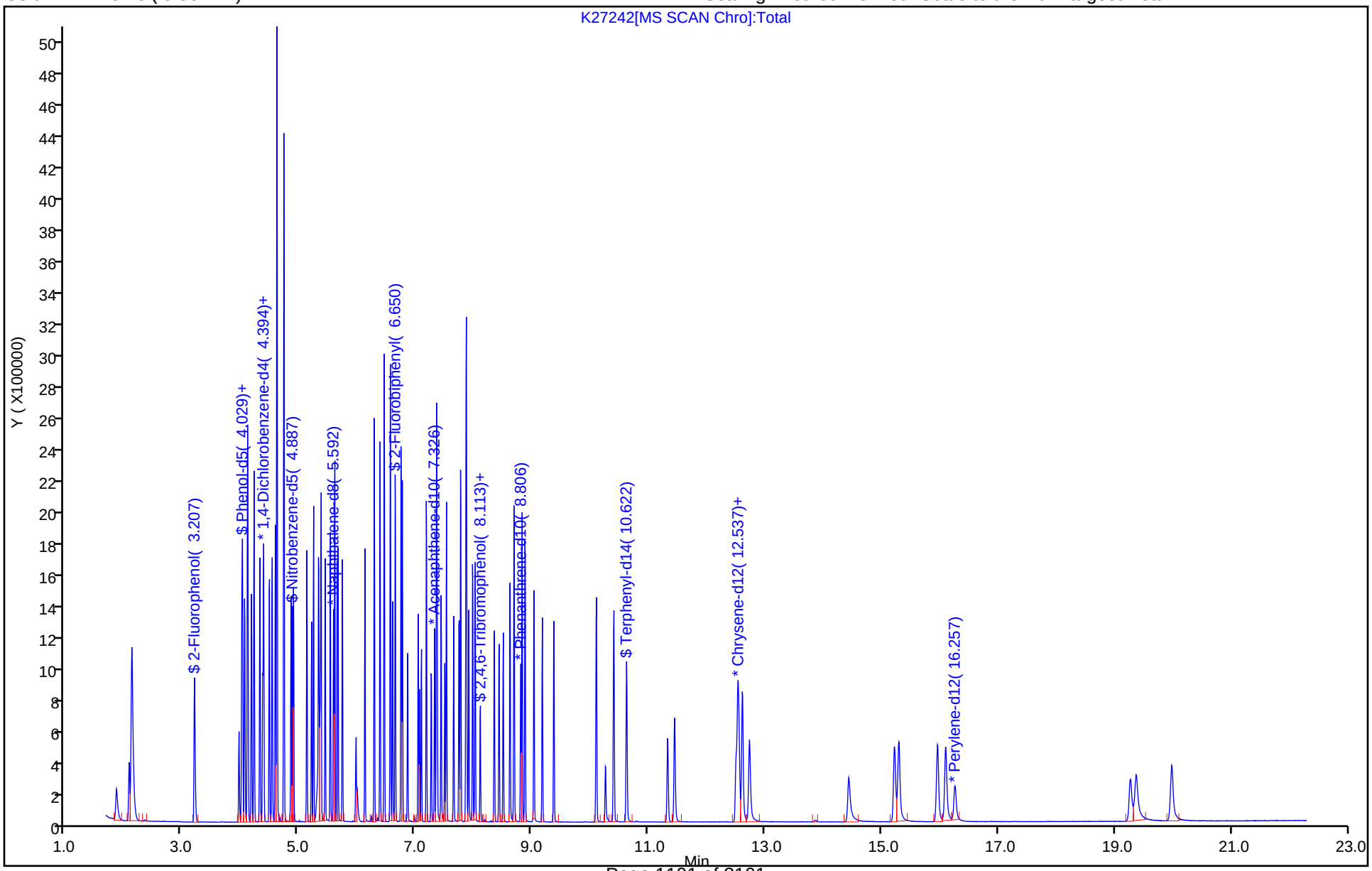
Report Date: 30-Oct-2018 07:25:09 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27242.D

Injection Date:	29-Oct-2018 20:28:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	CCVC HSL			Worklist Smp#:	28
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27111.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 23-Oct-2018 13:16:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Operator ID: KIEKELD Instrument ID: SMS_K

Method: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 24-Oct-2018 06:01:52 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0307

First Level Reviewer: kiekeld Date: 23-Oct-2018 13:30:43

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
28 Pentachlorophenol_T	266	3.584	3.584	0.000	93	90847	NR	NR	
48 Benzidine_T	184	4.660	4.660	0.000	100	616468	NR	NR	
30 DFTPP									
56 4,4'-DDE	246	4.801	4.801	0.000	1	211	NR	NR	a
62 4,4'-DDD	235	5.077	5.077	0.000	96	3610	NR	NR	a
70 4,4'-DDT	235	5.277	5.277	0.000	98	251686	NR	NR	a

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
a - User Assigned ID

Reagents:

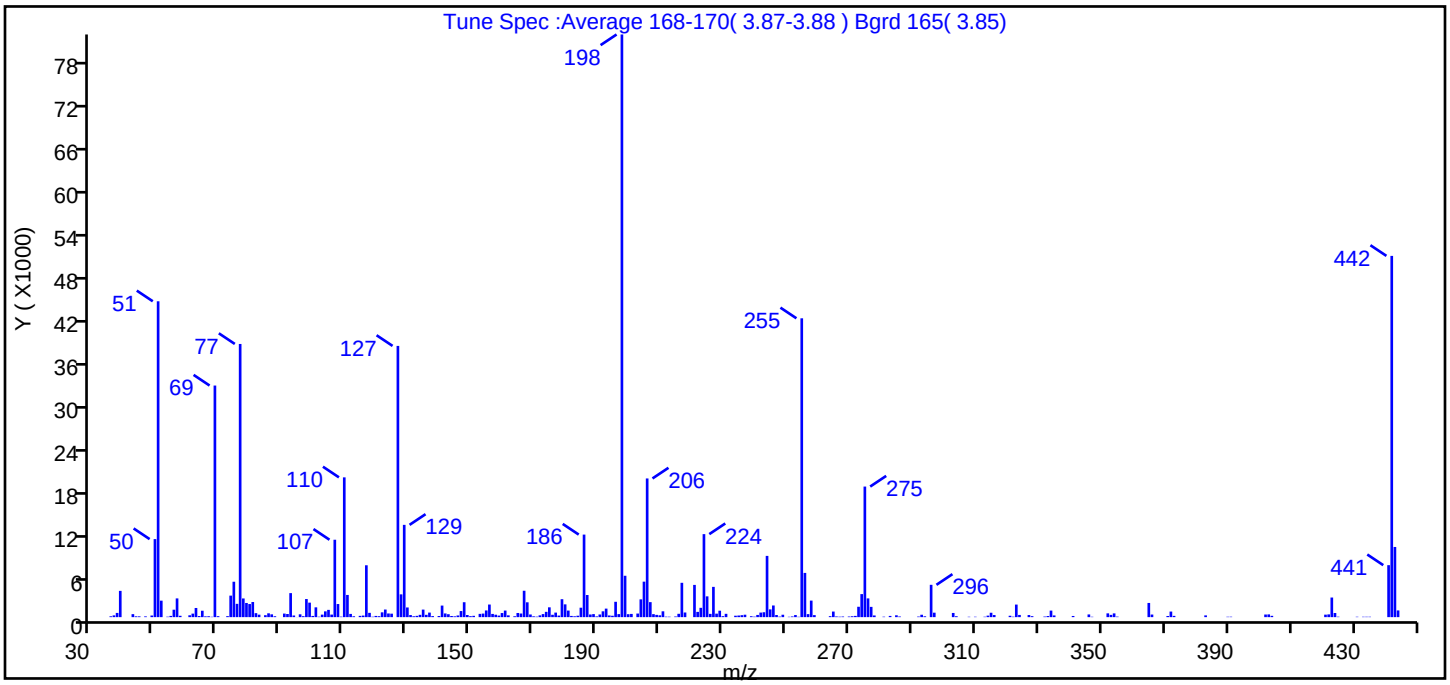
MS-DFTPP_00047 Amount Added: 200.00 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27111.D
Injection Date: 23-Oct-2018 13:16:30 Instrument ID: SMS_K
Lims ID: DFTPP
Client ID:
Operator ID: KIEKELD ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625
Tune Method: DFTPP Method 8270

30 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	54.2
68	<2% of mass 69	0.1 (0.2)
69	Present	39.7
70	<2% of mass 69	0.2 (0.4)
127	40-60% of mass 198	46.5
197	<1% of mass 198	0.5
199	5-9% of mass 198	7.1
275	10-30% of mass 198	22.4
365	>1% of mass 198	2.4
441	Present but less than mass 443	8.9 (74.1)
442	>40% of mass 198	62.0
443	17-23% of mass 442	12.0 (19.4)

Report Date: 24-Oct-2018 06:01:53 Chrom Revision: 2.3 12-Oct-2018 08:24:38

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27111.D\SMSK_8270C.rslt\spectra.d
Injection Date: 23-Oct-2018 13:16:30
Spectrum: Tune Spec :Average 168-170(3.87-3.88) Bgrd 165(3.85)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 271

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	118	117.00	7214	189.00	422	270.00	86
37.00	245	118.00	598	190.00	101	271.00	124
38.00	587	119.00	60	191.00	370	272.00	173
39.00	3653	120.00	170	192.00	811	273.00	1443
43.00	417	121.00	132	193.00	1186	274.00	3205
44.00	112	122.00	668	194.00	234	275.00	18160
45.00	110	123.00	1058	195.00	192	276.00	2608
47.00	105	124.00	510	196.00	2136	277.00	1427
49.00	224	125.00	483	197.00	421	278.00	233
50.00	10852	127.00	37720	198.00	81032	281.00	63
51.00	43928	128.00	3169	199.00	5754	283.00	170
52.00	2292	129.00	12835	200.00	410	285.00	257
54.00	62	130.00	1346	201.00	449	286.00	90
55.00	173	131.00	292	203.00	499	292.00	82
56.00	1035	132.00	120	204.00	2473	293.00	333
57.00	2606	133.00	180	205.00	4936	294.00	116
58.00	188	134.00	320	206.00	19288	296.00	4496
61.00	258	135.00	1050	207.00	2087	297.00	620
62.00	489	136.00	322	208.00	417	303.00	581
63.00	1274	137.00	633	209.00	316	304.00	126
64.00	150	138.00	146	210.00	254	308.00	53
65.00	892	140.00	155	211.00	811	310.00	56
66.00	108	141.00	1609	212.00	66	313.00	58
67.00	125	142.00	513	213.00	62	314.00	209
68.00	49	143.00	406	215.00	91	315.00	611
69.00	32208	144.00	158	216.00	465	316.00	292
70.00	133	145.00	110	217.00	4776	321.00	192
73.00	139	146.00	231	218.00	646	322.00	65
74.00	2992	147.00	846	221.00	4483	323.00	1748
75.00	4925	148.00	2075	222.00	732	324.00	307
76.00	1850	149.00	297	223.00	1296	327.00	291
77.00	37992	150.00	137	224.00	11544	328.00	136
78.00	2598	151.00	184	225.00	2891	332.00	79

Report Date: 24-Oct-2018 06:01:53 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27111.D\SMSK_8270C.rslt\spectra.d
Injection Date: 23-Oct-2018 13:16:30
Spectrum: Tune Spec :Average 168-170(3.87-3.88) Bgrd 165(3.85)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 271

m/z	Y	m/z	Y	m/z	Y	m/z	Y
79.00	1971	153.00	455	226.00	455	333.00	154
80.00	1821	154.00	496	227.00	4210	334.00	911
81.00	2103	155.00	931	228.00	485	335.00	236
82.00	555	156.00	1754	229.00	895	341.00	162
83.00	343	157.00	448	230.00	136	346.00	375
84.00	3	158.00	338	231.00	461	347.00	53
85.00	271	159.00	216	234.00	199	352.00	527
86.00	533	160.00	571	235.00	224	353.00	315
87.00	389	161.00	913	236.00	273	354.00	522
88.00	124	162.00	249	237.00	338	355.00	72
91.00	495	164.00	122	239.00	127	365.00	1974
92.00	436	165.00	578	240.00	69	366.00	362
93.00	3342	166.00	505	241.00	306	371.00	160
94.00	229	167.00	3671	242.00	634	372.00	777
95.00	10	168.00	2064	243.00	682	373.00	177
96.00	394	169.00	369	244.00	8518	383.00	244
97.00	131	170.00	112	245.00	1079	390.00	54
98.00	2519	171.00	66	246.00	1622	391.00	61
99.00	2016	172.00	248	247.00	297	402.00	365
100.00	167	173.00	425	248.00	73	403.00	382
101.00	1363	174.00	737	249.00	335	404.00	183
102.00	61	175.00	1366	251.00	50	421.00	346
103.00	350	176.00	328	252.00	94	422.00	383
104.00	804	177.00	632	253.00	291	423.00	2728
105.00	1012	178.00	217	254.00	50	424.00	575
106.00	354	179.00	2495	255.00	41560	425.00	64
107.00	10765	180.00	1779	256.00	6151	431.00	55
108.00	1823	181.00	913	257.00	419	433.00	54
109.00	69	182.00	170	258.00	2301	434.00	55
110.00	19440	183.00	120	259.00	282	435.00	56
111.00	3087	184.00	198	264.00	136	441.00	7229
112.00	449	185.00	1312	265.00	777	442.00	50240
113.00	120	186.00	11481	266.00	93	443.00	9759
115.00	178	187.00	3078	267.00	62	444.00	935

Report Date: 24-Oct-2018 06:01:53 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27111.D\SMSK_8270C.rslt\spectra.d
Injection Date: 23-Oct-2018 13:16:30
Spectrum: Tune Spec :Average 168-170(3.87-3.88) Bgrd 165(3.85)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 271

m/z	Y	m/z	Y	m/z	Y	m/z	Y
116.00	218	188.00	370	268.00	86		

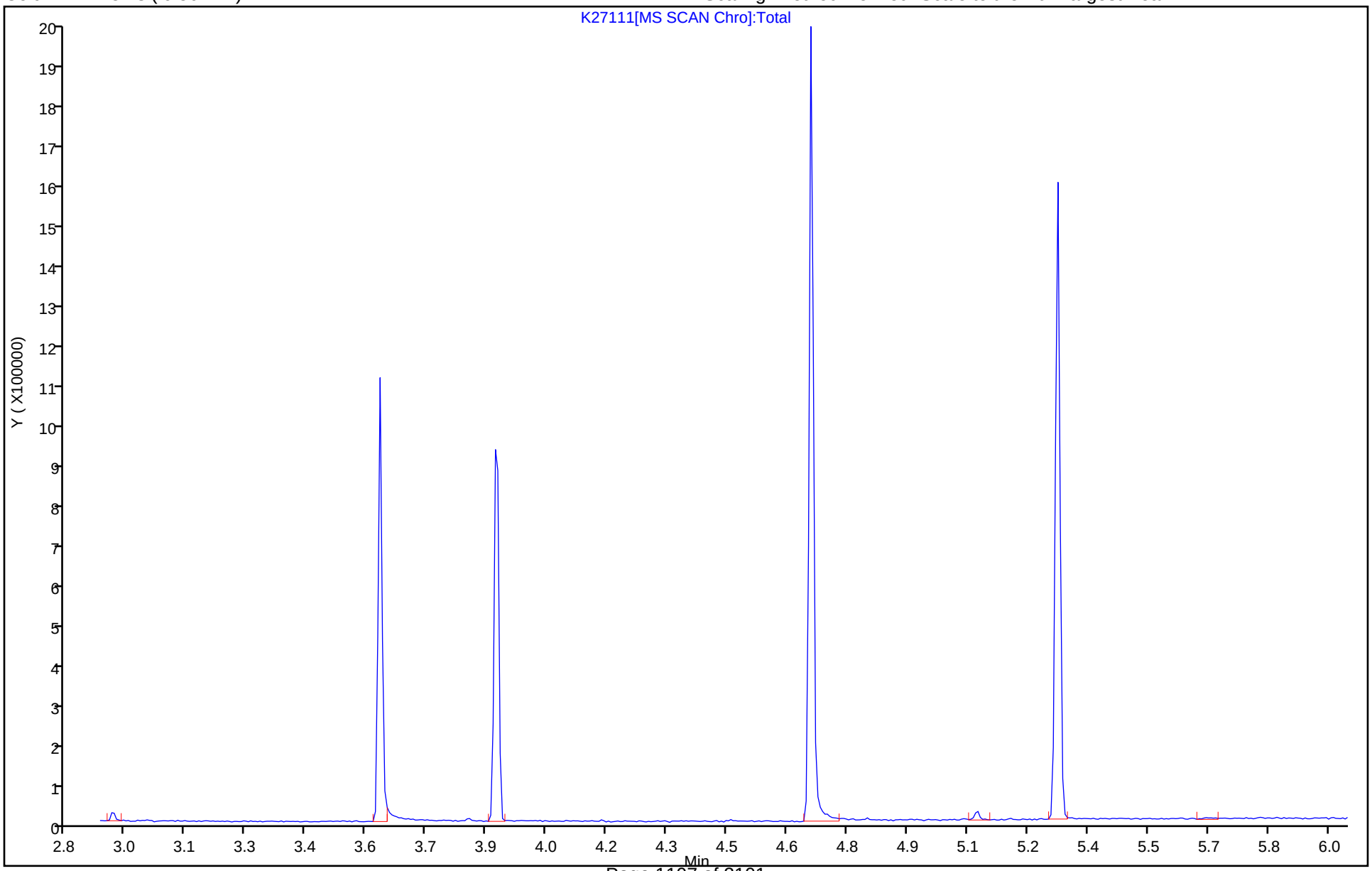
Report Date: 24-Oct-2018 06:01:53 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27111.D

Injection Date:	23-Oct-2018 13:16:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1

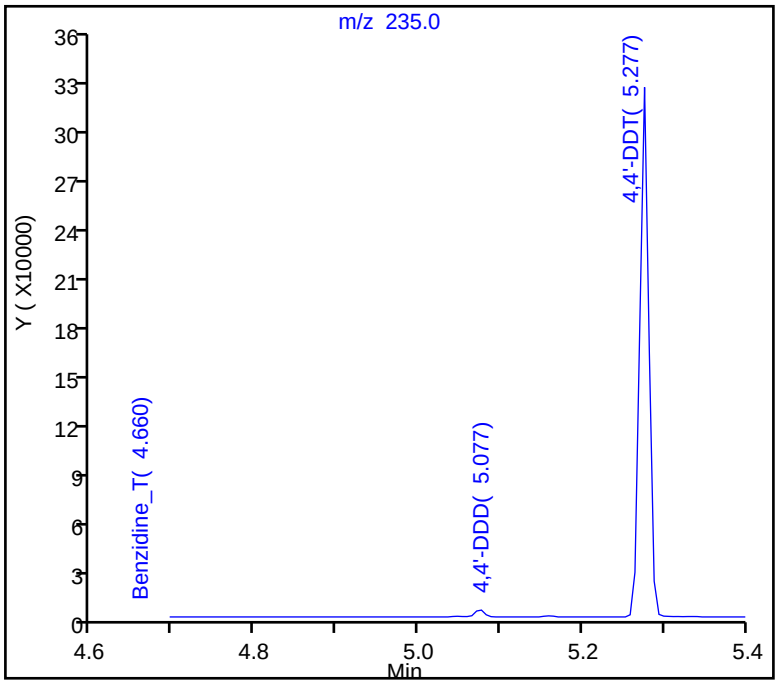


Breakdown Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27111.D
Injection Date: 23-Oct-2018 13:16:30 Instrument ID: SMS_K
Lims ID: DFTPP
Client ID:
Operator ID: KIEKELD ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625

70 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

70 4,4'-DDT, Area = 251686
62 4,4'-DDD, Area = 3610
56 4,4'-DDE, Area = 211

%Breakdown: 1.50%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica Denver

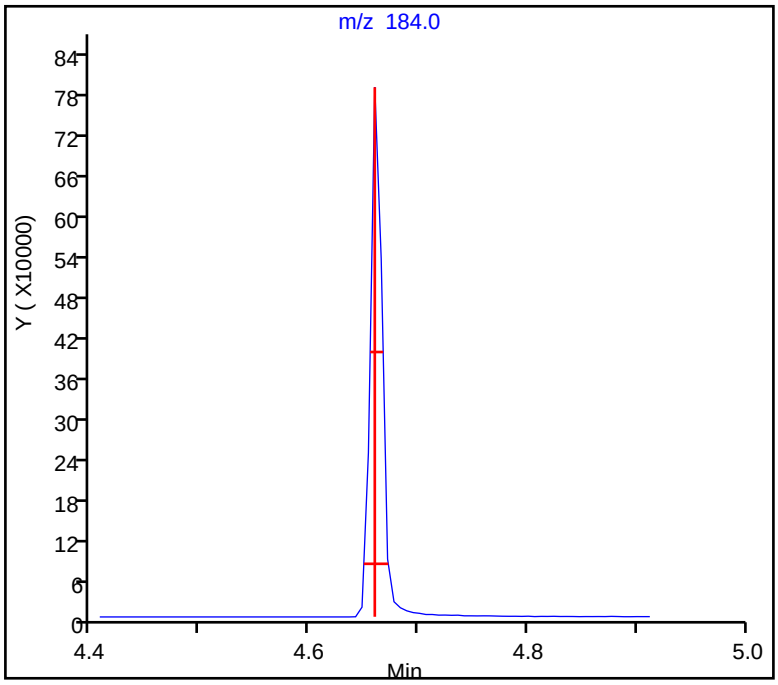
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27111.D
Injection Date: 23-Oct-2018 13:16:30 Instrument ID: SMS_K
Lims ID: DFTPP
Client ID:
Operator ID: KIEKELD ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625

48 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.012 (min.)
Front Width = 0.010 (min.)

Tailing Factor = 1.2, Max. Tailing < 3.00
Passed



Peak Tailing Report

TestAmerica Denver

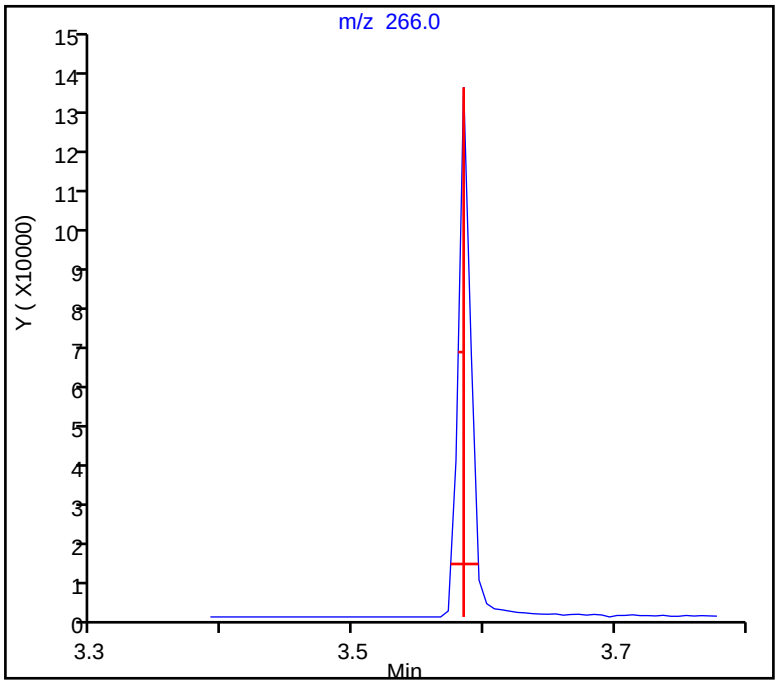
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27111.D
Injection Date: 23-Oct-2018 13:16:30 Instrument ID: SMS_K
Lims ID: DFTPP
Client ID:
Operator ID: KIEKELD ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625

28 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.011 (min.)
Front Width = 0.010 (min.)

Tailing Factor = 1.1, Max. Tailing < 5.00
Passed



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27216.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 29-Oct-2018 08:50:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Operator ID: KIEKELD Instrument ID: SMS_K

Method: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 30-Oct-2018 07:24:08 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0312

First Level Reviewer: kiekeld Date: 29-Oct-2018 09:00:53

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
28 Pentachlorophenol_T	266	3.537	3.537	0.000	93	68681	NR	NR	
48 Benzidine_T	184	4.612	4.612	0.000	99	529231	NR	NR	
30 DFTPP									
56 4,4'-DDE	246	4.754	4.754	0.000	1	236	NR	NR	a
62 4,4'-DDD	235	5.024	5.024	0.000	94	2719	NR	NR	a
70 4,4'-DDT	235	5.218	5.218	0.000	98	217330	NR	NR	a

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
a - User Assigned ID

Reagents:

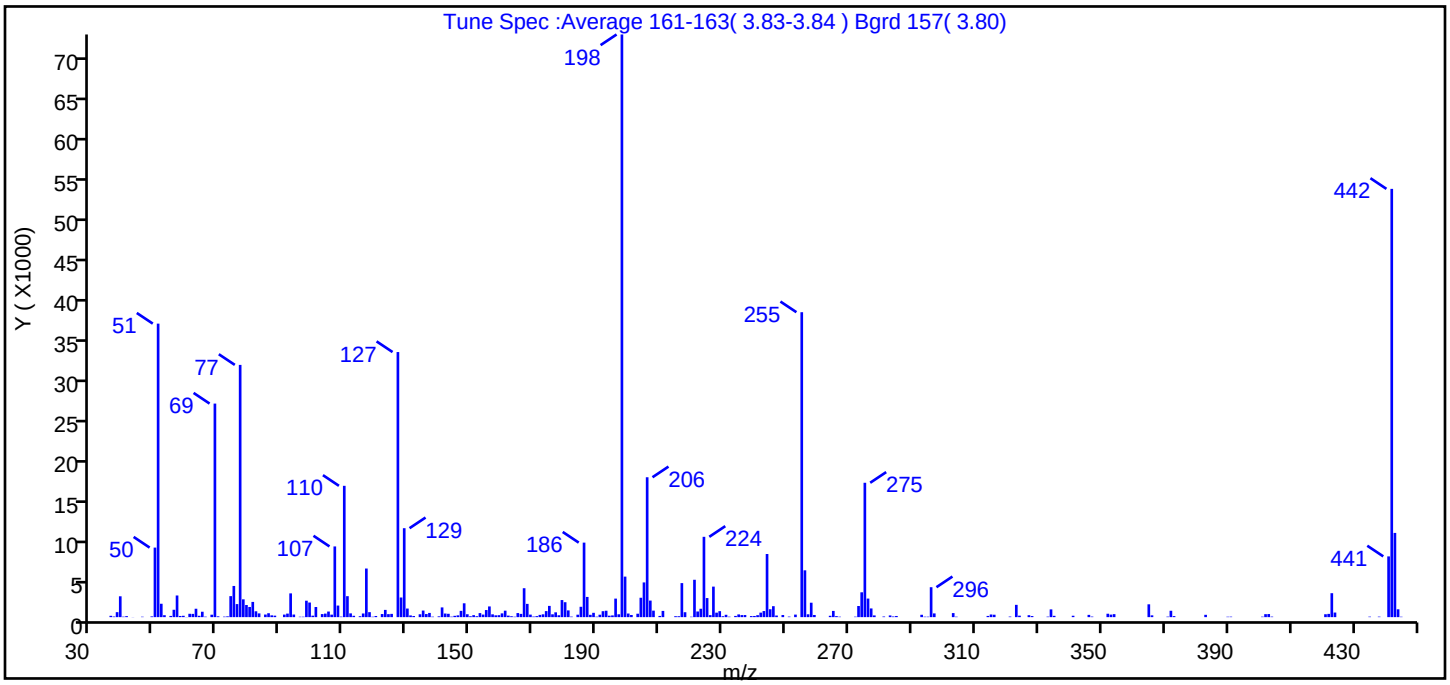
MS-DFTPP_00047 Amount Added: 200.00 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27216.D
Injection Date: 29-Oct-2018 08:50:30 Instrument ID: SMS_K
Lims ID: DFTPP
Client ID:
Operator ID: KIEKELD ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625
Tune Method: DFTPP Method 8270

30 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	50.4
68	<2% of mass 69	0.4 (1.1)
69	Present	36.7
70	<2% of mass 69	0.1 (0.4)
127	40-60% of mass 198	45.5
197	<1% of mass 198	0.5
199	5-9% of mass 198	7.0
275	10-30% of mass 198	23.1
365	>1% of mass 198	2.2
441	Present but less than mass 443	10.4 (72.1)
442	>40% of mass 198	73.5
443	17-23% of mass 442	14.5 (19.7)

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27216.D\SMSK_8270C.rslt\spectra.d
Injection Date: 29-Oct-2018 08:50:30
Spectrum: Tune Spec :Average 161-163(3.83-3.84) Bgrd 157(3.80)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 255

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	167	113.00	168	182.00	66	259.00	269
37.00	76	115.00	114	184.00	305	264.00	170
38.00	620	116.00	456	185.00	1291	265.00	776
39.00	2600	117.00	6061	186.00	9291	266.00	125
40.00	61	118.00	621	187.00	2520	267.00	56
41.00	127	119.00	52	188.00	289	272.00	60
43.00	14	120.00	144	189.00	540	273.00	1388
46.00	53	122.00	387	190.00	58	274.00	3097
49.00	93	123.00	904	191.00	302	275.00	16752
50.00	8670	124.00	374	192.00	742	276.00	2316
51.00	36592	125.00	408	193.00	798	277.00	1086
52.00	1669	127.00	33048	194.00	181	278.00	214
53.00	241	128.00	2449	195.00	215	281.00	80
55.00	152	129.00	11089	196.00	2311	283.00	212
56.00	920	130.00	1072	197.00	355	284.00	83
57.00	2700	131.00	214	198.00	72640	285.00	145
58.00	147	132.00	139	199.00	5053	293.00	295
59.00	170	134.00	359	200.00	450	294.00	56
60.00	18	135.00	821	201.00	268	295.00	57
61.00	418	136.00	385	203.00	427	296.00	3732
62.00	407	137.00	526	204.00	2417	297.00	465
63.00	1048	138.00	60	205.00	4328	303.00	505
64.00	168	140.00	98	206.00	17440	304.00	56
65.00	675	141.00	1214	207.00	2065	314.00	151
66.00	60	142.00	450	208.00	809	315.00	331
68.00	304	143.00	419	210.00	151	316.00	301
69.00	26624	144.00	62	211.00	777	321.00	73
70.00	101	145.00	165	215.00	116	323.00	1533
72.00	64	146.00	222	216.00	112	324.00	185
73.00	97	147.00	783	217.00	4243	327.00	241
74.00	2619	148.00	1726	218.00	613	328.00	136
75.00	3888	149.00	360	220.00	52	333.00	63
76.00	1627	150.00	111	221.00	4659	334.00	968

Report Date: 30-Oct-2018 07:24:08 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27216.D\SMSK_8270C.rslt\spectra.d
Injection Date: 29-Oct-2018 08:50:30
Spectrum: Tune Spec :Average 161-163(3.83-3.84) Bgrd 157(3.80)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 255

m/z	Y	m/z	Y	m/z	Y	m/z	Y
77.00	31448	151.00	248	222.00	706	335.00	164
78.00	2221	152.00	115	223.00	1047	341.00	174
79.00	1512	153.00	503	224.00	10014	346.00	283
80.00	1267	154.00	320	225.00	2378	347.00	70
81.00	1898	155.00	885	226.00	250	352.00	426
82.00	730	156.00	1335	227.00	3806	353.00	316
83.00	467	157.00	350	228.00	559	354.00	374
85.00	325	158.00	227	229.00	745	365.00	1600
86.00	488	159.00	244	230.00	113	366.00	224
87.00	224	160.00	471	231.00	294	371.00	63
88.00	185	161.00	806	232.00	58	372.00	795
91.00	319	162.00	191	234.00	152	373.00	129
92.00	442	163.00	112	235.00	339	383.00	290
93.00	2963	164.00	54	236.00	256	390.00	52
94.00	325	165.00	508	237.00	261	391.00	61
96.00	51	166.00	407	239.00	133	401.00	61
97.00	54	167.00	3606	240.00	145	402.00	372
98.00	2049	168.00	1654	241.00	243	403.00	387
99.00	1822	169.00	315	242.00	562	404.00	66
100.00	183	170.00	71	243.00	761	421.00	362
101.00	1263	171.00	126	244.00	7871	422.00	407
103.00	382	172.00	281	245.00	985	423.00	2986
104.00	439	173.00	352	246.00	1366	424.00	573
105.00	699	174.00	754	247.00	202	435.00	62
106.00	310	175.00	1402	249.00	263	438.00	64
107.00	8815	176.00	353	251.00	68	441.00	7574
108.00	1444	177.00	600	253.00	317	442.00	53392
109.00	65	178.00	234	255.00	38016	443.00	10500
110.00	16372	179.00	2130	256.00	5838	444.00	980
111.00	2614	180.00	1861	257.00	355	445.00	51
112.00	471	181.00	841	258.00	1799		

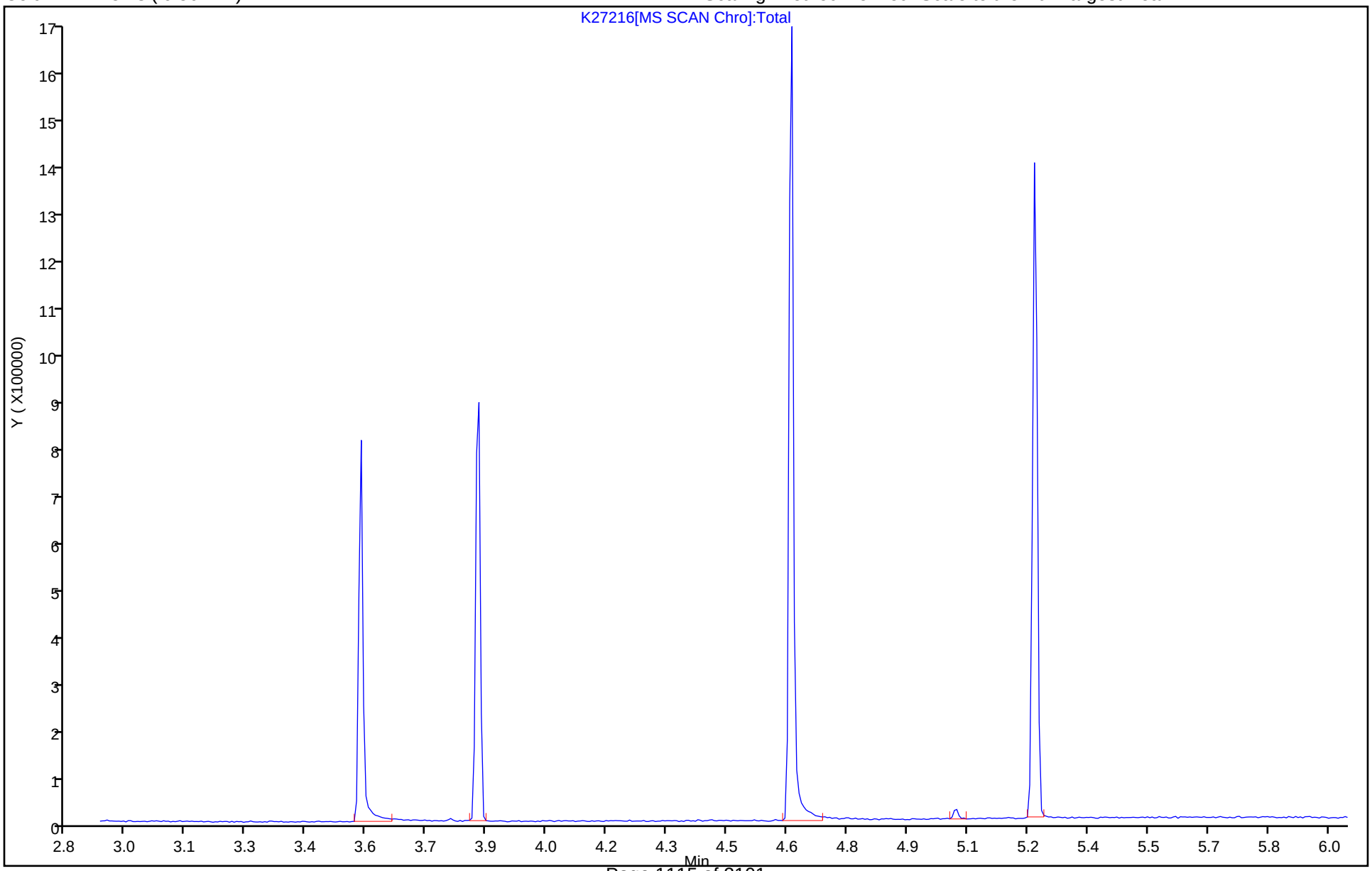
Report Date: 30-Oct-2018 07:24:08 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27216.D

Injection Date:	29-Oct-2018 08:50:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1

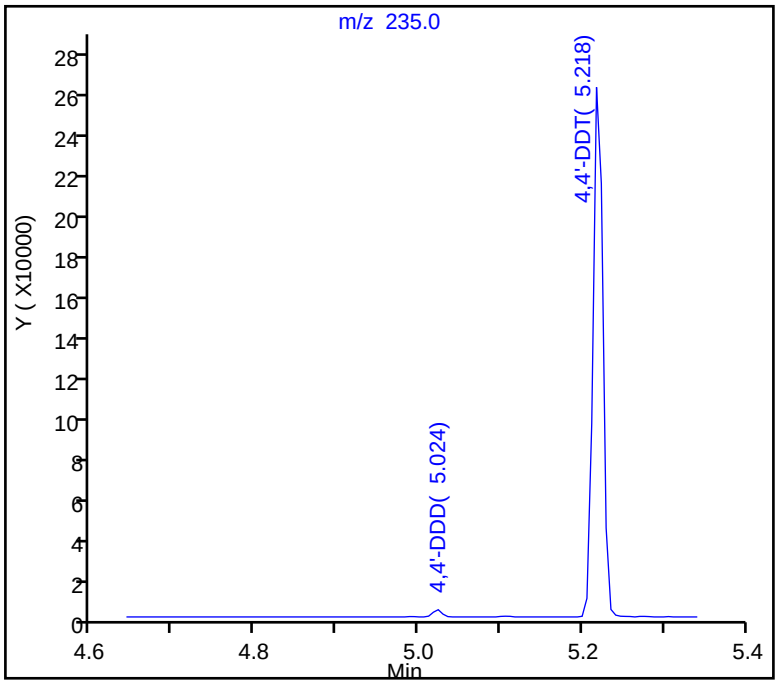


Breakdown Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27216.D
Injection Date: 29-Oct-2018 08:50:30 Instrument ID: SMS_K
Lims ID: DFTPP
Client ID:
Operator ID: KIEKELD ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625

70 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

70 4,4'-DDT, Area = 217330
62 4,4'-DDD, Area = 2719
56 4,4'-DDE, Area = 236

%Breakdown: 1.34%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica Denver

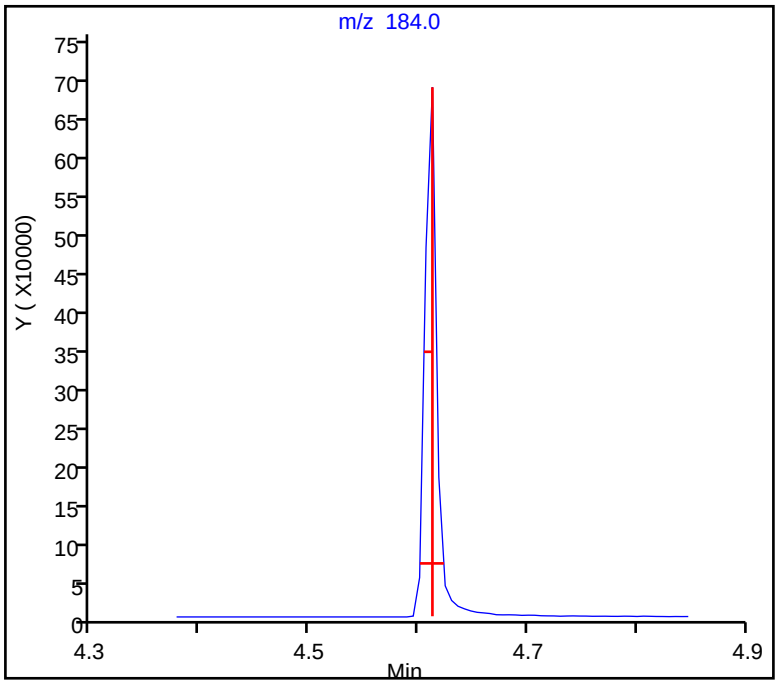
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27216.D
Injection Date: 29-Oct-2018 08:50:30 Instrument ID: SMS_K
Lims ID: DFTPP
Client ID:
Operator ID: KIEKELD ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625

48 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.011 (min.)
Front Width = 0.011 (min.)

Tailing Factor = 0.9, Max. Tailing < 3.00
Passed



Peak Tailing Report

TestAmerica Denver

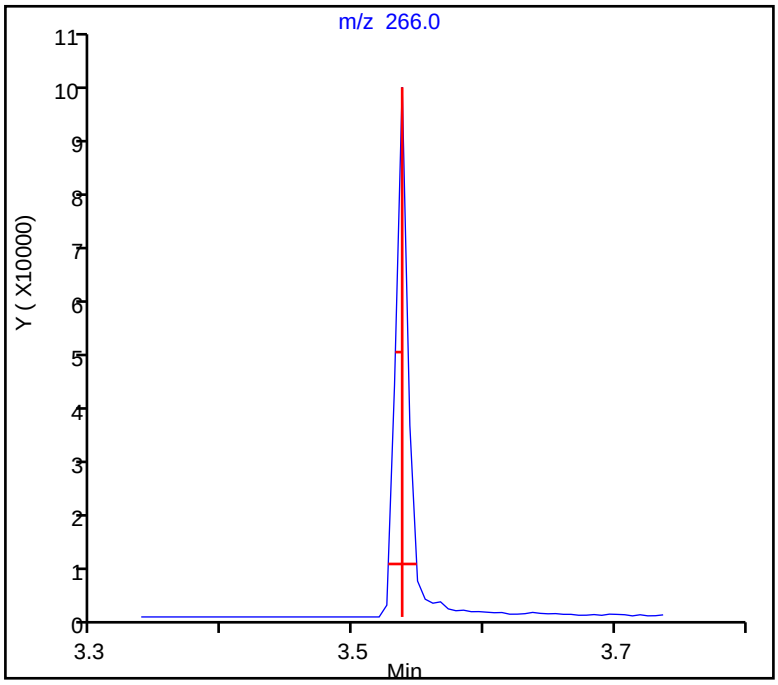
Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27216.D
Injection Date: 29-Oct-2018 08:50:30 Instrument ID: SMS_K
Lims ID: DFTPP
Client ID:
Operator ID: KIEKELD ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Method: SMSK_8270C Limit Group: MSSV - 8270C_625

28 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.011 (min.)
Front Width = 0.011 (min.)

Tailing Factor = 1.0, Max. Tailing < 5.00
Passed



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-434912/1-A

Matrix: Water | Lab File ID: K27222.D

Analysis Method: 8270D | Date Collected:

Extract. Method: 3520C | Date Extracted: 10/25/2018 13:12

Sample wt/vol: 1000(mL) | Date Analyzed: 10/29/2018 11:18

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435306 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
95-95-4	2,4,5-Trichlorophenol	1.0	U	20	1.0	0.45
88-06-2	2,4,6-Trichlorophenol	1.0	U	20	1.0	0.29
120-83-2	2,4-Dichlorophenol	2.0	U	10	2.0	0.64
105-67-9	2,4-Dimethylphenol	2.0	U	10	2.0	0.58
51-28-5	2,4-Dinitrophenol	30	U	80	30	10
95-57-8	2-Chlorophenol	4.4	U	10	4.4	2.0
95-48-7	2-Methylphenol	2.0	U	10	2.0	0.98
88-75-5	2-Nitrophenol	1.0	U	20	1.0	0.39
15831-10-4	3 & 4 Methylphenol	0.50	U	20	0.50	0.25
534-52-1	4,6-Dinitro-2-methylphenol	8.8	U	80	8.8	4.0
59-50-7	4-Chloro-3-methylphenol	5.0	U	20	5.0	2.4
100-02-7	4-Nitrophenol	4.0	U	50	4.0	1.2
117-81-7	Bis(2-ethylhexyl) phthalate	2.0	U	10	2.0	0.56
85-68-7	Butyl benzyl phthalate	2.0	U	20	2.0	1.0
84-66-2	Diethyl phthalate	1.0	U	20	1.0	0.38
131-11-3	Dimethyl phthalate	0.50	U	20	0.50	0.21
84-74-2	Di-n-butyl phthalate	4.4	U	20	4.4	1.2
117-84-0	Di-n-octyl phthalate	1.0	U	20	1.0	0.35
87-86-5	Pentachlorophenol	60	U	80	60	20
108-95-2	Phenol	4.4	U	10	4.4	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	91		43-140
321-60-8	2-Fluorobiphenyl	91		44-119
367-12-4	2-Fluorophenol (Surr)	95		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	96		44-120
4165-62-2	Phenol-d5 (Surr)	98		10-115
1718-51-0	Terphenyl-d14 (Surr)	102		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27222.D
Lims ID: MB 280-434912/1-A
Client ID:
Sample Type: MB
Inject. Date: 29-Oct-2018 11:18:30 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: MB 280-434912_1-A
Operator ID: KIEKELD Instrument ID: SMS_K

Method: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 30-Oct-2018 07:24:18 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0312

First Level Reviewer: kiekeld Date: 30-Oct-2018 06:54:56

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.376	4.376	0.000	96	124041	40.0	40.0	
* 2 Naphthalene-d8	136	5.592	5.593	-0.001	99	481217	40.0	40.0	
* 3 Acenaphthene-d10	164	7.326	7.326	0.000	94	254574	40.0	40.0	
* 4 Phenanthrene-d10	188	8.800	8.807	-0.006	98	411011	40.0	40.0	
* 5 Chrysene-d12	240	12.549	12.555	-0.006	99	280668	40.0	40.0	
* 6 Perylene-d12	264	16.251	16.263	-0.012	98	221116	40.0	40.0	
$ 7 2-Fluorophenol	112	3.207	3.207	0.000	94	438495	100.0	94.7	
$ 8 Phenol-d5	99	4.018	4.018	0.000	95	514231	100.0	97.8	
$ 9 Nitrobenzene-d5	82	4.887	4.887	0.000	94	435029	100.0	95.7	
$ 10 2,4,6-Trichlorophenol-d2	198		6.920					ND	
$ 11 2-Fluorobiphenyl	172	6.650	6.656	-0.006	100	805366	100.0	90.6	
$ 12 2,4,6-Tribromophenol	330	8.107	8.113	-0.006	93	96522	100.0	91.0	
$ 13 Terphenyl-d14	244	10.622	10.634	-0.012	99	702685	100.0	102.0	
17 Triethyl amine	86		2.185					ND	
18 2-Ethoxyethanol	59		2.337					ND	
19 1,4-Dioxane	88		1.867					ND	U
20 N-Nitrosodimethylamine	74		2.085					ND	
21 Pyridine	79		2.132					ND	
22 Dimethylformamide	73		2.819					ND	
23 2-Picoline	93		2.990					ND	
24 N-Nitrosomethylethylamine	88		3.054					ND	
25 Acrylamide	71		3.254					ND	
26 Methyl methanesulfonate	80		3.289					ND	U
27 N-Nitrosodiethylamine	102		3.636					ND	
28 Pentachlorophenol_T	266		3.537					ND	
29 Ethyl methanesulfonate	79		3.877					ND	
31 Benzaldehyde	106		3.971					ND	
32 Phenol	94		4.030					ND	
33 Phenylmercaptan	110		4.018					ND	
34 Aniline	93		4.065					ND	
35 Alpha Methyl Styrene	118		4.124					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
36 Bis(2-chloroethyl)ether	93		4.112					ND	
37 Pentachloroethane	117		4.353					ND	U
38 n-Decane	43		4.229					ND	
39 2-Chlorophenol	128		4.182					ND	
40 1,3-Dichlorobenzene	146		4.329					ND	
41 Methyl styrene	118		4.834					ND	
42 1,4-Dichlorobenzene	146		4.394					ND	
43 Benzyl alcohol	108		4.494					ND	
44 1,2-Dichlorobenzene	146		4.541					ND	
45 2-Methylphenol	108		4.594					ND	
46 2,2'-oxybis[1-chloropropan	45		4.623					ND	
47 Indene	116		4.623					ND	
48 Benzidine_T	184		4.612					ND	
49 3 & 4 Methylphenol	108		4.741					ND	
50 3-Methylphenol	108		4.741					ND	
51 4-Methylphenol	108		4.741					ND	
52 N-Nitrosodi-n-propylamine	70		4.741					ND	
53 N-Nitrosopyrrolidine	100		4.929					ND	
54 Acetophenone	105		4.746					ND	
55 N-Nitrosomorpholine	116		4.964					ND	
57 2-Toluidine	106		5.005					ND	
58 Hexachloroethane	117		4.864					ND	
59 Nitrobenzene	77		4.905					ND	
60 Triethyl phosphate	99		5.346					ND	
61 N-Nitrosopiperidine	114		5.270					ND	
63 Isophorone	82		5.134					ND	
64 2-Nitrophenol	139		5.216					ND	
65 2,4-Dimethylphenol	107		5.252					ND	
66 Benzyl dichloride	125		5.610					ND	
67 o,o',o''-Triethylphosphoro	198		5.528					ND	
68 Benzoic acid	105		5.363					ND	
69 Bis(2-chloroethoxy)methane	93		5.340					ND	
71 3,5-Dimethylphenol	107		5.381					ND	
72 2,4-Xylidine	121		5.769					ND	
73 alpha,alpha-Dimethyl phene	58		5.669					ND	
74 2,4-Dichlorophenol	162		5.451					ND	
75 o-Anisidine	80		5.804					ND	
76 1,2,4-Trichlorobenzene	180		5.540					ND	
77 4-chlorobenzenethiol	144		5.745					ND	
78 Alpha-Terpineol	59		5.616					ND	
79 Naphthalene	128		5.616					ND	
80 4-Chloroaniline	127		5.657					ND	
81 2,6-Dichlorophenol	162		5.669					ND	
82 Hexachloropropene	213		5.933					ND	
83 Hexachlorobutadiene	225		5.745					ND	
84 Quinoline	129		6.163					ND	
85 N-Nitrosodi-n-butylamine	84		6.204					ND	
86 Caprolactam	55		5.980					ND	
87 p-Phenylene diamine	108		6.216					ND	
88 5-Methyl-o-Anisidine	122		6.421					ND	
89 4-Chloro-3-methylphenol	107		6.133					ND	
90 Safrole, Total	162		6.421					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
91 Carbofuran phenol	164		6.568					ND	
92 1,3-phenylenediamine	108		6.545					ND	
93 2-Methylnaphthalene	142		6.292					ND	
94 Methyl 4-chlorophenyl sulf	158		6.979					ND	
95 Phthalic anhydride	76		6.327					ND	
96 1-Methylnaphthalene	142		6.392					ND	
97 Hexachlorocyclopentadiene	237		6.462					ND	
98 1,2,4,5-Tetrachlorobenzene	216		6.468					ND	
99 Isosafrole Peak 1	162		6.715					ND	
100 2,4,6-Trichlorophenol	196		6.574					ND	
101 2,3-Dichlorobenzenamine	161		6.568					ND	
102 2,4,5-Trichlorophenol	196		6.609					ND	
103 Isosafrole Peak 2	104		6.938					ND	
104 1,1'-Biphenyl	154		6.756					ND	
105 Toluene diamine (2,4- + 2,	122		7.091					ND	
106 2-Chloronaphthalene	162		6.779					ND	
107 1-Chloronaphthalene	162		7.032					ND	
108 2-Nitroaniline	65		6.867					ND	
109 1,4-Naphthoquinone	158		7.167					ND	U
110 1,4-Dinitrobenzene	168		7.214					ND	
111 Dimethyl phthalate	163		7.050					ND	
112 1,3-Dinitrobenzene	168		7.073					ND	
113 2,6-Dinitrotoluene	165		7.103					ND	
114 Acenaphthylene	152		7.191					ND	
115 3-Nitroaniline	138		7.273					ND	
116 1,3-Dimethyl-2,4-Dinitrobe	77		7.719					ND	
117 Acenaphthene	153		7.361					ND	
118 2,4-Dinitrophenol	184		7.379					ND	
119 4-Nitrophenol	109		7.443					ND	
120 1,3-Dimethyl-2,5-Dinitrobe	179		7.678					ND	
121 Pentachlorobenzene	250		7.737					ND	
122 2,4-Dinitrotoluene	165		7.508					ND	
123 Dibenzofuran	168		7.531					ND	
124 1-Naphthylamine	143		7.837					ND	
125 2,3,4,6-Tetrachlorophenol	232		7.655					ND	
126 1,4-Dimethyl-2,6-Dinitrobe	179		8.019					ND	
127 Hexadecane	57		7.778					ND	
128 1,4-Dimethyl-2,3-Dinitrobe	77		8.054					ND	
129 2-Naphthylamine	143		7.919					ND	U
130 Diethyl phthalate	149		7.749					ND	
131 n-hydroxymethylphthalimide	147		7.919					ND	
132 1,2-Dimethyl-3,6-Dinitrobe	179		8.131					ND	
133 Thionazin	97		8.055					ND	
134 4-Chlorophenyl phenyl ethe	204		7.866					ND	
135 Fluorene	166		7.878					ND	
136 Tributyl phosphate	99		8.307					ND	
137 N-Nitro-o-toluidine	152		8.107					ND	
138 4-Nitroaniline	138		7.884					ND	
139 4,6-Dinitro-2-methylphenol	198		7.919					ND	
140 1,5-Dimethyl-2,4-Dinitrobe	179		8.283					ND	
141 N-Nitrosodiphenylamine	169		7.984					ND	
142 Diphenylamine	169		7.984					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
143 1,2-Diphenylhydrazine	77		8.025					ND	
144 Azobenzene	77		8.025					ND	
145 1,5-Dimethyl-2,3-Dinitrobe	179		8.383					ND	
146 Sulfotepp	97		8.360					ND	
147 2,4,6 - Tribromophenol	330		8.113				ND	ND	U
148 1,2-Dimethyl-3,5-Dinitrobe	179		8.495					ND	
149 Phenyl sulfide	186		8.465					ND	
150 Diallate Peak 1	86		8.507					ND	
151 1,3,5-Trinitrobenzene	213		8.448					ND	
152 Phorate	121		8.513					ND	
153 Phenacetin	108		8.513					ND	
154 1,2-Dimethyl-3,4-Dinitrobe	179		8.648					ND	
155 Diallate Peak 2	86		8.595					ND	
156 4-Bromophenyl phenyl ether	248		8.354					ND	
157 Hexachlorobenzene	284		8.436					ND	
158 Dimethoate	87		8.677					ND	
159 Atrazine	200		8.513					ND	
160 1,2-Dimethyl-4,5-Dinitrobe	91		8.889					ND	
161 n-Octadecane	85		8.695					ND	
162 4-Aminobiphenyl	169		8.848					ND	
163 Pentachlorophenol	266		8.624					ND	
164 Pentachloronitrobenzene	237		8.883					ND	
165 Pronamide	173		8.907					ND	
166 Disulfoton	88		9.036					ND	
167 Dinoseb	211		9.042					ND	
168 Phenanthrene	178		8.836					ND	
169 Anthracene	178		8.883					ND	
170 Carbazole	167		9.036					ND	
171 Alachlor	188		9.182					ND	
172 Methyl parathion	109		9.412					ND	
173 Di-n-butyl phthalate	149		9.376					ND	
174 Ethyl Parathion	109		9.835					ND	
175 4-Nitroquinoline-1-oxide	190		9.882					ND	
176 Methapyrilene	97		9.976					ND	
177 Phenyl disulfide	109		9.896					ND	
178 Isodrin	193		10.246					ND	
179 Fluoranthene	202		10.111					ND	
180 Diphenylsulfone	125		10.196					ND	
181 Benzidine	184		10.270					ND	
182 Pyrene	202		10.410					ND	
183 Aramite Peak 1	185		10.945					ND	
184 Octachlorostyrene	308		10.392					ND	
185 Aramite Peak 2	185		11.075					ND	
186 p-Dimethylamino azobenzene	120		11.222					ND	
187 Chlorobenzilate	251		11.310					ND	
188 Famphur	218		11.333					ND	
189 4,4-Dichlorobenzil	139		10.657					ND	
190 Butyl benzyl phthalate	149		11.456					ND	
191 3,3'-Dimethylbenzidine	212		11.838					ND	
193 p-chlorophenyl sulfone	159		11.021					ND	
194 2-Acetylaminofluorene	181		12.350					ND	
195 Bis(2-ethylhexyl) phthalat	149		12.737					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
196 4,4'-Methylene bis(2-chlor	231		13.019					ND	
197 3,3'-Dichlorobenzidine	252		12.508					ND	
198 Benzo[a]anthracene	228		12.543					ND	
199 Chrysene	228		12.620					ND	
200 6-Methylchrysene	242		14.300					ND	
201 Di-n-octyl phthalate	149		14.441					ND	
202 7,12-Dimethylbenz(a)anthra	256		15.910					ND	
203 Benzo[b]fluoranthene	252		15.228					ND	
204 Benzo[k]fluoranthene	252		15.305					ND	
205 Hexachlorophene	196		16.144					ND	
206 Benzo[e]pyrene	252		15.969					ND	
207 Benzo[a]pyrene	252		16.110					ND	
208 Perylene	252		17.491					ND	
209 3-Methylcholanthrene	268		17.902					ND	
210 Tris(2,3-dibromopropyl)pho	119		18.971					ND	
211 Dibenz[a,h]acridine	279		19.477					ND	
212 Dibenz[a,j]acridine	279		19.629					ND	
213 Dibenz(a,h)anthracene	278		19.377					ND	
214 Indeno[1,2,3-cd]pyrene	276		19.277					ND	
215 Benzo[g,h,i]perylene	276		19.988					ND	
216 Dibenzo[a,e]pyrene	302		25.523					ND	
S 217 Total Cresols	108		15.496					ND	
S 218 Methyl Phenols,Total	108		15.496					ND	
S 219 Isosafrole	162		15.496					ND	
S 220 Diallate	86		15.496					ND	
S 221 Aramite, Total	185		15.496					ND	
S 222 Phthalic acid	148		19.689					ND	
14 1,2,3,4-Tetrahydronaphthal	1		0.000					ND	
15 2-Butoxyethanol	1		0.000					ND	
16 2-Phenoxyethanol	1		0.000					ND	
56 4,4'-DDE	246		4.754					ND	
62 4,4'-DDD	235		5.024					ND	
70 4,4'-DDT	235		5.218					ND	
S 231 TPAH	1		0.000					ND	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

U - Marked Undetected

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

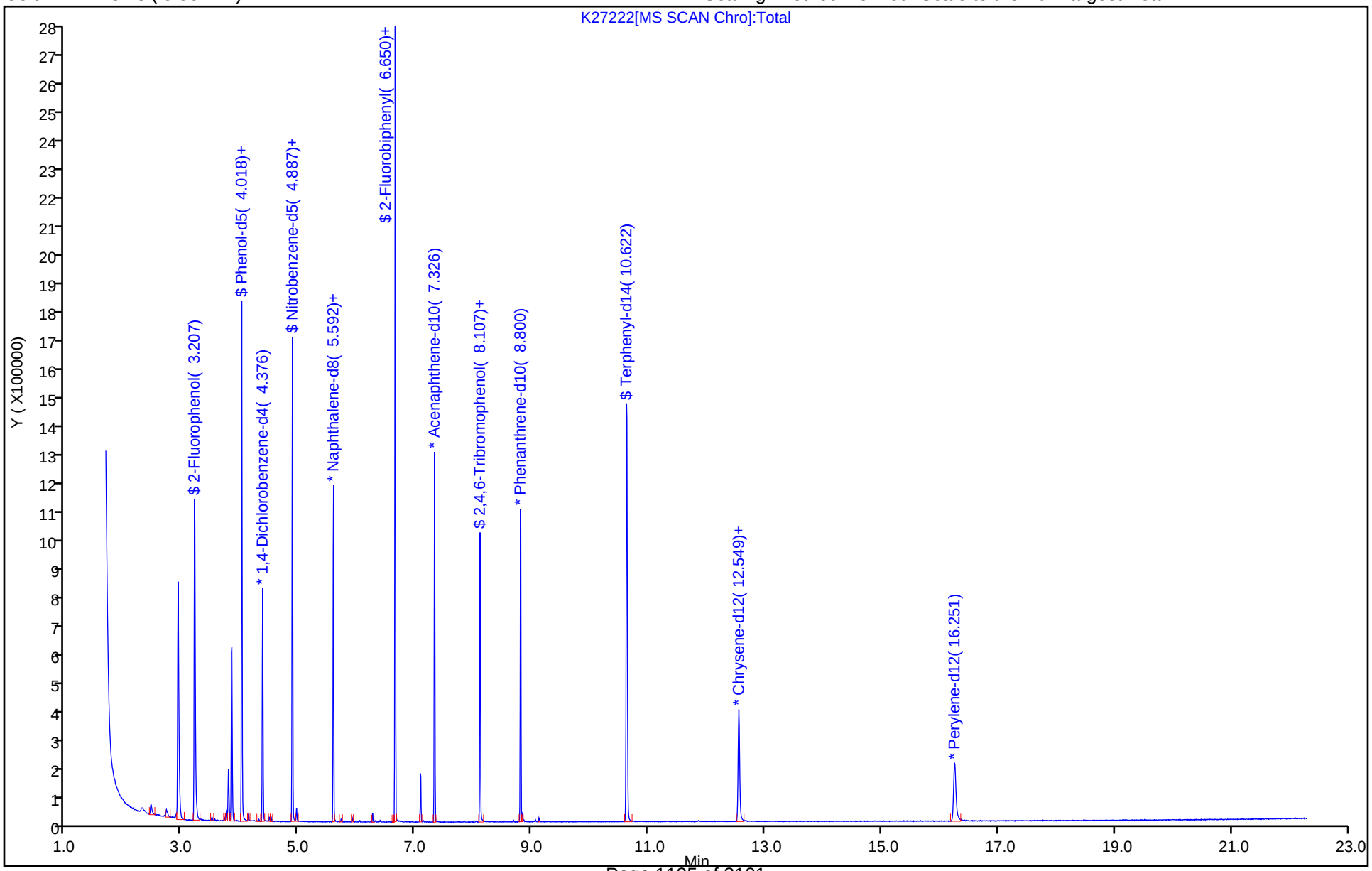
Report Date: 30-Oct-2018 07:24:23 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27222.D

Injection Date:	29-Oct-2018 11:18:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	MB 280-434912/1-A			Worklist Smp#:	8
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27222.D
Lims ID: MB 280-434912/1-A
Client ID:
Sample Type: MB
Inject. Date: 29-Oct-2018 11:18:30 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: MB 280-434912_1-A
Operator ID: KIEKELD Instrument ID: SMS_K

Method: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 30-Oct-2018 07:24:18 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0312

First Level Reviewer: kiekeld Date: 30-Oct-2018 06:54:56

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	94.7	94.71
$ 8 Phenol-d5	100.0	97.8	97.82
$ 9 Nitrobenzene-d5	100.0	95.7	95.70
$ 11 2-Fluorobiphenyl	100.0	90.6	90.62
$ 12 2,4,6-Tribromophenol	100.0	91.0	90.98
$ 13 Terphenyl-d14	100.0	102.0	102.05

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-434912/2-A

Matrix: Water | Lab File ID: K27223.D

Analysis Method: 8270D | Date Collected:

Extract. Method: 3520C | Date Extracted: 10/25/2018 13:12

Sample wt/vol: 1000(mL) | Date Analyzed: 10/29/2018 11:47

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435306 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
95-95-4	2,4,5-Trichlorophenol	75.7		20	1.0	0.45
88-06-2	2,4,6-Trichlorophenol	78.0		20	1.0	0.29
120-83-2	2,4-Dichlorophenol	74.6		10	2.0	0.64
105-67-9	2,4-Dimethylphenol	49.2		10	2.0	0.58
51-28-5	2,4-Dinitrophenol	140		80	30	10
95-57-8	2-Chlorophenol	75.1		10	4.4	2.0
95-48-7	2-Methylphenol	72.8		10	2.0	0.98
88-75-5	2-Nitrophenol	76.4		20	1.0	0.39
15831-10-4	3 & 4 Methylphenol	71.2		20	0.50	0.25
534-52-1	4,6-Dinitro-2-methylphenol	170		80	8.8	4.0
59-50-7	4-Chloro-3-methylphenol	75.6		20	5.0	2.4
100-02-7	4-Nitrophenol	144		50	4.0	1.2
117-81-7	Bis(2-ethylhexyl) phthalate	78.4		10	2.0	0.56
85-68-7	Butyl benzyl phthalate	77.2		20	2.0	1.0
84-66-2	Diethyl phthalate	76.5		20	1.0	0.38
131-11-3	Dimethyl phthalate	77.4		20	0.50	0.21
84-74-2	Di-n-butyl phthalate	79.8		20	4.4	1.2
117-84-0	Di-n-octyl phthalate	72.0		20	1.0	0.35
87-86-5	Pentachlorophenol	152		80	60	20
108-95-2	Phenol	73.6		10	4.4	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	95		43-140
321-60-8	2-Fluorobiphenyl	95		44-119
367-12-4	2-Fluorophenol (Surr)	93		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	96		44-120
4165-62-2	Phenol-d5 (Surr)	96		10-115
1718-51-0	Terphenyl-d14 (Surr)	92		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27223.D
Lims ID: LCS 280-434912/2-A
Client ID:
Sample Type: LCS
Inject. Date: 29-Oct-2018 11:47:30 ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: LCS 280-434912_2-A
Operator ID: KIEKELD Instrument ID: SMS_K

Method: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 30-Oct-2018 07:24:18 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0312

First Level Reviewer: kiekeld Date: 30-Oct-2018 06:56:27

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.376	4.376	0.000	95	118580	40.0	40.0	
* 2 Naphthalene-d8	136	5.592	5.593	-0.001	100	461086	40.0	40.0	
* 3 Acenaphthene-d10	164	7.326	7.326	0.000	93	232852	40.0	40.0	
* 4 Phenanthrene-d10	188	8.800	8.807	-0.006	98	349449	40.0	40.0	
* 5 Chrysene-d12	240	12.549	12.555	-0.006	99	272356	40.0	40.0	
* 6 Perylene-d12	264	16.251	16.263	-0.012	98	244848	40.0	40.0	
$ 7 2-Fluorophenol	112	3.213	3.207	0.006	94	413376	100.0	93.4	
$ 8 Phenol-d5	99	4.018	4.018	0.000	95	480888	100.0	95.7	
$ 9 Nitrobenzene-d5	82	4.887	4.887	0.000	94	418077	100.0	96.0	
$ 11 2-Fluorobiphenyl	172	6.650	6.656	-0.006	100	770090	100.0	94.7	
$ 12 2,4,6-Tribromophenol	330	8.107	8.113	-0.006	93	92570	100.0	95.4	
$ 13 Terphenyl-d14	244	10.622	10.634	-0.012	99	616264	100.0	92.2	
19 1,4-Dioxane	88	1.867	1.867	0.000	96	126158	80.0	67.1	
20 N-Nitrosodimethylamine	74	2.085	2.085	0.000	85	218543	80.0	75.4	
21 Pyridine	79	2.132	2.132	0.000	83	583312	160.0	125.0	
31 Benzaldehyde	106	3.971	3.971	0.000	90	206063	80.0	57.9	
32 Phenol	94	4.035	4.030	0.005	98	383539	80.0	73.6	
34 Aniline	93	4.065	4.065	0.000	96	386268	80.0	60.6	
36 Bis(2-chloroethyl)ether	93	4.112	4.112	0.000	93	308460	80.0	79.6	
38 n-Decane	43	4.229	4.229	0.000	94	328612	80.0	54.2	
39 2-Chlorophenol	128	4.182	4.182	0.000	98	321328	80.0	75.1	
40 1,3-Dichlorobenzene	146	4.329	4.329	0.000	98	306523	80.0	64.2	
42 1,4-Dichlorobenzene	146	4.394	4.394	0.000	93	309091	80.0	64.4	
43 Benzyl alcohol	108	4.488	4.494	-0.006	92	212480	80.0	75.1	
44 1,2-Dichlorobenzene	146	4.541	4.541	0.000	97	299699	80.0	65.6	
45 2-Methylphenol	108	4.594	4.594	0.000	96	285860	80.0	72.8	
46 2,2'-oxybis[1-chloropropan	45	4.623	4.623	0.000	92	572018	80.0	78.3	
47 Indene	116	4.623	4.623	0.000	91	468454	80.0	71.6	
49 3 & 4 Methylphenol	108	4.740	4.741	-0.001	63	271980	80.0	71.2	
50 3-Methylphenol	108	4.740	4.741	-0.001	69	271980	80.0	71.2	
51 4-Methylphenol	108	4.740	4.741	-0.001	66	271980	80.0	71.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
52 N-Nitrosodi-n-propylamine	70	4.740	4.741	-0.001	85	199305	80.0	73.3	
54 Acetophenone	105	4.740	4.746	-0.006	77	393740	80.0	74.4	
58 Hexachloroethane	117	4.864	4.864	0.000	94	107462	80.0	60.5	
59 Nitrobenzene	77	4.905	4.905	0.000	95	316900	80.0	75.0	
63 Isophorone	82	5.134	5.134	0.000	97	560968	80.0	75.3	
64 2-Nitrophenol	139	5.216	5.216	0.000	93	172031	80.0	76.4	
65 2,4-Dimethylphenol	107	5.252	5.252	0.000	94	194250	80.0	49.2	
68 Benzoic acid	105	5.328	5.363	-0.035	93	194198	80.0	69.8	
69 Bis(2-chloroethoxy)methane	93	5.334	5.340	-0.006	96	344941	80.0	75.7	
74 2,4-Dichlorophenol	162	5.451	5.451	0.000	94	250052	80.0	74.6	
76 1,2,4-Trichlorobenzene	180	5.534	5.540	-0.006	94	256605	80.0	67.2	
79 Naphthalene	128	5.610	5.616	-0.006	98	804536	80.0	71.6	
80 4-Chloroaniline	127	5.651	5.657	-0.006	97	285132	80.0	60.4	
81 2,6-Dichlorophenol	162	5.669	5.669	0.000	96	244746	80.0	74.3	
83 Hexachlorobutadiene	225	5.745	5.745	0.000	96	133504	80.0	63.0	
86 Caprolactam	55	5.974	5.980	-0.006	74	156682	80.0	78.5	M
89 4-Chloro-3-methylphenol	107	6.133	6.133	0.000	96	240704	80.0	75.6	
93 2-Methylnaphthalene	142	6.292	6.292	0.000	95	584177	80.0	74.0	
96 1-Methylnaphthalene	142	6.392	6.392	0.000	95	552759	80.0	75.0	
97 Hexachlorocyclopentadiene	237	6.462	6.462	0.000	97	83045	160.0	34.3	
98 1,2,4,5-Tetrachlorobenzene	216	6.462	6.468	-0.006	97	259621	80.0	74.2	
100 2,4,6-Trichlorophenol	196	6.568	6.574	-0.006	92	172893	80.0	78.0	
102 2,4,5-Trichlorophenol	196	6.609	6.609	0.000	94	183516	80.0	75.7	
104 1,1'-Biphenyl	154	6.750	6.756	-0.006	94	683190	80.0	74.7	
106 2-Chloronaphthalene	162	6.773	6.779	-0.006	95	521737	80.0	74.4	
108 2-Nitroaniline	65	6.862	6.867	-0.005	85	158028	80.0	75.6	
111 Dimethyl phthalate	163	7.044	7.050	-0.006	99	532291	80.0	77.4	
112 1,3-Dinitrobenzene	168	7.067	7.073	-0.006	88	93108	80.0	78.8	
113 2,6-Dinitrotoluene	165	7.102	7.103	0.000	94	137239	80.0	78.2	
114 Acenaphthylene	152	7.185	7.191	-0.006	99	779929	80.0	74.0	
115 3-Nitroaniline	138	7.267	7.273	-0.006	94	102048	80.0	54.1	
117 Acenaphthene	153	7.361	7.361	0.000	93	518432	80.0	75.7	
118 2,4-Dinitrophenol	184	7.373	7.379	-0.006	83	138947	160.0	140.1	
119 4-Nitrophenol	109	7.437	7.443	-0.006	95	127063	160.0	144.0	
122 2,4-Dinitrotoluene	165	7.502	7.508	-0.006	95	166278	80.0	76.5	
123 Dibenzofuran	168	7.531	7.531	0.000	98	728578	80.0	75.9	
125 2,3,4,6-Tetrachlorophenol	232	7.655	7.655	0.000	72	143121	80.0	75.8	
127 Hexadecane	57	7.772	7.778	-0.006	90	461634	80.0	75.2	
130 Diethyl phthalate	149	7.743	7.749	-0.006	98	499699	80.0	76.5	
134 4-Chlorophenyl phenyl ethe	204	7.866	7.866	0.000	92	261462	80.0	74.6	
135 Fluorene	166	7.872	7.878	-0.006	95	548010	80.0	75.4	
138 4-Nitroaniline	138	7.878	7.884	-0.006	87	130312	80.0	73.4	
139 4,6-Dinitro-2-methylphenol	198	7.913	7.919	-0.006	84	183918	160.0	170.1	
141 N-Nitrosodiphenylamine	169	7.978	7.984	-0.006	63	391488	80.0	78.7	
142 Diphenylamine	169	7.978	7.984	-0.006	95	391488	68.0	62.0	
143 1,2-Diphenylhydrazine	77	8.019	8.025	-0.006	41	559125	80.9	78.3	
144 Azobenzene	77	8.019	8.025	-0.006	98	559125	80.0	77.4	
147 2,4,6 - Tribromophenol	330	8.107	8.113	-0.006	93	92479	100.0	94.8	
156 4-Bromophenyl phenyl ether	248	8.348	8.354	-0.006	67	153945	80.0	79.4	
157 Hexachlorobenzene	284	8.430	8.436	-0.006	94	149161	80.0	78.0	
159 Atrazine	200	8.507	8.513	-0.006	91	130549	80.0	78.3	
161 n-Octadecane	85	8.689	8.695	-0.006	91	147172	80.0	83.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
163 Pentachlorophenol	266	8.618	8.624	-0.006	93	173419	160.0	152.2	
168 Phenanthrene	178	8.824	8.836	-0.012	98	735832	80.0	79.4	
169 Anthracene	178	8.877	8.883	-0.006	97	752965	80.0	78.4	
170 Carbazole	167	9.030	9.036	-0.006	95	667232	80.0	79.6	
173 Di-n-butyl phthalate	149	9.370	9.376	-0.006	99	735656	80.0	79.8	
179 Fluoranthene	202	10.099	10.111	-0.012	98	713545	80.0	76.4	
181 Benzidine	184	10.258	10.270	-0.012	99	314146	160.0	61.9	
182 Pyrene	202	10.399	10.410	-0.011	97	745209	80.0	77.3	
190 Butyl benzyl phthalate	149	11.445	11.456	-0.012	97	288655	80.0	77.2	
195 Bis(2-ethylhexyl) phthalat	149	12.725	12.737	-0.012	97	373324	80.0	78.4	
197 3,3'-Dichlorobenzidine	252	12.496	12.508	-0.012	73	370062	160.0	152.8	
198 Benzo[a]anthracene	228	12.526	12.543	-0.017	98	615312	80.0	72.6	
199 Chrysene	228	12.608	12.620	-0.012	97	645792	80.0	78.5	
201 Di-n-octyl phthalate	149	14.429	14.441	-0.012	99	581195	80.0	72.0	
203 Benzo[b]fluoranthene	252	15.217	15.228	-0.011	97	548624	80.0	77.9	
204 Benzo[k]fluoranthene	252	15.287	15.305	-0.018	99	639985	80.0	84.5	
207 Benzo[a]pyrene	252	16.092	16.110	-0.018	77	536501	80.0	75.6	
213 Dibenz(a,h)anthracene	278	19.365	19.377	-0.012	93	459438	80.0	77.9	
214 Indeno[1,2,3-cd]pyrene	276	19.259	19.277	-0.018	98	407373	80.0	67.3	
215 Benzo[g,h,i]perylene	276	19.970	19.988	-0.018	98	519253	80.0	78.8	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

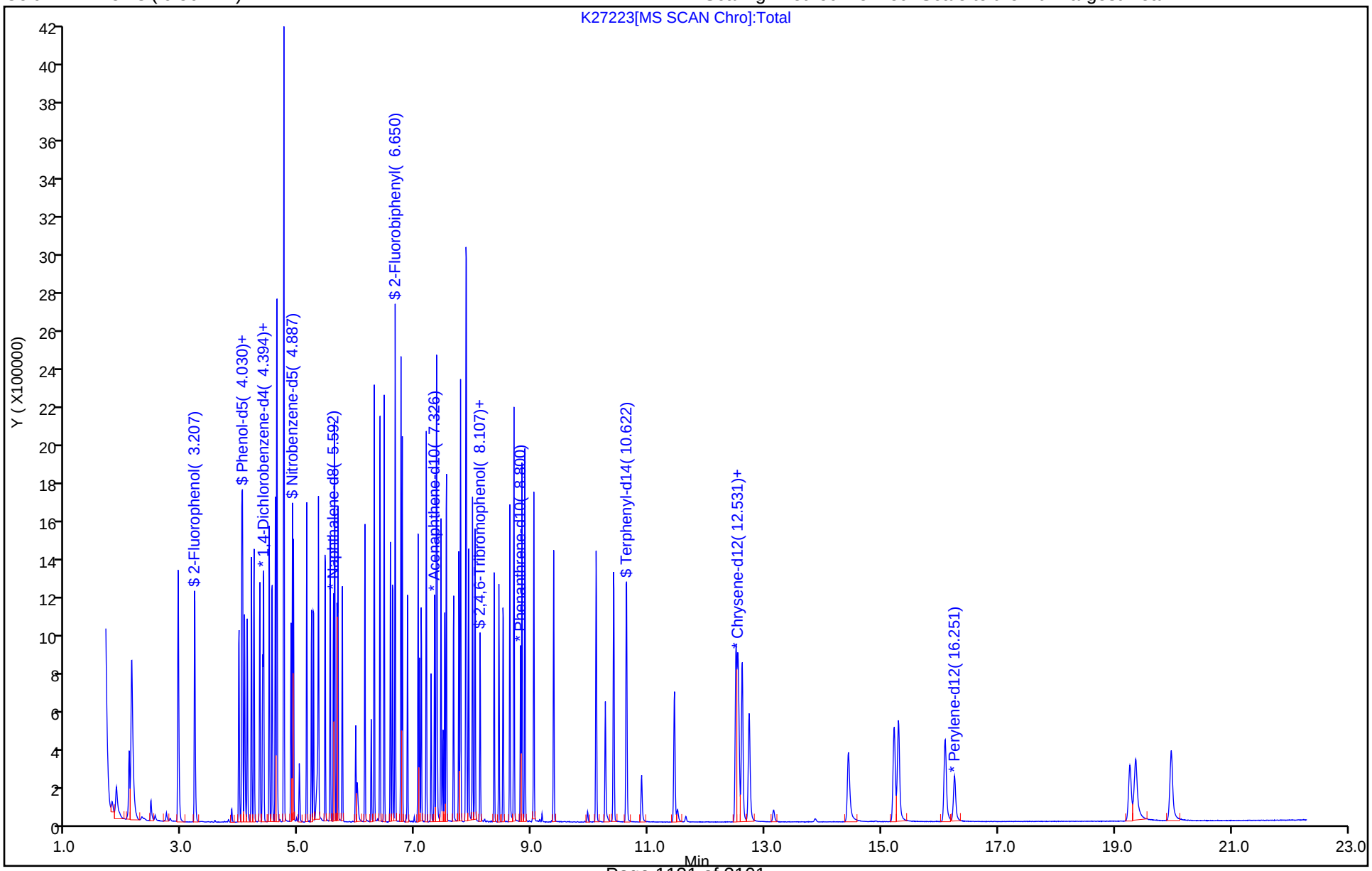
Report Date: 30-Oct-2018 07:24:26 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27223.D

Injection Date:	29-Oct-2018 11:47:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	LCS 280-434912/2-A			Worklist Smp#:	9
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27223.D
Lims ID: LCS 280-434912/2-A
Client ID:
Sample Type: LCS
Inject. Date: 29-Oct-2018 11:47:30 ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: LCS 280-434912_2-A
Operator ID: KIEKELD Instrument ID: SMS_K

Method: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 30-Oct-2018 07:24:18 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0312

First Level Reviewer: kiekeld Date: 30-Oct-2018 06:56:27

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	93.4	93.40
$ 8 Phenol-d5	100.0	95.7	95.69
$ 9 Nitrobenzene-d5	100.0	96.0	95.99
$ 11 2-Fluorobiphenyl	100.0	94.7	94.73
$ 12 2,4,6-Tribromophenol	100.0	95.4	95.39
$ 13 Terphenyl-d14	100.0	92.2	92.23

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-434912/3-A

Matrix: Water | Lab File ID: K27224.D

Analysis Method: 8270D | Date Collected:

Extract. Method: 3520C | Date Extracted: 10/25/2018 13:12

Sample wt/vol: 1000(mL) | Date Analyzed: 10/29/2018 12:16

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435306 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
95-95-4	2,4,5-Trichlorophenol	81.4		20	1.0	0.45
88-06-2	2,4,6-Trichlorophenol	82.3		20	1.0	0.29
120-83-2	2,4-Dichlorophenol	76.2		10	2.0	0.64
105-67-9	2,4-Dimethylphenol	52.2		10	2.0	0.58
51-28-5	2,4-Dinitrophenol	146		80	30	10
95-57-8	2-Chlorophenol	79.7		10	4.4	2.0
95-48-7	2-Methylphenol	77.1		10	2.0	0.98
88-75-5	2-Nitrophenol	76.5		20	1.0	0.39
15831-10-4	3 & 4 Methylphenol	74.9		20	0.50	0.25
534-52-1	4,6-Dinitro-2-methylphenol	176		80	8.8	4.0
59-50-7	4-Chloro-3-methylphenol	75.4		20	5.0	2.4
100-02-7	4-Nitrophenol	147		50	4.0	1.2
117-81-7	Bis(2-ethylhexyl) phthalate	80.2		10	2.0	0.56
85-68-7	Butyl benzyl phthalate	78.7		20	2.0	1.0
84-66-2	Diethyl phthalate	76.8		20	1.0	0.38
131-11-3	Dimethyl phthalate	77.5		20	0.50	0.21
84-74-2	Di-n-butyl phthalate	79.2		20	4.4	1.2
117-84-0	Di-n-octyl phthalate	72.7		20	1.0	0.35
87-86-5	Pentachlorophenol	154		80	60	20
108-95-2	Phenol	77.4		10	4.4	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	96		43-140
321-60-8	2-Fluorobiphenyl	99		44-119
367-12-4	2-Fluorophenol (Surr)	100		19-119
4165-60-0	Nitrobenzene-d5 (Surr)	98		44-120
4165-62-2	Phenol-d5 (Surr)	101		10-115
1718-51-0	Terphenyl-d14 (Surr)	94		50-134

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27224.D
Lims ID: LCSD 280-434912/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 29-Oct-2018 12:16:30 ALS Bottle#: 9 Worklist Smp#: 10
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-434912_3-A
Operator ID: KIEKELD Instrument ID: SMS_K

Method: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 30-Oct-2018 07:24:18 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0312

First Level Reviewer: kiekeld Date: 30-Oct-2018 06:58:32

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	4.376	4.376	0.000	96	124876	40.0	40.0	
* 2 Naphthalene-d8	136	5.592	5.593	-0.001	99	497197	40.0	40.0	
* 3 Acenaphthene-d10	164	7.326	7.326	0.000	94	238800	40.0	40.0	
* 4 Phenanthrene-d10	188	8.806	8.807	0.000	97	356037	40.0	40.0	
* 5 Chrysene-d12	240	12.549	12.555	-0.006	99	273292	40.0	40.0	
* 6 Perylene-d12	264	16.251	16.263	-0.012	98	242983	40.0	40.0	
$ 7 2-Fluorophenol	112	3.213	3.207	0.006	94	466344	100.0	100.1	
$ 8 Phenol-d5	99	4.023	4.018	0.005	99	533556	100.0	100.8	
$ 9 Nitrobenzene-d5	82	4.887	4.887	0.000	95	457933	100.0	97.5	
$ 11 2-Fluorobiphenyl	172	6.650	6.656	-0.006	100	824238	100.0	98.9	
$ 12 2,4,6-Tribromophenol	330	8.113	8.113	0.000	94	95858	100.0	96.3	
$ 13 Terphenyl-d14	244	10.622	10.634	-0.012	99	629381	100.0	93.9	
19 1,4-Dioxane	88	1.867	1.867	0.000	95	145963	80.0	73.8	
20 N-Nitrosodimethylamine	74	2.085	2.085	0.000	85	242552	80.0	79.4	
21 Pyridine	79	2.132	2.132	0.000	82	653331	160.0	132.9	
31 Benzaldehyde	106	3.971	3.971	0.000	90	268029	80.0	71.5	
32 Phenol	94	4.035	4.030	0.005	98	424523	80.0	77.4	
34 Aniline	93	4.065	4.065	0.000	96	502437	80.0	74.8	
36 Bis(2-chloroethyl)ether	93	4.112	4.112	0.000	92	340204	80.0	83.4	
38 n-Decane	43	4.229	4.229	0.000	94	382790	80.0	59.9	
39 2-Chlorophenol	128	4.182	4.182	0.000	98	359020	80.0	79.7	
40 1,3-Dichlorobenzene	146	4.329	4.329	0.000	98	339143	80.0	67.4	
42 1,4-Dichlorobenzene	146	4.394	4.394	0.000	93	346039	80.0	68.5	
43 Benzyl alcohol	108	4.494	4.494	0.000	93	237812	80.0	79.8	
44 1,2-Dichlorobenzene	146	4.541	4.541	0.000	97	334184	80.0	69.5	
45 2-Methylphenol	108	4.593	4.594	-0.001	96	318859	80.0	77.1	
46 2,2'-oxybis[1-chloropropan	45	4.623	4.623	0.000	88	621937	80.0	81.2	
47 Indene	116	4.623	4.623	0.000	92	516461	80.0	75.0	
49 3 & 4 Methylphenol	108	4.740	4.741	-0.001	86	301206	80.0	74.9	
50 3-Methylphenol	108	4.740	4.741	-0.001	89	301206	80.0	74.9	
51 4-Methylphenol	108	4.740	4.741	-0.001	93	301206	80.0	74.9	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
52 N-Nitrosodi-n-propylamine	70	4.740	4.741	-0.001	91	218389	80.0	76.3	
54 Acetophenone	105	4.746	4.746	0.000	91	427382	80.0	76.7	
58 Hexachloroethane	117	4.864	4.864	0.000	94	121683	80.0	65.1	
59 Nitrobenzene	77	4.905	4.905	0.000	95	347676	80.0	76.3	
63 Isophorone	82	5.134	5.134	0.000	97	619636	80.0	77.1	
64 2-Nitrophenol	139	5.216	5.216	0.000	94	185589	80.0	76.5	
65 2,4-Dimethylphenol	107	5.251	5.252	-0.001	94	222236	80.0	52.2	
68 Benzoic acid	105	5.334	5.363	-0.029	38	219479	80.0	72.9	
69 Bis(2-chloroethoxy)methane	93	5.334	5.340	-0.006	96	383515	80.0	78.0	
74 2,4-Dichlorophenol	162	5.451	5.451	0.000	94	275396	80.0	76.2	
76 1,2,4-Trichlorobenzene	180	5.539	5.540	-0.001	93	277155	80.0	67.3	
79 Naphthalene	128	5.610	5.616	-0.006	98	882828	80.0	72.9	
80 4-Chloroaniline	127	5.657	5.657	0.000	96	369914	80.0	72.7	
81 2,6-Dichlorophenol	162	5.669	5.669	0.000	96	269411	80.0	75.9	
83 Hexachlorobutadiene	225	5.745	5.745	0.000	95	149737	80.0	65.6	
86 Caprolactam	55	5.974	5.980	-0.006	73	160915	80.0	74.8	M
89 4-Chloro-3-methylphenol	107	6.133	6.133	0.000	96	258595	80.0	75.4	
93 2-Methylnaphthalene	142	6.291	6.292	-0.001	95	631381	80.0	74.2	
96 1-Methylnaphthalene	142	6.391	6.392	-0.001	96	594077	80.0	74.7	
97 Hexachlorocyclopentadiene	237	6.462	6.462	0.000	96	97981	160.0	39.5	
98 1,2,4,5-Tetrachlorobenzene	216	6.462	6.468	-0.006	97	273803	80.0	72.6	
100 2,4,6-Trichlorophenol	196	6.568	6.574	-0.006	93	187216	80.0	82.3	
102 2,4,5-Trichlorophenol	196	6.609	6.609	0.000	95	202447	80.0	81.4	
104 1,1'-Biphenyl	154	6.750	6.756	-0.006	95	728629	80.0	77.7	
106 2-Chloronaphthalene	162	6.773	6.779	-0.006	96	551738	80.0	76.7	
108 2-Nitroaniline	65	6.861	6.867	-0.006	86	165326	80.0	77.1	
111 Dimethyl phthalate	163	7.044	7.050	-0.006	99	547085	80.0	77.5	
112 1,3-Dinitrobenzene	168	7.067	7.073	-0.006	89	100497	80.0	82.9	
113 2,6-Dinitrotoluene	165	7.102	7.103	0.000	94	144559	80.0	80.3	
114 Acenaphthylene	152	7.185	7.191	-0.006	99	817217	80.0	75.6	
115 3-Nitroaniline	138	7.267	7.273	-0.006	95	130514	80.0	67.5	
117 Acenaphthene	153	7.361	7.361	0.000	93	541429	80.0	77.1	
118 2,4-Dinitrophenol	184	7.373	7.379	-0.006	85	149355	160.0	146.5	
119 4-Nitrophenol	109	7.437	7.443	-0.006	95	133341	160.0	147.4	
122 2,4-Dinitrotoluene	165	7.502	7.508	-0.006	94	176439	80.0	79.2	
123 Dibenzofuran	168	7.531	7.531	0.000	97	761507	80.0	77.3	
125 2,3,4,6-Tetrachlorophenol	232	7.655	7.655	0.000	72	151005	80.0	77.9	
127 Hexadecane	57	7.772	7.778	-0.006	90	489880	80.0	77.8	
130 Diethyl phthalate	149	7.743	7.749	-0.006	98	514572	80.0	76.8	
134 4-Chlorophenyl phenyl ethe	204	7.866	7.866	0.000	94	274382	80.0	76.4	
135 Fluorene	166	7.872	7.878	-0.006	94	573413	80.0	76.9	
138 4-Nitroaniline	138	7.878	7.884	-0.006	85	131638	80.0	72.3	
139 4,6-Dinitro-2-methylphenol	198	7.913	7.919	-0.006	85	193985	160.0	175.8	
141 N-Nitrosodiphenylamine	169	7.978	7.984	-0.006	63	400576	80.0	79.0	
142 Diphenylamine	169	7.978	7.984	-0.006	95	400576	68.0	61.8	
143 1,2-Diphenylhydrazine	77	8.025	8.025	0.000	42	573434	80.9	78.3	
144 Azobenzene	77	8.025	8.025	0.000	97	573434	80.0	77.4	
147 2,4,6 - Tribromophenol	330	8.113	8.113	0.000	94	97014	100.0	96.9	
156 4-Bromophenyl phenyl ether	248	8.354	8.354	0.000	68	158976	80.0	80.5	
157 Hexachlorobenzene	284	8.430	8.436	-0.006	95	154799	80.0	79.5	
159 Atrazine	200	8.507	8.513	-0.006	91	132954	80.0	78.3	
161 n-Octadecane	85	8.689	8.695	-0.006	91	153926	80.0	85.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
163 Pentachlorophenol	266	8.618	8.624	-0.006	93	178339	160.0	153.6	
168 Phenanthrene	178	8.830	8.836	-0.006	97	755618	80.0	80.1	
169 Anthracene	178	8.877	8.883	-0.006	97	778655	80.0	79.6	
170 Carbazole	167	9.029	9.036	-0.007	95	675916	80.0	79.1	
173 Di-n-butyl phthalate	149	9.370	9.376	-0.006	99	743702	80.0	79.2	
179 Fluoranthene	202	10.099	10.111	-0.012	98	738667	80.0	77.6	
181 Benzidine	184	10.263	10.270	-0.007	99	515281	160.0	97.9	
182 Pyrene	202	10.404	10.410	-0.006	97	762495	80.0	78.8	
190 Butyl benzyl phthalate	149	11.444	11.456	-0.012	97	295322	80.0	78.7	
195 Bis(2-ethylhexyl) phthalat	149	12.725	12.737	-0.012	97	383166	80.0	80.2	
197 3,3'-Dichlorobenzidine	252	12.502	12.508	-0.006	73	414140	160.0	170.4	
198 Benzo[a]anthracene	228	12.531	12.543	-0.012	98	635408	80.0	74.7	
199 Chrysene	228	12.608	12.620	-0.012	97	666151	80.0	80.7	
201 Di-n-octyl phthalate	149	14.429	14.441	-0.012	99	588479	80.0	72.7	
203 Benzo[b]fluoranthene	252	15.216	15.228	-0.012	97	555561	80.0	79.5	
204 Benzo[k]fluoranthene	252	15.293	15.305	-0.012	99	661259	80.0	88.0	
207 Benzo[a]pyrene	252	16.092	16.110	-0.018	81	529401	80.0	75.1	
213 Dibenz(a,h)anthracene	278	19.359	19.377	-0.018	93	461954	80.0	78.9	
214 Indeno[1,2,3-cd]pyrene	276	19.259	19.277	-0.018	98	410702	80.0	67.6	M
215 Benzo[g,h,i]perylene	276	19.976	19.988	-0.012	98	517649	80.0	79.2	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MS-IS_00014 Amount Added: 20.00 Units: uL Run Reagent

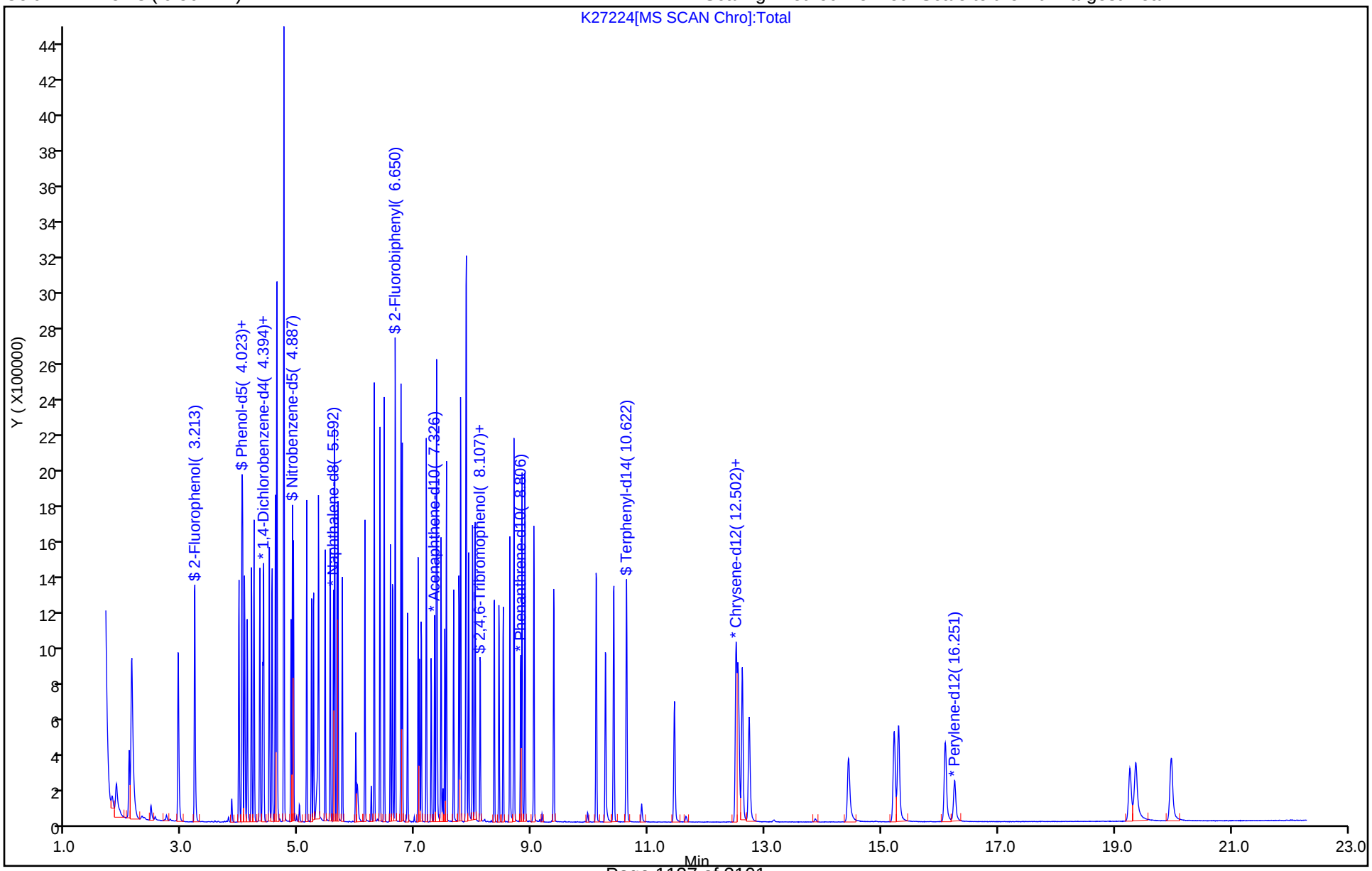
Report Date: 30-Oct-2018 07:24:29 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27224.D

Injection Date:	29-Oct-2018 12:16:30	Instrument ID:	SMS_K	Operator ID:	KIEKELD
Lims ID:	LCSD 280-434912/3-A			Worklist Smp#:	10
Client ID:					
Injection Vol:	0.5 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	SMSK_8270C	Limit Group:	MSSV - 8270C_625		

Column: VF-5ms (0.50 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\K27224.D
Lims ID: LCSD 280-434912/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 29-Oct-2018 12:16:30 ALS Bottle#: 9 Worklist Smp#: 10
Injection Vol: 0.5 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-434912_3-A
Operator ID: KIEKELD Instrument ID: SMS_K

Method: \\ChromNA\Denver\ChromData\SMS_K\20181029-75571.b\SMSK_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 30-Oct-2018 07:24:18 Calib Date: 23-Oct-2018 16:54:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_K\20181022-75345.b\K27119.D

Column 1 : VF-5ms (0.50 mm) Det: MS SCAN
Process Host: CTX0312

First Level Reviewer: kiekeld Date: 30-Oct-2018 06:58:32

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	100.0	100.1	100.05
$ 8 Phenol-d5	100.0	100.8	100.81
$ 9 Nitrobenzene-d5	100.0	97.5	97.50
$ 11 2-Fluorobiphenyl	100.0	98.9	98.87
$ 12 2,4,6-Tribromophenol	100.0	96.3	96.32
$ 13 Terphenyl-d14	100.0	93.9	93.87

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SMS_K Start Date: 10/23/2018 13:16

Analysis Batch Number: 434399 End Date: 10/23/2018 18:21

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-434399/2		10/23/2018 13:16	1	K27111.D	Rxi-5Sil MS 0.25(mm)
ICIS 280-434399/3		10/23/2018 13:33	1	K27112.D	Rxi-5Sil MS 0.25(mm)
STD004 280-434399/4 IC		10/23/2018 14:01	1	K27113.D	Rxi-5Sil MS 0.25(mm)
STD010 280-434399/5 IC		10/23/2018 14:30	1	K27114.D	Rxi-5Sil MS 0.25(mm)
STD020 280-434399/6 IC		10/23/2018 14:59	1	K27115.D	Rxi-5Sil MS 0.25(mm)
STD050 280-434399/7 IC		10/23/2018 15:28	1	K27116.D	Rxi-5Sil MS 0.25(mm)
STD120 280-434399/8 IC		10/23/2018 15:57	1	K27117.D	Rxi-5Sil MS 0.25(mm)
STD160 280-434399/9 IC		10/23/2018 16:25	1	K27118.D	Rxi-5Sil MS 0.25(mm)
STD200 280-434399/10 IC		10/23/2018 16:54	1	K27119.D	Rxi-5Sil MS 0.25(mm)
ICV 280-434399/11		10/23/2018 17:23	1	K27120.D	Rxi-5Sil MS 0.25(mm)
ICV 280-434399/12		10/23/2018 17:52	1	K27121.D	Rxi-5Sil MS 0.25(mm)
ICV 280-434399/13		10/23/2018 18:21	1	K27122.D	Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SMS_K Start Date: 10/29/2018 08:50

Analysis Batch Number: 435306 End Date: 10/30/2018 07:27

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-435306/2		10/29/2018 08:50	1	K27216.D	Rxi-5Sil MS 0.25(mm)
CCV 280-435306/3		10/29/2018 09:03	1	K27217.D	Rxi-5Sil MS 0.25(mm)
CCV 280-435306/4		10/29/2018 09:31	1	K27218.D	Rxi-5Sil MS 0.25(mm)
CCV 280-435306/5		10/29/2018 09:56	1	K27219.D	Rxi-5Sil MS 0.25(mm)
CCV 280-435306/6		10/29/2018 10:20	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 10:49	1		Rxi-5Sil MS 0.25(mm)
MB 280-434912/1-A		10/29/2018 11:18	1	K27222.D	Rxi-5Sil MS 0.25(mm)
LCS 280-434912/2-A		10/29/2018 11:47	1	K27223.D	Rxi-5Sil MS 0.25(mm)
LCSD 280-434912/3-A		10/29/2018 12:16	1	K27224.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 12:45	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 13:10	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 13:34	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 14:03	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 14:32	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 15:02	1		Rxi-5Sil MS 0.25(mm)
280-115950-2		10/29/2018 15:31	1	K27231.D	Rxi-5Sil MS 0.25(mm)
280-115950-3		10/29/2018 16:00	1	K27232.D	Rxi-5Sil MS 0.25(mm)
280-115950-4		10/29/2018 16:29	1	K27233.D	Rxi-5Sil MS 0.25(mm)
280-115950-5		10/29/2018 16:58	1	K27234.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 17:27	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 17:56	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 18:25	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 18:50	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 19:14	1		Rxi-5Sil MS 0.25(mm)
CCVC 280-435306/26		10/29/2018 19:39	1	K27240.D	Rxi-5Sil MS 0.25(mm)
CCVC 280-435306/27		10/29/2018 20:03	1	K27241.D	Rxi-5Sil MS 0.25(mm)
CCVC 280-435306/28		10/29/2018 20:28	1	K27242.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 20:57	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 21:26	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 21:55	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 22:24	5		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 22:53	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/30/2018 06:30	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/30/2018 06:58	4		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/30/2018 07:27	1		Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 434912 Batch Start Date: 10/25/18 13:12 Batch Analyst: Zhang, Jian

Batch Method: 3520C Batch End Date: 11/28/18 16:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	FirstAdjustpH
MB 280-434912/1		3520C, 8270D				1000 mL	1 mL	7 SU	1-2 SU
LCS 280-434912/2		3520C, 8270D				1000 mL	1 mL	7 SU	1-2 SU
LCSD 280-434912/3		3520C, 8270D				1000 mL	1 mL	7 SU	1-2 SU
280-115950-B-2	LL1mw-088-181001-GW	3520C, 8270D	T	1454.7 g	502.5 g	952.2 mL	1 mL	7 SU	1-2 SU
280-115950-B-3	LL1mw-088-181002-GW	3520C, 8270D	T	1452.2 g	501.3 g	950.9 mL	1 mL	7 SU	1-2 SU
280-115950-B-4	RQLmw-007-181001-GW	3520C, 8270D	T	1469.2 g	501.7 g	967.5 mL	1 mL	7 SU	1-2 SU
280-115950-D-5	RQLmw-008-181001-GW	3520C, 8270D	T	1473.8 g	500.7 g	973.1 mL	1 mL	7 SU	1-2 SU

Lab Sample ID	Client Sample ID	Method Chain	Basis	SecondAdjustpH	8270_LCS_Main 00055	8270_LCS_Supp 00308	8270Surrogate 00128		
MB 280-434912/1		3520C, 8270D		11-12 SU			1 mL		
LCS 280-434912/2		3520C, 8270D		11-12 SU	1 mL	1 mL	1 mL		
LCSD 280-434912/3		3520C, 8270D		11-12 SU	1 mL	1 mL	1 mL		
280-115950-B-2	LL1mw-088-181001-GW	3520C, 8270D	T	11-12 SU			1 mL		
280-115950-B-3	LL1mw-088-181002-GW	3520C, 8270D	T	11-12 SU			1 mL		
280-115950-B-4	RQLmw-007-181001-GW	3520C, 8270D	T	11-12 SU			1 mL		
280-115950-D-5	RQLmw-008-181001-GW	3520C, 8270D	T	11-12 SU			1 mL		

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

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 434912 Batch Start Date: 10/25/18 13:12 Batch Analyst: Zhang, Jian

Batch Method: 3520C Batch End Date: 11/28/18 16:30

Batch Notes	
Acid Used for pH Adjustment ID	1:1 H2SO4_00077
Balance ID	B318295195
Base Used to Adjust pH ID	10N_NaOH_00131
Batch Comment	DV-OP-0008/0007; H2O N.ELGA
Analyst ID - Concentration	AP
Concentration 1 Corrected Temperature	84 Degrees C
Equipment ID - Concentration 1	A
Analyst ID - Extraction	JZ
Extraction 1 End Time	10/26/2018 07:21
Extraction 1 Start Time	10/25/2018 13:15
Method/Fraction	3520C/8270C/8270D_DOD5
Na2SO4 ID	0025461_00007
NaCl ID	173831
Pipette/Syringe/Dispenser ID	Woo!
Prep Solvent ID	MeCl2_Cycl_00410
Extraction 2 End Time	10/27/2018 08:40
Extraction 2 Start Time	10/26/2018 09:02
Analyst ID - Spike Analyst	JZ
Analyst ID - Spike Witness Analyst	Reviewer:KS
Sufficient Volume for Batch QC	No
Concentration 1 Uncorrected Temperature	85 Degrees C

Basis	Basis Description
T	Total/NA

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

8270D_SIM_DOD5

Semivolatile Organic Compounds (GC/MS SIM)

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): Rxi-5Sil MS ID: 0.25(mm)

Client Sample ID	Lab Sample ID	NBZ #	FBP #	TPHL #
RQLmw-007-181001-GW	280-115950-4	70	74	76
RQLmw-008-181001-GW	280-115950-5	65	70	77
	MB 280-434941/1-A	87	76	83
	LCS 280-434941/2-A	73	75	79
	LCSD 280-434941/3-A	64	71	76

	QC LIMITS
NBZ = Nitrobenzene-d5	55-111
FBP = 2-Fluorobiphenyl	53-106
TPHL = Terphenyl-d14	58-132

Column to be used to flag recovery values

FORM II 8270D SIM

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low Lab File ID: F4427.D

Lab ID: LCS 280-434941/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1-Methylnaphthalene	0.900	0.724	80	41-115	
2-Methylnaphthalene	0.900	0.705	78	39-114	
Acenaphthene	0.900	0.699	78	48-114	
Acenaphthylene	0.900	0.613	68	35-121	
Anthracene	0.900	0.624	69	53-119	
Benzo[a]anthracene	0.900	0.648	72	59-120	
Benzo[a]pyrene	0.900	0.559	62	53-120	
Benzo[b]fluoranthene	0.900	0.650	72	53-126	
Benzo[g,h,i]perylene	0.900	0.603	67	44-128	
Benzo[k]fluoranthene	0.900	0.680	76	54-125	
Chrysene	0.900	0.816	91	57-120	
Dibenz(a,h)anthracene	0.900	0.502	56	44-131	
Fluoranthene	0.900	0.711	79	58-120	
Fluorene	0.900	0.702	78	50-118	
Indeno[1,2,3-cd]pyrene	0.900	0.524	58	48-130	
Naphthalene	0.900	0.716	80	43-114	
Phenanthrene	0.900	0.730	81	53-115	
Pyrene	0.900	0.691	77	53-121	

Column to be used to flag recovery and RPD values

FORM III 8270D SIM

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low Lab File ID: F4428.D

Lab ID: LCSD 280-434941/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1-Methylnaphthalene	0.900	0.606	67	18	20	41-115	
2-Methylnaphthalene	0.900	0.574	64	20	20	39-114	
Acenaphthene	0.900	0.578	64	19	20	48-114	
Acenaphthylene	0.900	0.507	56	19	20	35-121	
Anthracene	0.900	0.537	60	15	20	53-119	
Benzo[a]anthracene	0.900	0.558	62	15	20	59-120	
Benzo[a]pyrene	0.900	0.477	53	16	20	53-120	
Benzo[b]fluoranthene	0.900	0.557	62	15	20	53-126	
Benzo[g,h,i]perylene	0.900	0.529	59	13	20	44-128	
Benzo[k]fluoranthene	0.900	0.587	65	15	20	54-125	
Chrysene	0.900	0.717	80	13	20	57-120	
Dibenz(a,h)anthracene	0.900	0.464	52	8	20	44-131	
Fluoranthene	0.900	0.606	67	16	20	58-120	
Fluorene	0.900	0.578	64	19	20	50-118	
Indeno[1,2,3-cd]pyrene	0.900	0.452	50	15	20	48-130	
Naphthalene	0.900	0.586	65	20	20	43-114	
Phenanthrene	0.900	0.626	70	15	20	53-115	
Pyrene	0.900	0.588	65	16	20	53-121	

Column to be used to flag recovery and RPD values

FORM III 8270D SIM

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab File ID: F4475.D Lab Sample ID: MB 280-434941/1-A

Matrix: Water Date Extracted: 10/25/2018 12:34

Instrument ID: SMS_F Date Analyzed: 11/01/2018 19:05

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-434941/2-A	F4427.D	10/30/2018 06:00
	LCSD 280-434941/3-A	F4428.D	10/30/2018 06:29
RQLmw-007-181001-GW	280-115950-4	F4429.D	10/30/2018 06:58
RQLmw-008-181001-GW	280-115950-5	F4430.D	10/30/2018 07:27

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab File ID: F4397.D DFTPP Injection Date: 10/29/2018

Instrument ID: SMS_F DFTPP Injection Time: 15:45

Analysis Batch No.: 435404

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	48.2	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	50.4	
70	Less than 2.0 % of mass 69	0.2	(0.4) 1
127	40.0 - 60.0 % of mass 198	54.1	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	7.1	
275	10.0 - 30.0 % of mass 198	25.0	
365	Greater than 1.0 % of mass 198	3.3	
441	Present but less than mass 443	11.7	(74.1) 3
442	Greater than 40.0 % of mass 198	74.9	
443	17.0 - 23.0 % of mass 442	15.8	(21.1) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICIS 280-435404/3	F4398.D	10/29/2018	16:02
	STD0001 280-435404/4	F4399.D	10/29/2018	16:32
	STD0002 280-435404/5	F4400.D	10/29/2018	17:02
	STD0500 280-435404/6	F4401.D	10/29/2018	17:32
	STD0100 280-435404/7	F4402.D	10/29/2018	18:01
	STD0300 280-435404/8	F4403.D	10/29/2018	18:31
	STD1200 280-435404/9	F4404.D	10/29/2018	19:01
	STD2500 280-435404/10	F4405.D	10/29/2018	19:31
	STD5000 280-435404/11	F4406.D	10/29/2018	20:00
	ICV 280-435404/12	F4407.D	10/29/2018	20:30

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab File ID: F4408.D DFTPP Injection Date: 10/29/2018

Instrument ID: SMS_F DFTPP Injection Time: 20:56

Analysis Batch No.: 435422

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	46.0	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	48.5	
70	Less than 2.0 % of mass 69	0.2	(0.5) 1
127	40.0 - 60.0 % of mass 198	51.7	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.8	
275	10.0 - 30.0 % of mass 198	25.4	
365	Greater than 1.0 % of mass 198	3.0	
441	Present but less than mass 443	13.3	(83.0) 3
442	Greater than 40.0 % of mass 198	79.8	
443	17.0 - 23.0 % of mass 442	16.0	(20.1) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-435422/3	F4409.D	10/29/2018	21:09
	LCS 280-434941/2-A	F4427.D	10/30/2018	06:00
	LCSD 280-434941/3-A	F4428.D	10/30/2018	06:29
RQLmw-007-181001-GW	280-115950-4	F4429.D	10/30/2018	06:58
RQLmw-008-181001-GW	280-115950-5	F4430.D	10/30/2018	07:27
	CCVC 280-435422/25	F4431.D	10/30/2018	07:57

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab File ID: F4473.D DFTPP Injection Date: 11/01/2018

Instrument ID: SMS_F DFTPP Injection Time: 18:15

Analysis Batch No.: 435950

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	56.6	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	58.2	
70	Less than 2.0 % of mass 69	0.2	(0.4) 1
127	40.0 - 60.0 % of mass 198	57.7	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	7.0	
275	10.0 - 30.0 % of mass 198	23.0	
365	Greater than 1.0 % of mass 198	2.4	
441	Present but less than mass 443	10.5	(78.8) 3
442	Greater than 40.0 % of mass 198	65.4	
443	17.0 - 23.0 % of mass 442	13.3	(20.3) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-435950/3	F4474.D	11/01/2018	18:29
	MB 280-434941/1-A	F4475.D	11/01/2018	19:05
	CCVC 280-435950/25	F4496.D	11/02/2018	05:24

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Sample No.: ICIS 280-435404/3 Date Analyzed: 10/29/2018 16:02

Instrument ID: SMS_F GC Column: Rxi-5Sil MS ID: 0.25(mm)

Lab File ID (Standard): F4398.D Heated Purge: (Y/N) N

Calibration ID: 34170

		ANT		PHN		CRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		24976	7.71	52568	9.21	52726	13.38
UPPER LIMIT		49952	8.21	105136	9.71	105452	13.88
LOWER LIMIT		12488	7.21	26284	8.71	26363	12.88
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-435404/12		24945	7.71	53849	9.21	53312	13.36
LCS 280-434941/2-A		25602	7.71	56341	9.21	50850	13.36
LCSD 280-434941/3-A		26162	7.71	57360	9.21	51280	13.36
280-115950-4	RQLmw-007-181001-GW	26826	7.71	58947	9.21	52010	13.36
280-115950-5	RQLmw-008-181001-GW	27406	7.71	59549	9.21	54968	13.36
CCVC 280-435422/25		34536	7.71	72779	9.21	70616	13.36
CCV 280-435950/3		24170	7.72	53542	9.22	51365	13.38
MB 280-434941/1-A		25394	7.71	55628	9.21	49492	13.38
CCVC 280-435950/25		25141	7.70	53342	9.20	48919	13.35

ANT = Acenaphthene-d10
PHN = Phenanthrene-d10
CRY = Chrysene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D SIM

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: RQLmw-007-181001-GW | Lab Sample ID: 280-115950-4

Matrix: Water | Lab File ID: F4429.D

Analysis Method: 8270D SIM | Date Collected: 10/22/2018 12:50

Extract. Method: 3510C | Date Extracted: 10/25/2018 12:34

Sample wt/vol: 233.6(mL) | Date Analyzed: 10/30/2018 06:58

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435422 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	0.013	U	0.11	0.013	0.0063
91-57-6	2-Methylnaphthalene	0.013	U	0.11	0.013	0.0064
83-32-9	Acenaphthene	0.043	U M	0.11	0.043	0.0045
208-96-8	Acenaphthylene	0.043	U	0.11	0.043	0.0055
120-12-7	Anthracene	0.043	U M	0.11	0.043	0.0060
56-55-3	Benzo[a]anthracene	0.013	U	0.11	0.013	0.0045
50-32-8	Benzo[a]pyrene	0.013	U M	0.11	0.013	0.0074
205-99-2	Benzo[b]fluoranthene	0.013	U	0.11	0.013	0.0033
191-24-2	Benzo[g,h,i]perylene	0.013	U	0.11	0.013	0.0066
207-08-9	Benzo[k]fluoranthene	0.013	U M	0.11	0.013	0.0067
218-01-9	Chrysene	0.013	U	0.11	0.013	0.0035
53-70-3	Dibenz(a,h)anthracene	0.013	U	0.11	0.013	0.0044
206-44-0	Fluoranthene	0.018	J	0.11	0.013	0.0051
86-73-7	Fluorene	0.043	U	0.11	0.043	0.0059
193-39-5	Indeno[1,2,3-cd]pyrene	0.043	U	0.11	0.043	0.0048
91-20-3	Naphthalene	0.013	U	0.11	0.013	0.0086
85-01-8	Phenanthrene	0.025	J	0.11	0.021	0.010
129-00-0	Pyrene	0.021	U	0.11	0.021	0.0065

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	74		53-106
4165-60-0	Nitrobenzene-d5	70		55-111
1718-51-0	Terphenyl-d14	76		58-132

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4429.D
Lims ID: 280-115950-I-4-A
Client ID: RQLmw-007-181001-GW
Sample Type: Client
Inject. Date: 30-Oct-2018 06:58:30 ALS Bottle#: 22 Worklist Smp#: 23
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-i-4-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 30-Oct-2018 19:06:12 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: wickhamm Date: 30-Oct-2018 19:04:44

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	96	26826	600.0	
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	97	58947	600.0	
* 3 Chrysene-d12	240	13.358	13.358	0.000	90	52010	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	98	9765	349.1	
$ 5 2-Fluorobiphenyl	172	7.019	7.019	0.000	100	25300	371.9	
$ 6 Terphenyl-d14	244	11.194	11.194	0.000	99	33044	379.5	
10 Naphthalene	128		5.980				ND	
11 2-Methylnaphthalene	142		6.663				ND	
12 1-Methylnaphthalene	142		6.761				ND	
14 Acenaphthylene	152		7.566				ND	
15 Acenaphthene	153		7.739				ND	U
18 Fluorene	166		8.254				ND	
20 Phenanthrene	178	9.223	9.223	0.000	76	700	5.86	
21 Anthracene	178	9.273	9.275	-0.002	1	0	0	a
23 Fluoranthene	202	10.624	10.632	-0.008	22	533	4.20	
24 Pyrene	202		10.969				ND	
26 Benzo[a]anthracene	228		13.340				ND	
27 Chrysene	228		13.421				ND	
30 Benzo[b]fluoranthene	252		16.246				ND	
31 Benzo[k]fluoranthene	252		16.325				ND	U
32 Benzo[a]pyrene	252		17.186				ND	U
33 Indeno[1,2,3-cd]pyrene	276		20.498				ND	
34 Dibenz(a,h)anthracene	278		20.585				ND	
35 Benzo[g,h,i]perylene	276		21.242				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

a - User Assigned ID

Reagents:

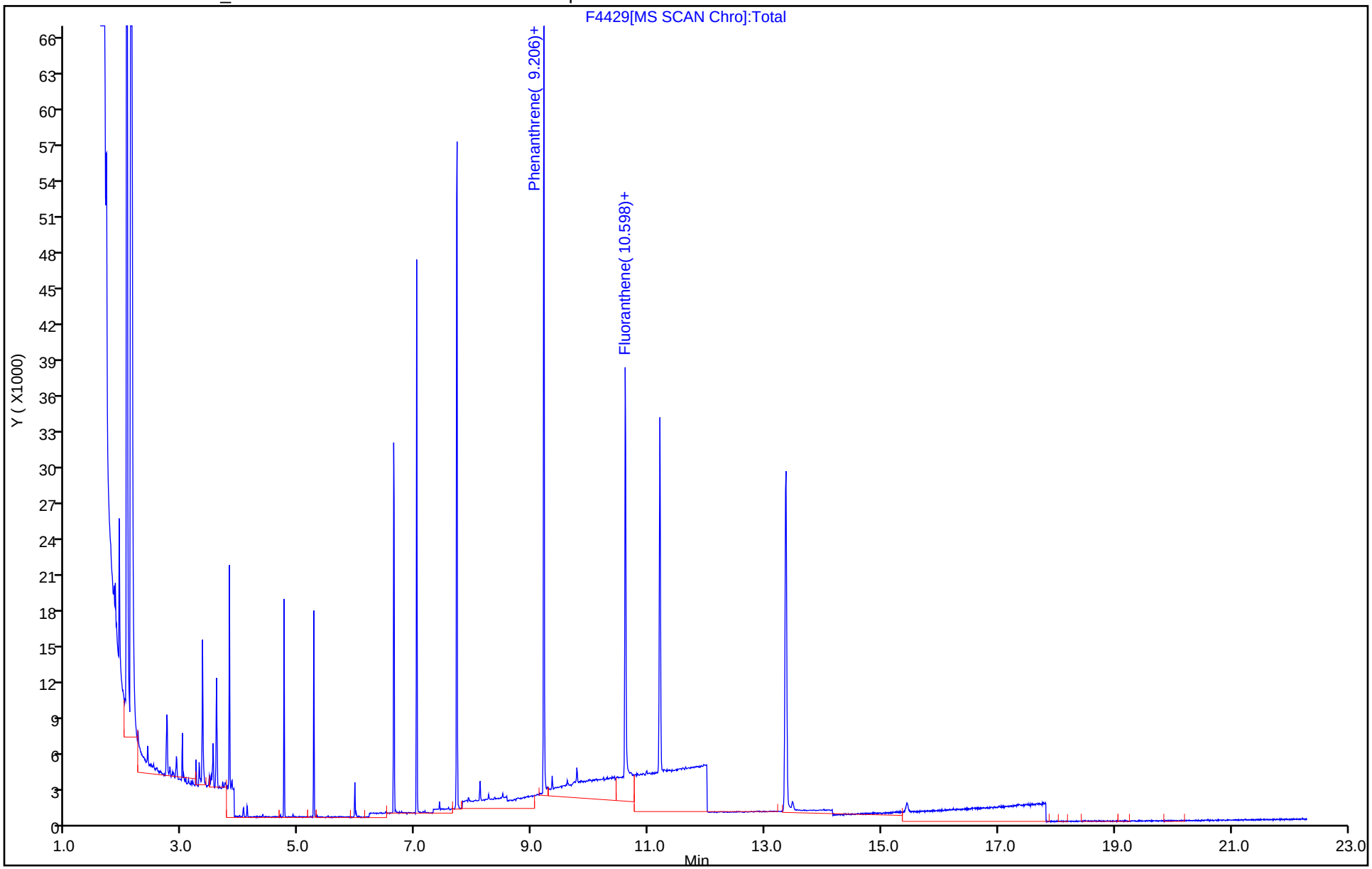
MS-SIM IS_00033 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 30-Oct-2018 19:07:19 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4429.D

Injection Date:	30-Oct-2018 06:58:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	280-115950-I-4-A	Lab Sample ID:	280-115950-4	Worklist Smp#:	23
Client ID:	RQLmw-007-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4429.D
Lims ID: 280-115950-I-4-A
Client ID: RQLmw-007-181001-GW
Sample Type: Client
Inject. Date: 30-Oct-2018 06:58:30 ALS Bottle#: 22 Worklist Smp#: 23
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-i-4-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 30-Oct-2018 19:06:12 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: wickhamm Date: 30-Oct-2018 19:04:44

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Nitrobenzene-d5	500.0	349.1	69.82
$ 5 2-Fluorobiphenyl	500.0	371.9	74.37
$ 6 Terphenyl-d14	500.0	379.5	75.90
$ 53 2-methylnaphthalene-d10	0.0	0	0.00
$ 54 Fluoranthene-d10	0.0	0	0.00

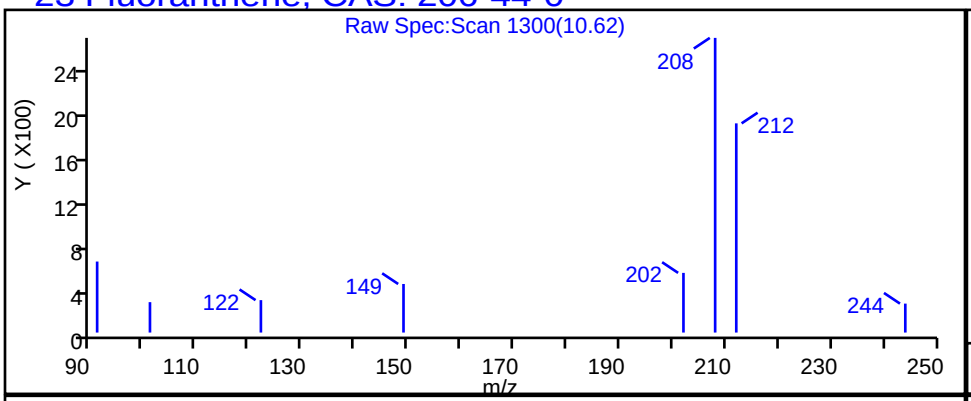
Report Date: 30-Oct-2018 19:07:20 Chrom Revision: 2.3 12-Oct-2018 08:24:38

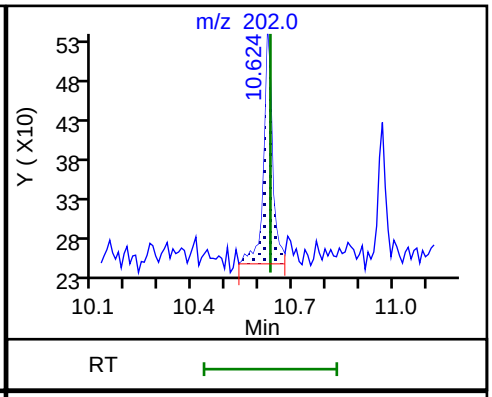
TestAmerica Denver

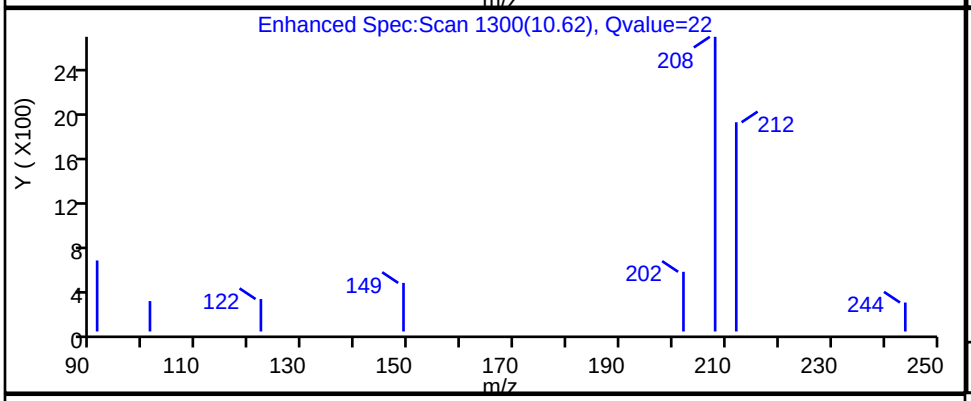
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4429.D

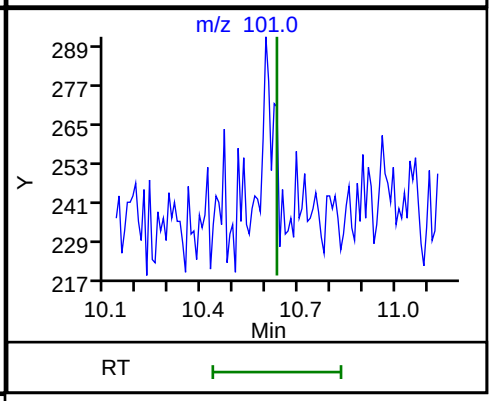
Injection Date:	30-Oct-2018 06:58:30	Instrument ID:	SMS_F		
Lims ID:	280-115950-I-4-A	Lab Sample ID:	280-115950-4		
Client ID:	RQLmw-007-181001-GW				
Operator ID:	WICKHAMM	ALS Bottle#:	22	Worklist Smp#:	23
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

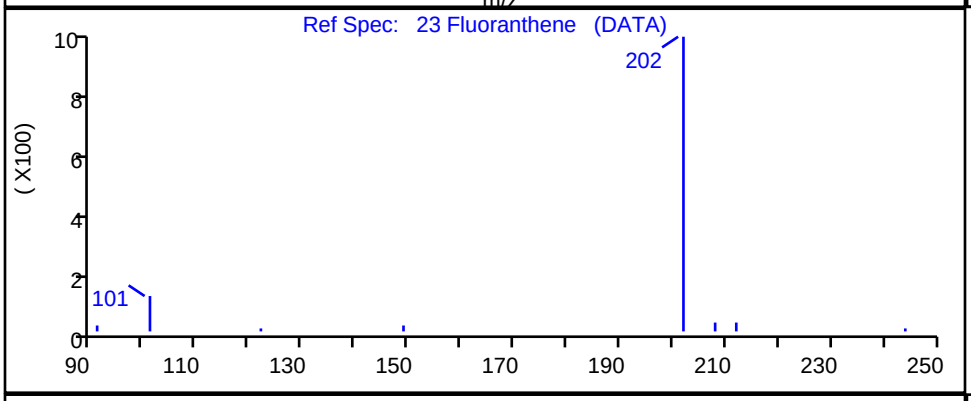
23 Fluoranthene, CAS: 206-44-0

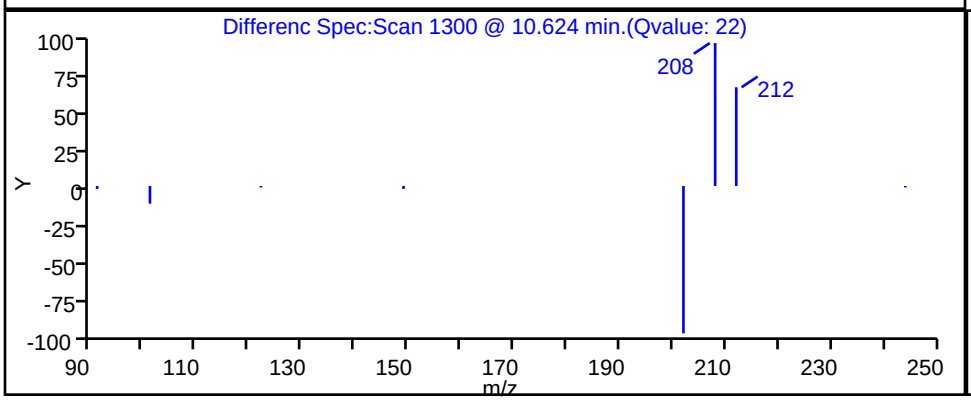


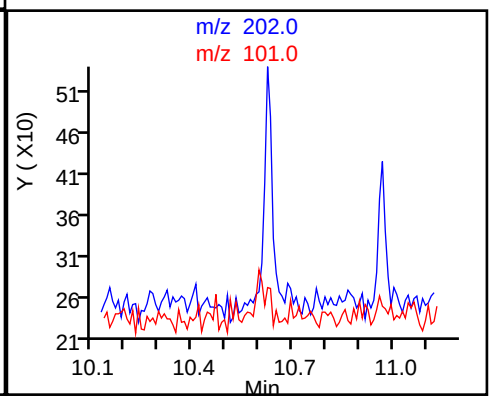












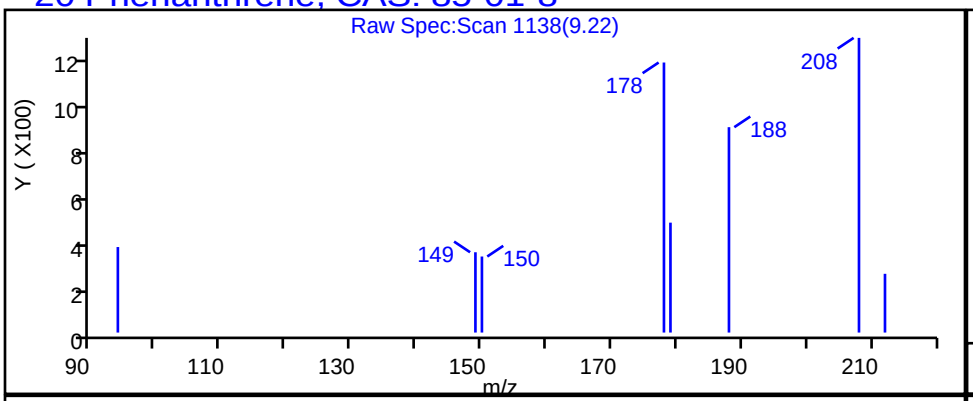
Report Date: 30-Oct-2018 19:07:19 Chrom Revision: 2.3 12-Oct-2018 08:24:38

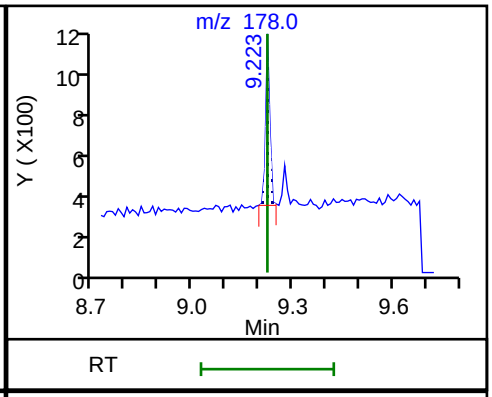
TestAmerica Denver

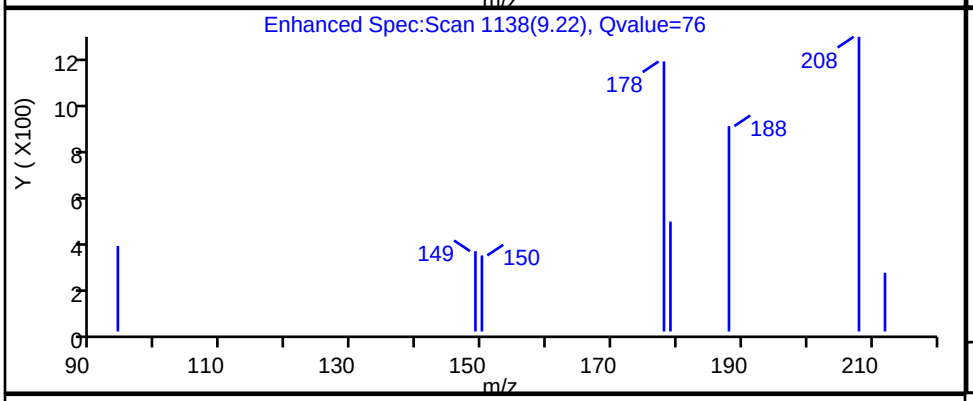
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4429.D

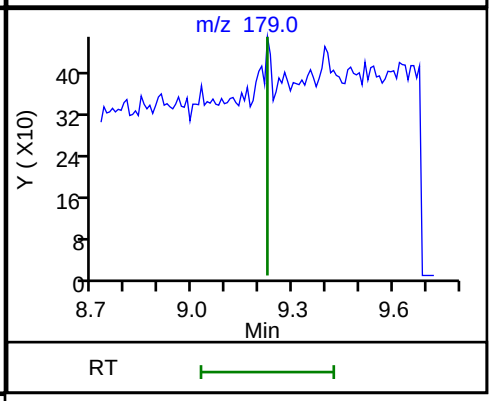
Injection Date:	30-Oct-2018 06:58:30	Instrument ID:	SMS_F		
Lims ID:	280-115950-I-4-A	Lab Sample ID:	280-115950-4		
Client ID:	RQLmw-007-181001-GW				
Operator ID:	WICKHAMM	ALS Bottle#:	22	Worklist Smp#:	23
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

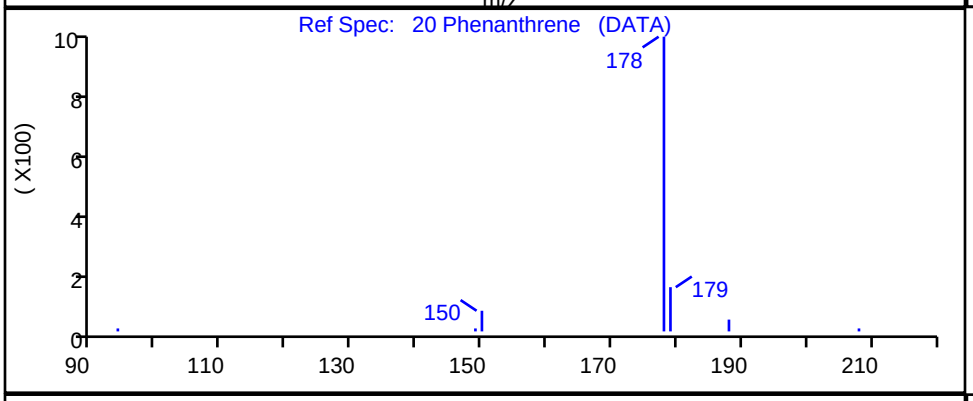
20 Phenanthrene, CAS: 85-01-8

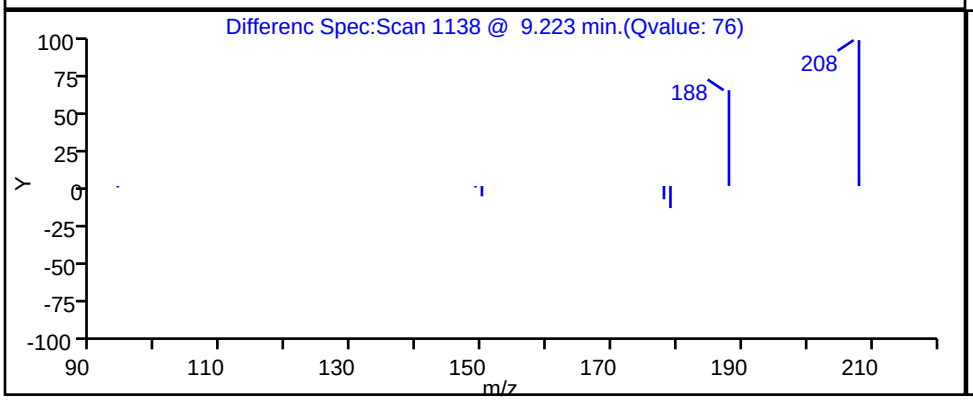


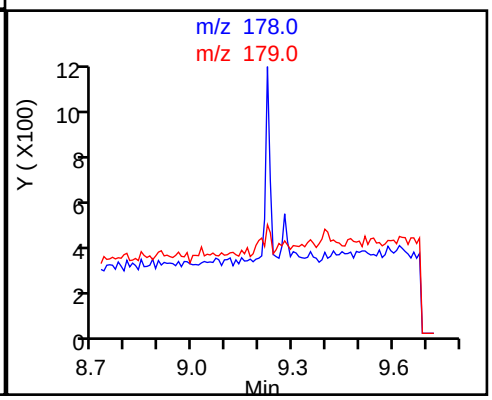












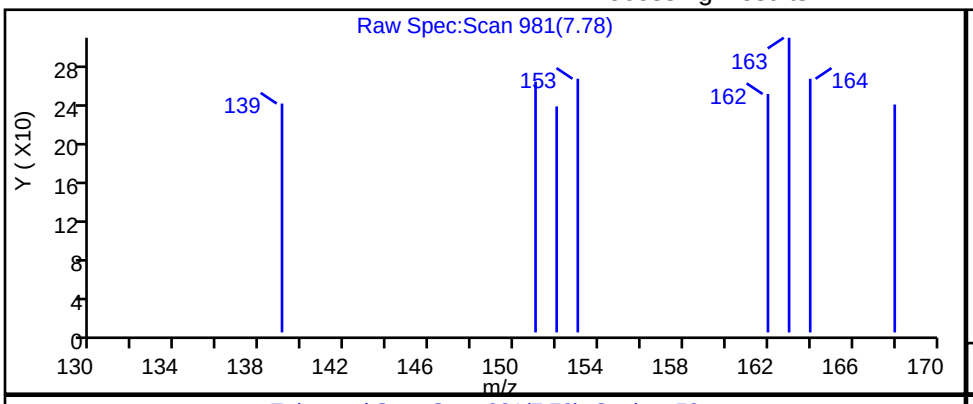
User Disabled Compound Report

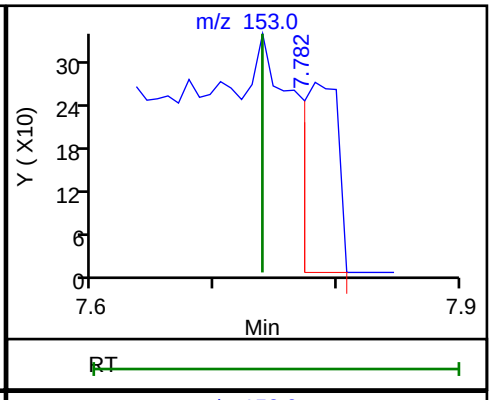
TestAmerica Denver

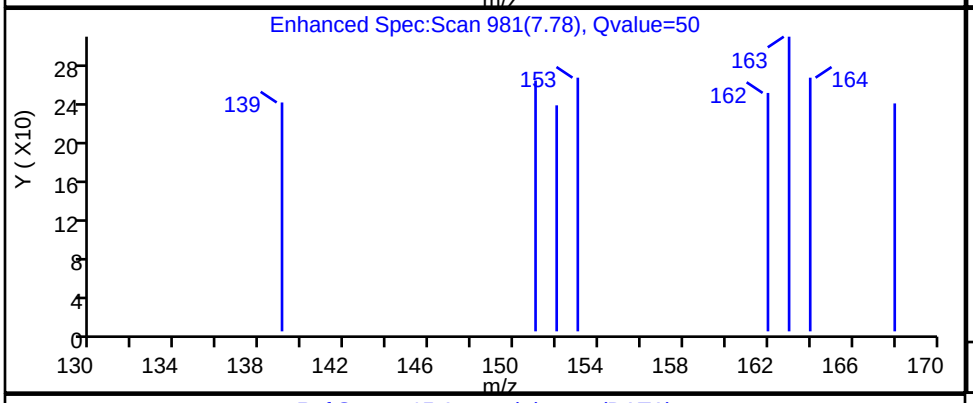
Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4429.D				
Injection Date:	30-Oct-2018 06:58:30	Instrument ID:	SMS_F		
Lims ID:	280-115950-I-4-A	Lab Sample ID:	280-115950-4		
Client ID:	RQLmw-007-181001-GW				
Operator ID:	WICKHAMM	ALS Bottle#:	22	Worklist Smp#:	23
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

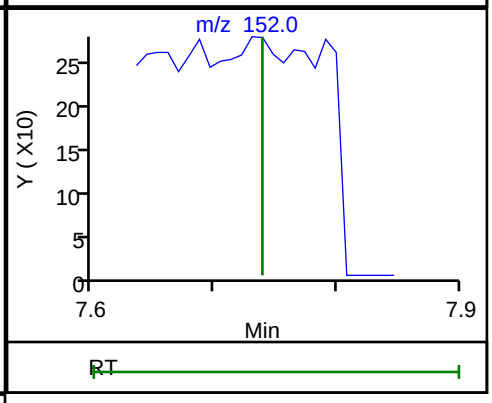
15 Acenaphthene, CAS: 83-32-9

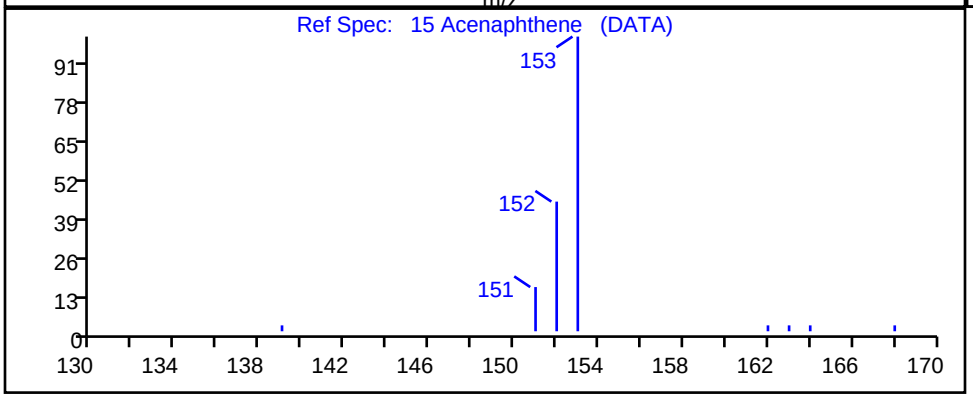
Processing Results











RT	Mass	Response	Amount
7.78	153.00	528	8.974843
7.74	152.00	0	

Reviewer: wickhamm, 30-Oct-2018 19:04:29

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

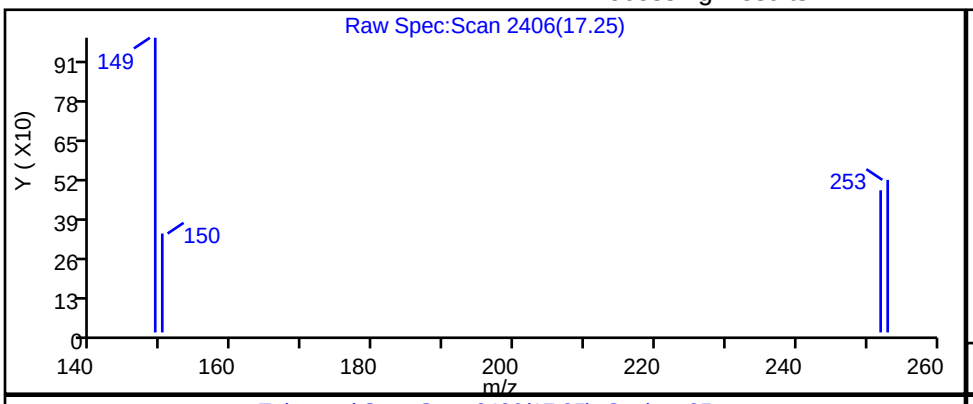
User Disabled Compound Report

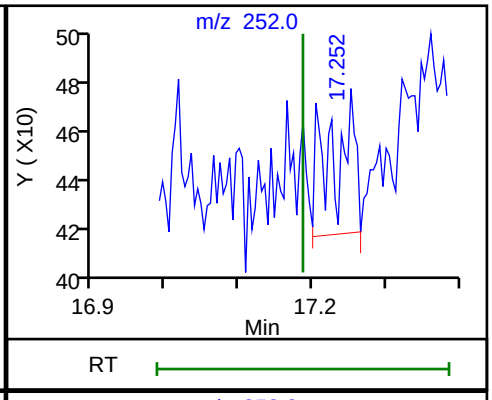
TestAmerica Denver

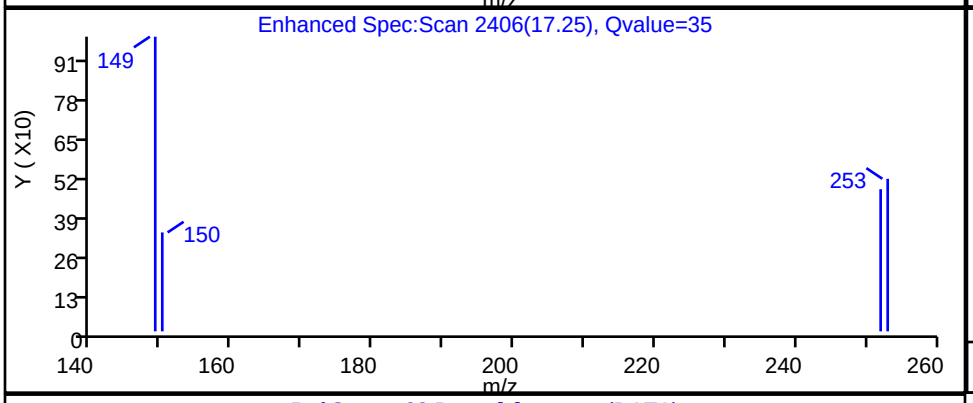
Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4429.D				
Injection Date:	30-Oct-2018 06:58:30	Instrument ID:	SMS_F		
Lims ID:	280-115950-I-4-A	Lab Sample ID:	280-115950-4		
Client ID:	RQLmw-007-181001-GW				
Operator ID:	WICKHAMM	ALS Bottle#:	22	Worklist Smp#:	23
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

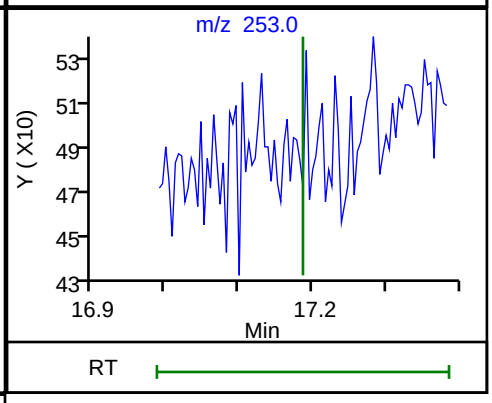
32 Benzo[a]pyrene, CAS: 50-32-8

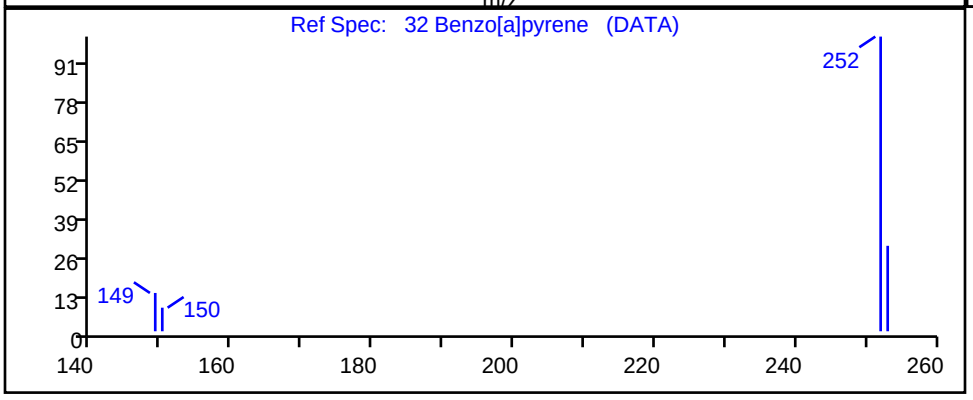
Processing Results











RT	Mass	Response	Amount
17.25	252.00	131	1.586007
17.19	253.00	0	

Reviewer: wickhamm, 30-Oct-2018 19:04:40

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

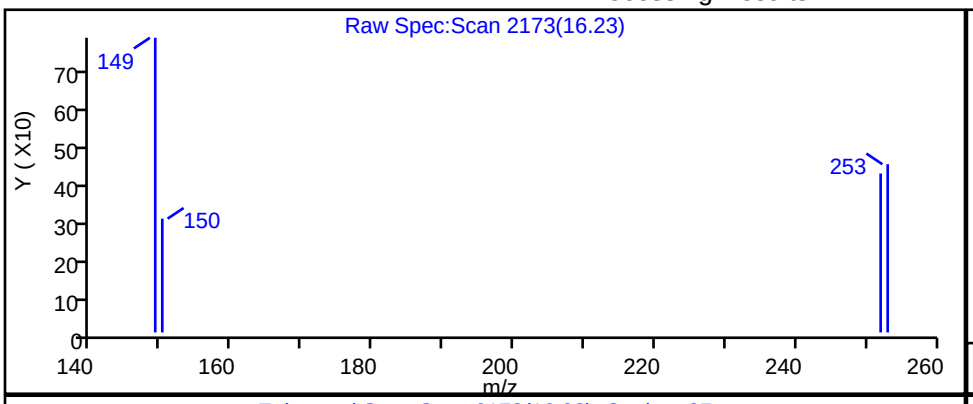
User Disabled Compound Report

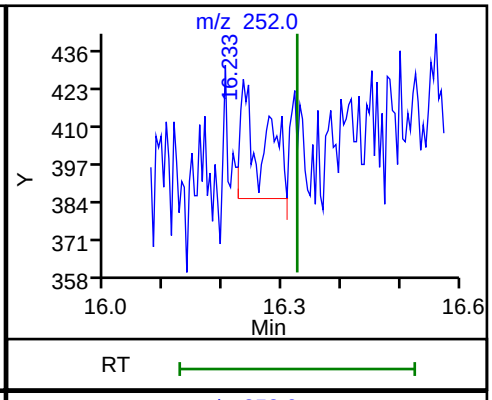
TestAmerica Denver

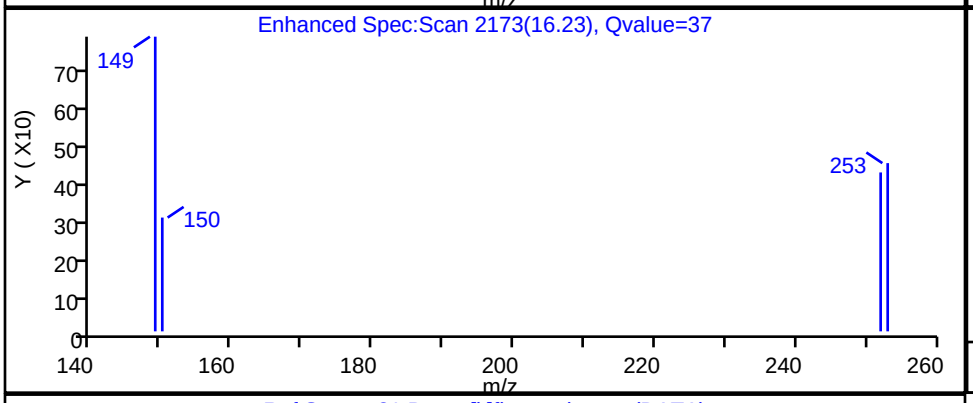
Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4429.D				
Injection Date:	30-Oct-2018 06:58:30	Instrument ID:	SMS_F		
Lims ID:	280-115950-I-4-A	Lab Sample ID:	280-115950-4		
Client ID:	RQLmw-007-181001-GW				
Operator ID:	WICKHAMM	ALS Bottle#:	22	Worklist Smp#:	23
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

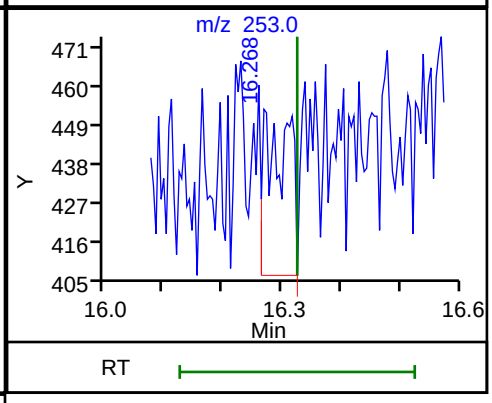
31 Benzo[k]fluoranthene, CAS: 207-08-9

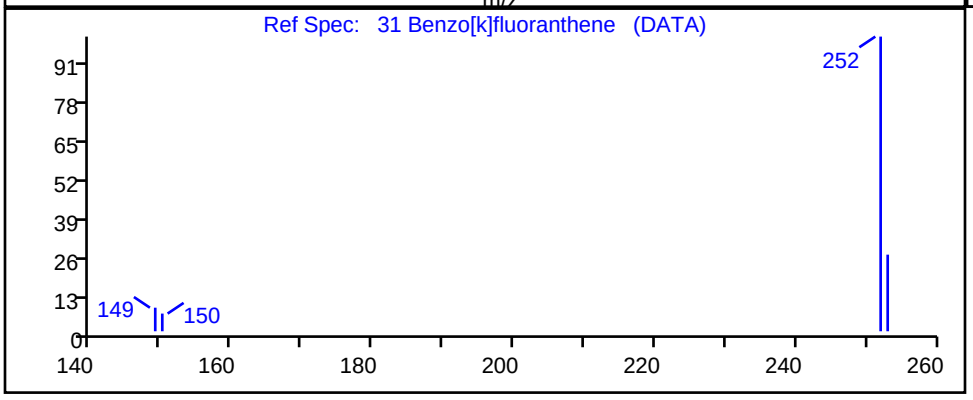
Processing Results











RT	Mass	Response	Amount
16.23	252.00	107	1.041331
16.27	253.00	134	

Reviewer: wickhamm, 30-Oct-2018 19:04:39

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: RQLmw-008-181001-GW | Lab Sample ID: 280-115950-5

Matrix: Water | Lab File ID: F4430.D

Analysis Method: 8270D SIM | Date Collected: 10/22/2018 10:05

Extract. Method: 3510C | Date Extracted: 10/25/2018 12:34

Sample wt/vol: 253.7(mL) | Date Analyzed: 10/30/2018 07:27

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435422 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	0.012	U	0.099	0.012	0.0058
91-57-6	2-Methylnaphthalene	0.012	U	0.099	0.012	0.0059
83-32-9	Acenaphthene	0.039	U	0.099	0.039	0.0041
208-96-8	Acenaphthylene	0.039	U	0.099	0.039	0.0050
120-12-7	Anthracene	0.039	U	0.099	0.039	0.0055
56-55-3	Benzo[a]anthracene	0.012	U	0.099	0.012	0.0041
50-32-8	Benzo[a]pyrene	0.012	U M	0.099	0.012	0.0068
205-99-2	Benzo[b]fluoranthene	0.012	U	0.099	0.012	0.0031
191-24-2	Benzo[g,h,i]perylene	0.012	U	0.099	0.012	0.0061
207-08-9	Benzo[k]fluoranthene	0.012	U M	0.099	0.012	0.0062
218-01-9	Chrysene	0.012	U	0.099	0.012	0.0033
53-70-3	Dibenz(a,h)anthracene	0.012	U	0.099	0.012	0.0040
206-44-0	Fluoranthene	0.012	U	0.099	0.012	0.0047
86-73-7	Fluorene	0.039	U	0.099	0.039	0.0054
193-39-5	Indeno[1,2,3-cd]pyrene	0.039	U	0.099	0.039	0.0044
91-20-3	Naphthalene	0.012	U	0.099	0.012	0.0079
85-01-8	Phenanthrene	0.020	U	0.099	0.020	0.0092
129-00-0	Pyrene	0.020	U	0.099	0.020	0.0060

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	70		53-106
4165-60-0	Nitrobenzene-d5	65		55-111
1718-51-0	Terphenyl-d14	77		58-132

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4430.D
Lims ID: 280-115950-H-5-A
Client ID: RQLmw-008-181001-GW
Sample Type: Client
Inject. Date: 30-Oct-2018 07:27:30 ALS Bottle#: 23 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-h-5-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 30-Oct-2018 19:06:12 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: wickhamm Date: 30-Oct-2018 19:05:10

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	95	27406	600.0	
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	97	59549	600.0	
* 3 Chrysene-d12	240	13.358	13.358	0.000	90	54968	600.0	
$ 4 Nitrobenzene-d5	82	5.251	5.256	-0.005	98	9248	323.6	
$ 5 2-Fluorobiphenyl	172	7.019	7.019	0.000	100	24194	348.1	
$ 6 Terphenyl-d14	244	11.194	11.194	0.000	99	33758	383.8	
10 Naphthalene	128		5.980				ND	
11 2-Methylnaphthalene	142		6.663				ND	
12 1-Methylnaphthalene	142		6.761				ND	
14 Acenaphthylene	152		7.566				ND	
15 Acenaphthene	153		7.739				ND	
18 Fluorene	166		8.254				ND	
20 Phenanthrene	178		9.223				ND	
21 Anthracene	178		9.275				ND	
23 Fluoranthene	202		10.632				ND	
24 Pyrene	202		10.969				ND	
26 Benzo[a]anthracene	228		13.340				ND	
27 Chrysene	228		13.421				ND	
30 Benzo[b]fluoranthene	252		16.246				ND	
31 Benzo[k]fluoranthene	252		16.325				ND	U
32 Benzo[a]pyrene	252		17.186				ND	U
33 Indeno[1,2,3-cd]pyrene	276		20.498				ND	
34 Dibenz(a,h)anthracene	278		20.585				ND	
35 Benzo[g,h,i]perylene	276		21.242				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

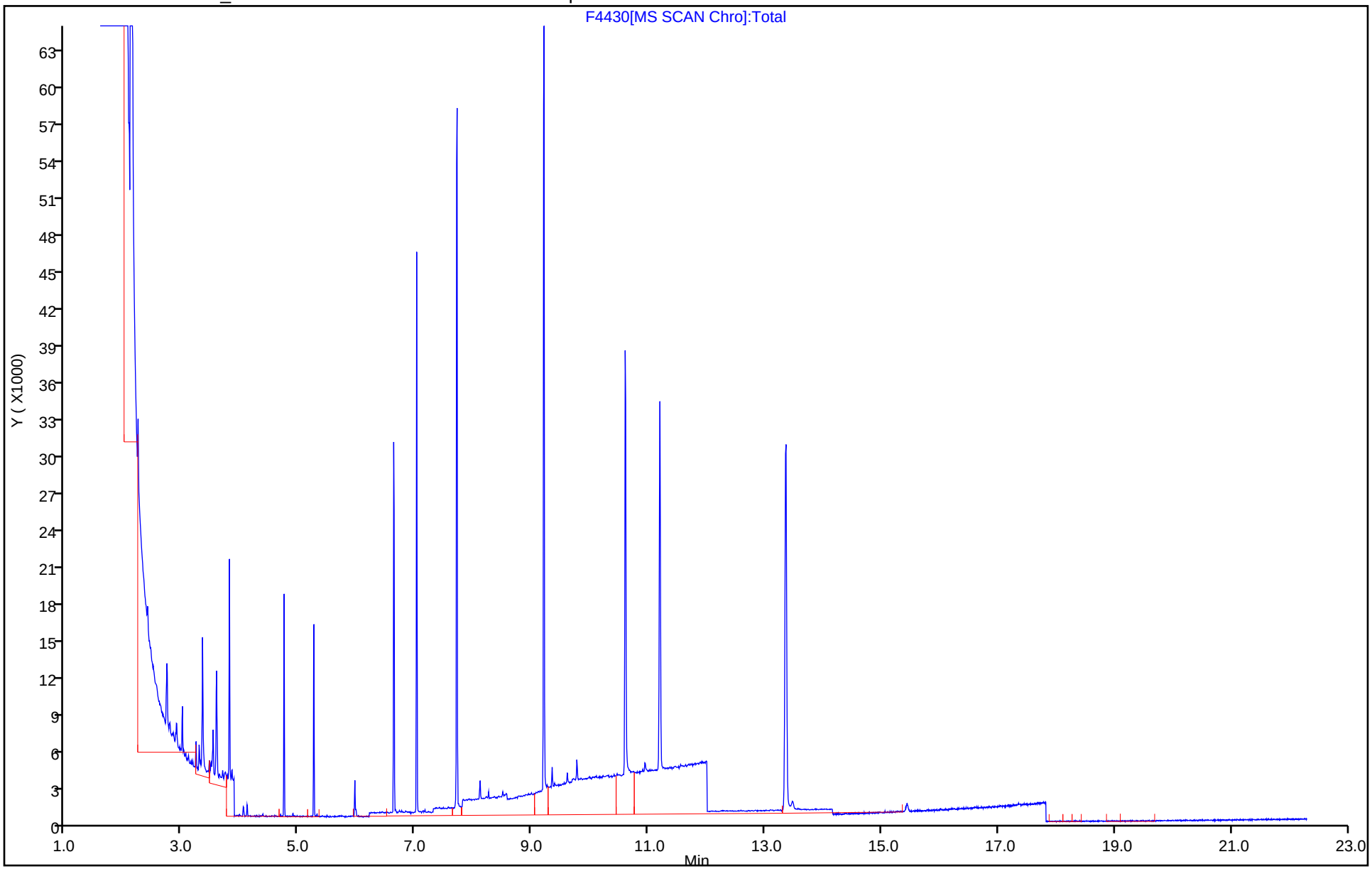
MS-SIM IS_00033 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 30-Oct-2018 19:07:22 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4430.D

Injection Date:	30-Oct-2018 07:27:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	280-115950-H-5-A	Lab Sample ID:	280-115950-5	Worklist Smp#:	24
Client ID:	RQLmw-008-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4430.D
Lims ID: 280-115950-H-5-A
Client ID: RQLmw-008-181001-GW
Sample Type: Client
Inject. Date: 30-Oct-2018 07:27:30 ALS Bottle#: 23 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-h-5-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 30-Oct-2018 19:06:12 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: wickhamm Date: 30-Oct-2018 19:05:10

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Nitrobenzene-d5	500.0	323.6	64.72
$ 5 2-Fluorobiphenyl	500.0	348.1	69.62
$ 6 Terphenyl-d14	500.0	383.8	76.75
$ 53 2-methylnaphthalene-d10	0.0	0	0.00
$ 54 Fluoranthene-d10	0.0	0	0.00

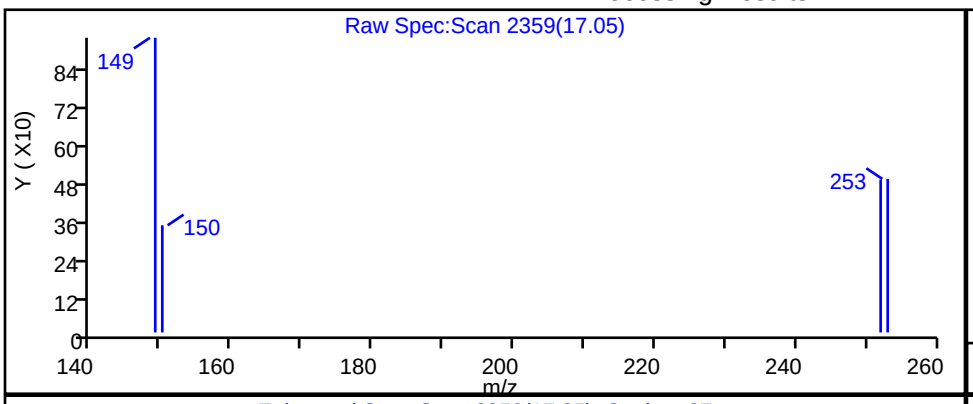
User Disabled Compound Report

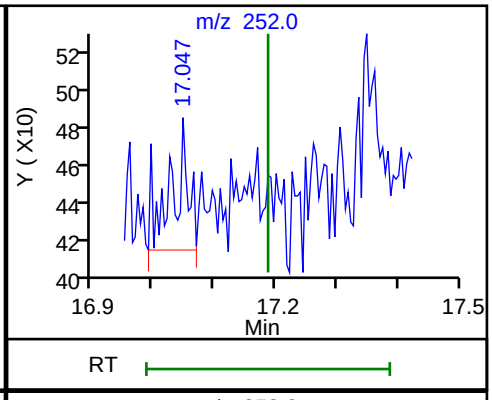
TestAmerica Denver

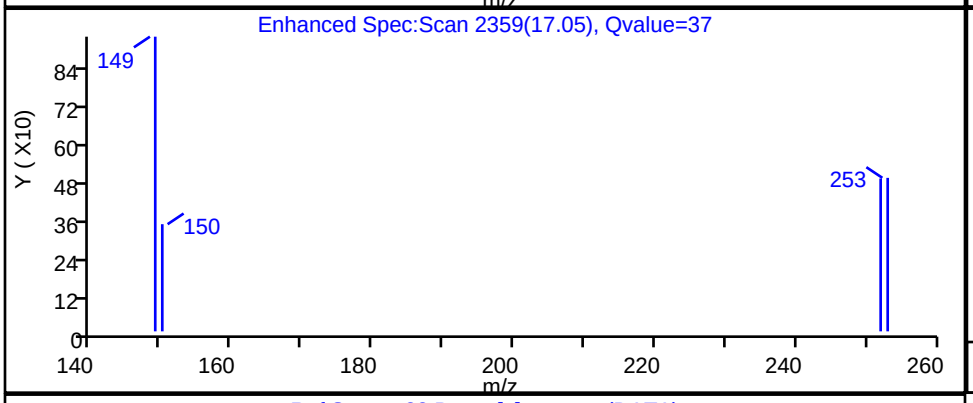
Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4430.D				
Injection Date:	30-Oct-2018 07:27:30	Instrument ID:	SMS_F		
Lims ID:	280-115950-H-5-A	Lab Sample ID:	280-115950-5		
Client ID:	RQLmw-008-181001-GW				
Operator ID:	WICKHAMM	ALS Bottle#:	23	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

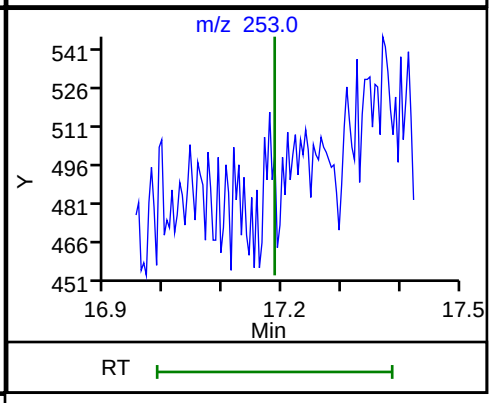
32 Benzo[a]pyrene, CAS: 50-32-8

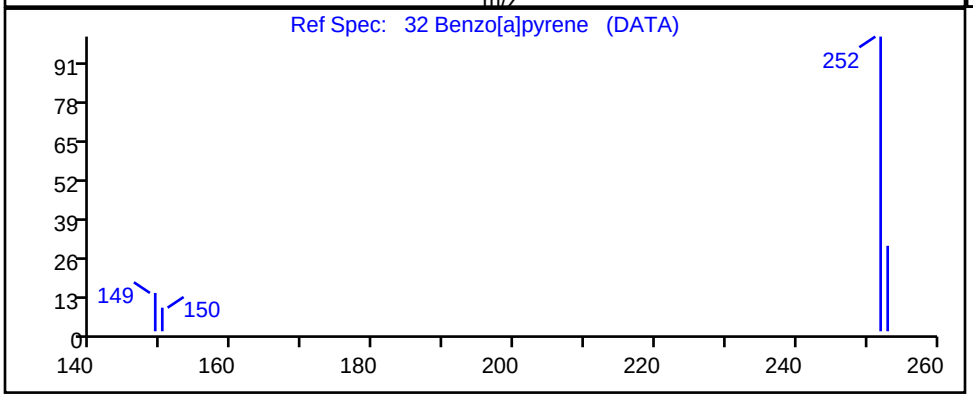
Processing Results











RT	Mass	Response	Amount
17.05	252.00	132	1.512114
17.19	253.00	0	

Reviewer: wickhamm, 30-Oct-2018 19:05:04

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

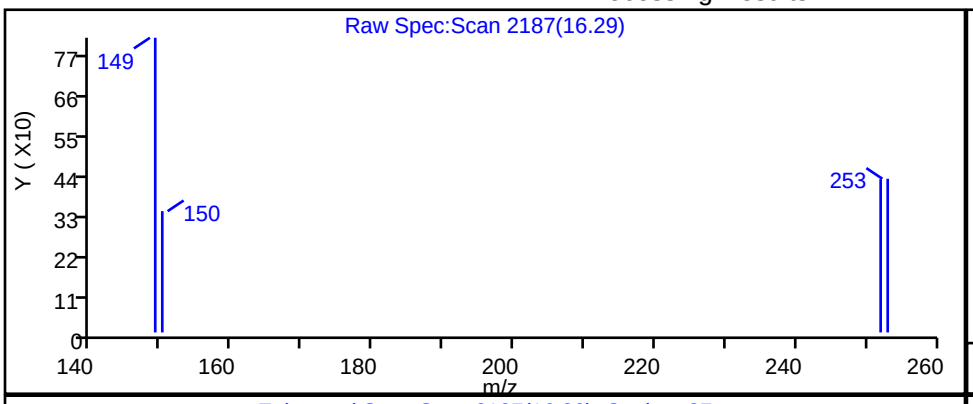
User Disabled Compound Report

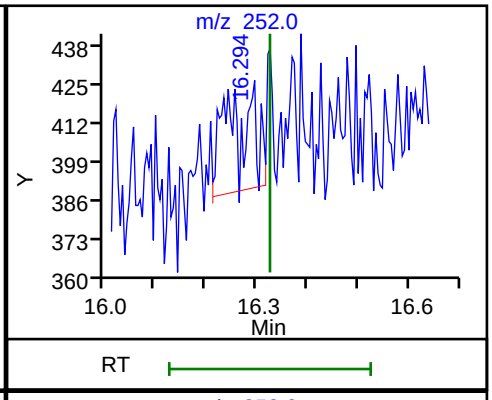
TestAmerica Denver

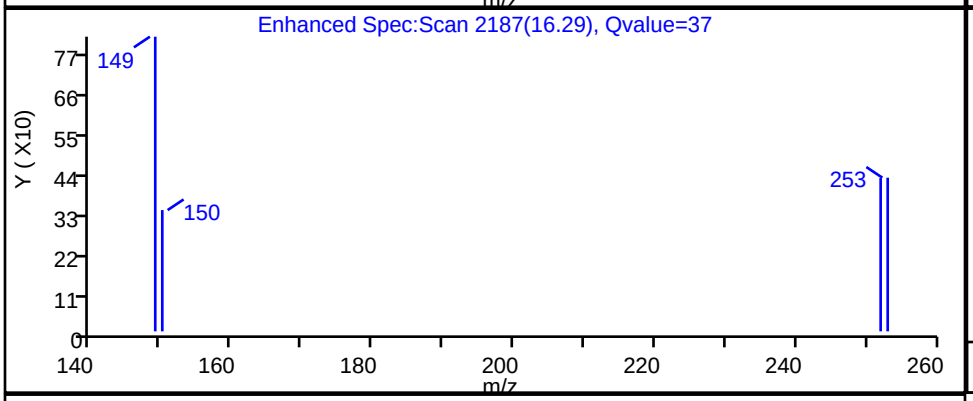
Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4430.D				
Injection Date:	30-Oct-2018 07:27:30	Instrument ID:	SMS_F		
Lims ID:	280-115950-H-5-A	Lab Sample ID:	280-115950-5		
Client ID:	RQLmw-008-181001-GW				
Operator ID:	WICKHAMM	ALS Bottle#:	23	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

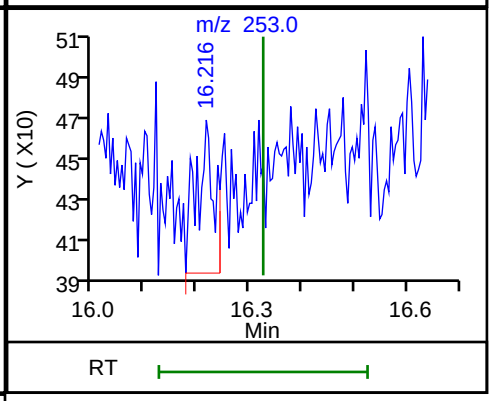
31 Benzo[k]fluoranthene, CAS: 207-08-9

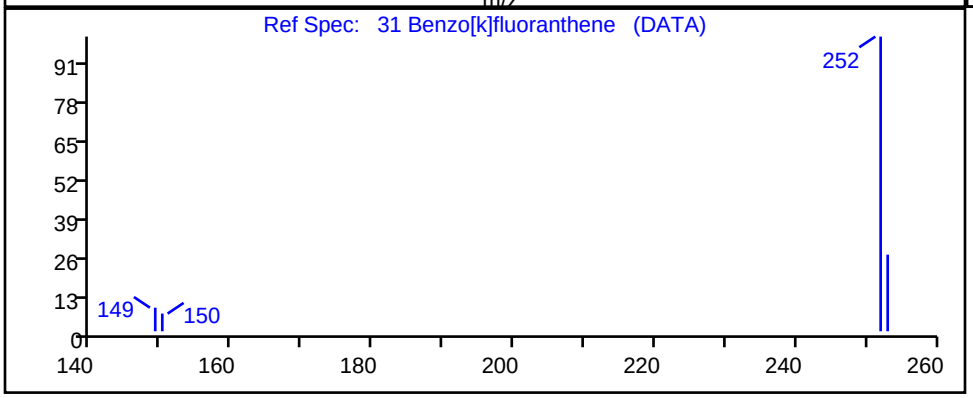
Processing Results











RT	Mass	Response	Amount
16.29	252.00	136	1.252336
16.22	253.00	156	

Reviewer: wickhamm, 30-Oct-2018 19:05:03

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 435404

SDG No.:

Instrument ID: SMS_F GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 16:02 Calibration End Date: 10/29/2018 20:00 Calibration ID: 34170

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0001 280-435404/4	F4399.D
Level 2	STD0002 280-435404/5	F4400.D
Level 3	STD0500 280-435404/6	F4401.D
Level 4	STD0100 280-435404/7	F4402.D
Level 5	STD0300 280-435404/8	F4403.D
Level 6	ICIS 280-435404/3	F4398.D
Level 7	STD1200 280-435404/9	F4404.D
Level 8	STD2500 280-435404/10	F4405.D
Level 9	STD5000 280-435404/11	F4406.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Naphthalene	2.1846 1.9317	2.1325 1.9242	1.9253 2.1369	2.0155 1.8473	1.9859	Ave		2.0093			0.7000	5.8		15.0			
2-Methylnaphthalene	1.4108 1.3067	1.4210 1.3357	1.2881 1.4942	1.3272 1.3101	1.3564	Ave		1.3611			0.4000	5.0		15.0			
1-Methylnaphthalene	1.2577 1.1758	1.3333 1.1903	1.1627 1.3407	1.1929 1.1799	1.2141	Ave		1.2275			0.0500	5.5		15.0			
Acenaphthylene	1.5393 1.4653	1.5290 1.5556	1.3767 1.8684	1.3803 1.7999	1.4370	Ave		1.5502			0.9000	11.2		15.0			
Acenaphthene	1.3971 1.2438	1.3888 1.2810	1.1957 1.4589	1.2847 1.2943	1.2982	Ave		1.3158			0.9000	6.3		15.0			
Fluorene	1.6924 1.4483	1.4532 1.5425	1.3833 1.8129	1.4356 1.5643	1.4878	Ave		1.5356			0.9000	9.0		15.0			
Phenanthrene	1.3869 1.1491	1.2554 1.1710	1.1148 1.3249	1.1521 1.2101	1.1765	Ave		1.2156			0.7000	7.4		15.0			
Anthracene	0.9752 0.8551	0.9151 0.9103	0.7843 1.1002	0.7672 1.0875	0.8217	Ave		0.9130			0.7000	13.4		15.0			
Fluoranthene	1.5024 1.2170	1.2737 1.2795	1.1208 1.5075	1.1335 1.3694	1.2213	Ave		1.2917			0.6000	11.0		15.0			
Pyrene	1.5440 1.1839	1.3828 1.2574	1.1509 1.4693	1.1557 1.3735	1.1972	Ave		1.3016			0.6000	11.2		15.0			
Benzo[a]anthracene	1.1454 0.9645	1.1393 0.9706	0.8939 1.1429	0.9025 1.0842	0.9172	Ave		1.0178			0.8000	10.7		15.0			
Chrysene	1.4073 1.2088	1.2828 1.2210	1.1494 1.3836	1.1879 1.2272	1.2189	Ave		1.2541			0.7000	7.0		15.0			
Benzo[b]fluoranthene	1.3643 1.1831	1.2519 1.1537	1.1198 1.3197	1.1430 1.1828	1.1485	Ave		1.2074			0.7000	7.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 435404

SDG No.:

Instrument ID: SMS_F GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 16:02 Calibration End Date: 10/29/2018 20:00 Calibration ID: 34170

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Benzo[k]fluoranthene	+++++ 1.1826	1.0702 1.2834	1.0247 1.4444	1.0510 1.3213	1.1054	Ave		1.1854			0.7000	12.7		15.0			
Benzo[a]pyrene	+++++ 0.9879	1.0406 0.9140	0.8863 1.1244	0.8696 +++++	0.8472	Ave		0.9529			0.7000	10.7		15.0			
Indeno[1,2,3-cd]pyrene	1.4047 1.2420	1.3985 1.1114	1.1114 1.2556	1.1980 1.1220	1.1497	Ave		1.2215			0.5000	9.4		15.0			
Dibenz(a,h)anthracene	1.3839 1.3169	1.3083 1.2157	1.1503 1.3642	1.2406 1.2331	1.2137	Ave		1.2696			0.4000	6.1		15.0			
Benzo[g,h,i]perylene	1.9573 1.5238	1.7220 1.3909	1.4009 1.5476	1.5399 1.3376	1.4976	Ave		1.5464			0.5000	12.3		15.0			
Nitrobenzene-d5	0.7546 0.6055	0.6363 0.5921	0.5726 0.6809	0.5763 0.6359	0.5769	Ave		0.6257				9.6		15.0			
2-methylnaphthalene-d10	1.1620 0.9878	1.1351 0.9900	0.9766 1.1155	1.0065 0.9769	1.0174	Ave		1.0408				7.2		15.0			
2-Fluorobiphenyl	1.6541 1.4461	1.6275 1.4470	1.4592 1.6605	1.4692 1.4496	1.4823	Ave		1.5217				6.3		15.0			
Fluoranthene-d10	1.0103 0.9642	0.9922 1.0026	0.9242 1.1650	0.9182 1.0836	0.9638	Ave		1.0027				7.8		15.0			
Terphenyl-d14	0.9129 0.8120	0.9193 0.8628	0.7922 1.0015	0.8063 0.9261	0.9437	Ave		0.8863				8.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 435404

SDG No.:

Instrument ID: SMS_F GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 16:02 Calibration End Date: 10/29/2018 20:00 Calibration ID: 34170

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0001 280-435404/4	F4399.D
Level 2	STD0002 280-435404/5	F4400.D
Level 3	STD0500 280-435404/6	F4401.D
Level 4	STD0100 280-435404/7	F4402.D
Level 5	STD0300 280-435404/8	F4403.D
Level 6	ICIS 280-435404/3	F4398.D
Level 7	STD1200 280-435404/9	F4404.D
Level 8	STD2500 280-435404/10	F4405.D
Level 9	STD5000 280-435404/11	F4406.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Naphthalene	ANT	Ave	799 48246	1689 129326	4085 208192	8519 448120	24560	10.0 600	20.0 1200	50.0 2500	100 5000	300
2-Methylnaphthalene	ANT	Ave	1032 65273	2251 179548	5466 291162	11219 635609	33550	20.0 1200	40.0 2400	100 5000	200 10000	600
1-Methylnaphthalene	ANT	Ave	460 29366	1056 79998	2467 130622	5042 286227	15015	10.0 600	20.0 1200	50.0 2500	100 5000	300
Acenaphthylene	ANT	Ave	563 36597	1211 104551	2921 182035	5834 436620	17771	10.0 600	20.0 1200	50.0 2500	100 5000	300
Acenaphthene	ANT	Ave	511 31066	1100 86093	2537 142141	5430 313964	16055	10.0 600	20.0 1200	50.0 2500	100 5000	300
Fluorene	ANT	Ave	619 36172	1151 103673	2935 176625	6068 379461	18400	10.0 600	20.0 1200	50.0 2500	100 5000	300
Phenanthrene	PHN	Ave	1068 60407	2118 172037	5059 284570	10412 611829	31665	10.0 600	20.0 1200	50.0 2500	100 5000	300
Anthracene	PHN	Ave	751 44949	1544 133735	3559 236321	6933 549841	22115	10.0 600	20.0 1200	50.0 2500	100 5000	300
Fluoranthene	PHN	Ave	1157 63976	2149 187968	5086 323789	10244 692368	32871	10.0 600	20.0 1200	50.0 2500	100 5000	300
Pyrene	PHN	Ave	1189 62237	2333 184722	5223 315592	10444 694454	32223	10.0 600	20.0 1200	50.0 2500	100 5000	300
Benzo[a]anthracene	CRY	Ave	879 50852	1881 152521	3978 267604	7777 612573	24476	10.0 600	20.0 1200	50.0 2500	100 5000	300
Chrysene	CRY	Ave	1080 63737	2118 191863	5115 323973	10237 693366	32528	10.0 600	20.0 1200	50.0 2500	100 5000	300
Benzo[b]fluoranthene	CRY	Ave	1047 62382	2067 181300	4983 309018	9850 668265	30648	10.0 600	20.0 1200	50.0 2500	100 5000	300
Benzo[k]fluoranthene	CRY	Ave	+++++ 62355	1767 201669	4560 338217	9057 746517	29499	+++++ 600	20.0 1200	50.0 2500	100 5000	300

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 435404

SDG No.:

Instrument ID: SMS_F GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/29/2018 16:02 Calibration End Date: 10/29/2018 20:00 Calibration ID: 34170

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Benzo[a]pyrene	CRY	Ave	+++++ 52087	1718 143629	3944 263293	7494 +++++	22609	+++++ 600	20.0 1200	50.0 2500	100 +++++	300
Indeno[1,2,3-cd]pyrene	CRY	Ave	1078 65485	2309 174647	4946 294007	10324 633911	30679	10.0 600	20.0 1200	50.0 2500	100 5000	300
Dibenz(a,h)anthracene	CRY	Ave	1062 69433	2160 191031	5119 319437	10691 696717	32389	10.0 600	20.0 1200	50.0 2500	100 5000	300
Benzo[g,h,i]perylene	CRY	Ave	1502 80345	2843 218564	6234 362369	13270 755750	39963	10.0 600	20.0 1200	50.0 2500	100 5000	300
Nitrobenzene-d5	ANT	Ave	276 15122	504 39792	1215 66335	2436 154261	7134	10.0 600	20.0 1200	50.0 2500	100 5000	300
2-methylnaphthalene-d10	ANT	Ave	425 24672	899 66535	2072 108683	4254 236976	12582	10.0 600	20.0 1200	50.0 2500	100 5000	300
2-Fluorobiphenyl	ANT	Ave	605 36119	1289 97251	3096 161780	6210 351658	18332	10.0 600	20.0 1200	50.0 2500	100 5000	300
Fluoranthene-d10	PHN	Ave	778 50686	1674 147296	4194 250239	8298 547857	25942	10.0 600	20.0 1200	50.0 2500	100 5000	300
Terphenyl-d14	PHN	Ave	703 42687	1551 126747	3595 215115	7287 468240	25400	10.0 600	20.0 1200	50.0 2500	100 5000	300

Curve Type Legend:
Ave = Average ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4398.D
Lims ID: icis
Client ID:
Sample Type: ICIS Calib Level: 6
Inject. Date: 29-Oct-2018 16:02:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: icis
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:24 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 18:55:26

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	82	24976	600.0	600.0	
* 2 Phenanthrene-d10	188	9.214	9.214	0.000	97	52568	600.0	600.0	
* 3 Chrysene-d12	240	13.376	13.376	0.000	98	52726	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	100	15122	600.0	580.6	
$ 5 2-Fluorobiphenyl	172	7.026	7.026	0.000	99	36119	600.0	570.2	
$ 6 Terphenyl-d14	244	11.211	11.211	0.000	98	42687	600.0	549.7	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.557	2.557	0.000	44	11236	600.0	585.3	
10 Naphthalene	128	5.985	5.985	0.000	100	48246	600.0	576.8	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	96	65273	1200.0	1152.0	
12 1-Methylnaphthalene	142	6.769	6.769	0.000	92	29366	600.0	574.7	
13 Dimethyl phthalate	163	7.419	7.419	0.000	1	55965	1200.0	1143.2	
14 Acenaphthylene	152	7.574	7.574	0.000	98	36597	600.0	567.2	
15 Acenaphthene	153	7.747	7.747	0.000	100	31066	600.0	567.2	
16 Dibenzofuran	168	7.915	7.915	0.000	98	46652	600.6	564.6	
17 Diethyl phthalate	149	8.118	8.118	0.000	97	50922	1204.8	1067.7	
18 Fluorene	166	8.264	8.264	0.000	100	36172	600.0	565.9	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	100	23094	600.0	590.5	
20 Phenanthrene	178	9.232	9.232	0.000	100	60407	600.0	567.2	
21 Anthracene	178	9.284	9.284	0.000	1	44949	600.0	562.0	
22 Di-n-butyl phthalate	149	9.785	9.785	0.000	1	64945	1200.0	1220.7	
23 Fluoranthene	202	10.641	10.641	0.000	100	63976	600.0	565.3	
24 Pyrene	202	10.987	10.987	0.000	100	62237	600.0	545.7	
25 Butyl benzyl phthalate	149	10.987	10.987	0.000	1	531	1200.0	0	
26 Benzo[a]anthracene	228	13.358	13.358	0.000	50	50852	600.0	568.5	
27 Chrysene	228	13.439	13.439	0.000	95	63737	600.0	578.3	
28 Bis(2-ethylhexyl) phthalat	149	12.115	12.115	0.000	1	22182	1200.0	1165.6	
29 Di-n-octyl phthalate	149	15.332	15.332	0.000	1	42928	1200.0	1273.1	
30 Benzo[b]fluoranthene	252	16.268	16.268	0.000	99	62382	600.0	587.9	
31 Benzo[k]fluoranthene	252	16.347	16.347	0.000	99	62355	600.0	598.6	
32 Benzo[a]pyrene	252	17.213	17.213	0.000	98	52087	600.0	622.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.529	20.529	0.000	91	65485	600.0	610.1	
34 Dibenz(a,h)anthracene	278	20.616	20.616	0.000	84	69433	600.0	622.3	
35 Benzo[g,h,i]perylene	276	21.272	21.272	0.000	94	80345	600.0	591.2	
$ 53 2-methylnaphthalene-d10	152	6.633	6.633	0.000	96	24672	600.0	569.4	
$ 54 Fluoranthene-d10	212	10.615	10.615	0.000	98	50686	600.0	577.0	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

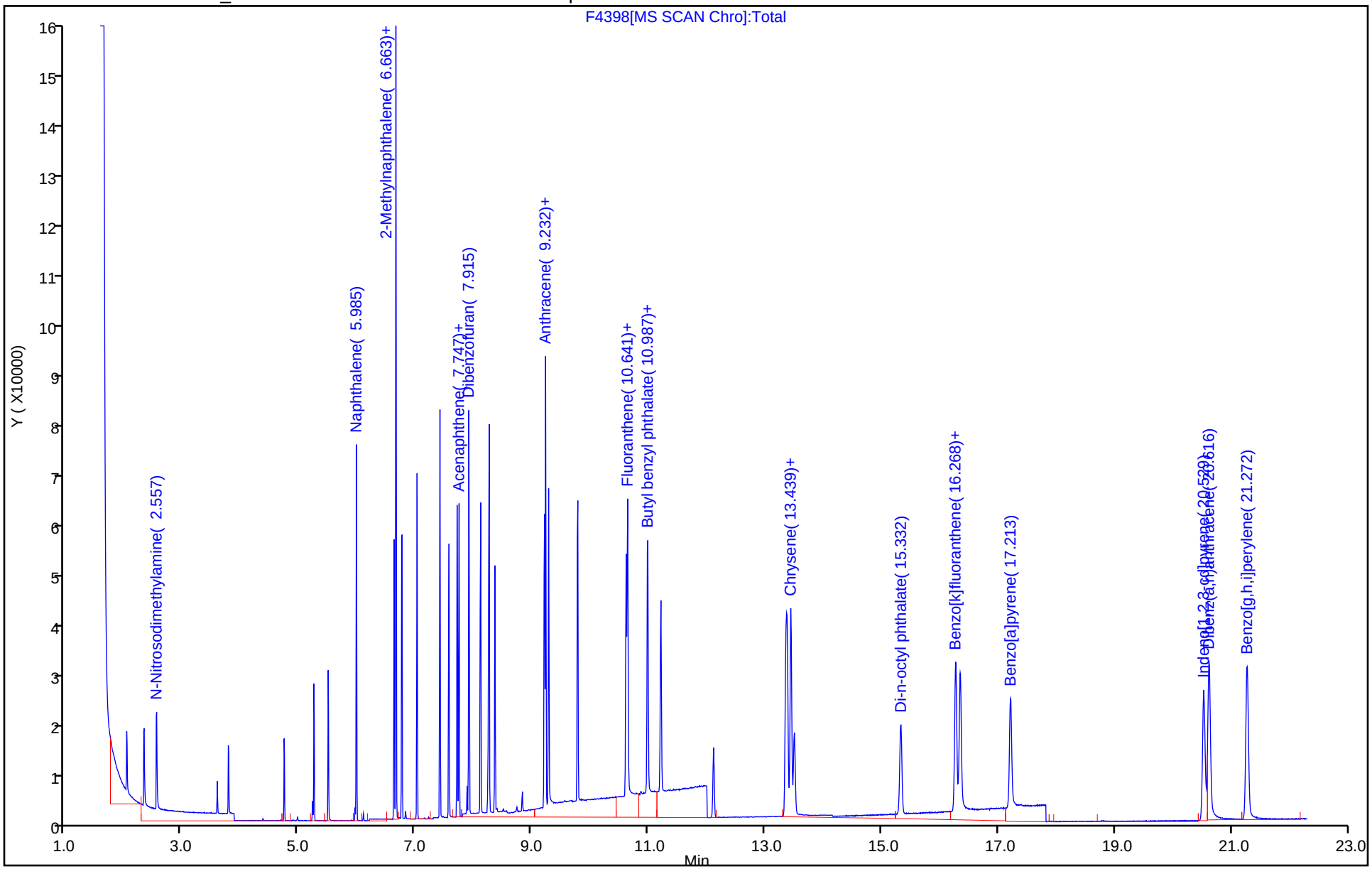
MS-SIMSL 0.6_00144 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:25 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4398.D

Injection Date:	29-Oct-2018 16:02:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	icis			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Report Date: 29-Oct-2018 21:58:29 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D
Lims ID: STD0001
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Oct-2018 16:32:30 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std0001
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:28 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 19:09:35

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	90	21945	600.0	600.0	M
* 2 Phenanthrene-d10	188	9.206	9.214	-0.008	99	46205	600.0	600.0	
* 3 Chrysene-d12	240	13.367	13.376	-0.009	91	46044	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	85	276	10.0	12.1	Ma
$ 5 2-Fluorobiphenyl	172	7.026	7.026	0.000	91	605	10.0	10.9	a
$ 6 Terphenyl-d14	244	11.203	11.211	-0.008	24	703	10.0	10.3	a
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.564	2.557	0.007	15	266	10.0	15.8	
10 Naphthalene	128	5.985	5.985	0.000	95	799	10.0	10.9	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	97	1032	20.0	20.7	
12 1-Methylnaphthalene	142	6.761	6.769	-0.008	96	460	10.0	10.2	Ma
13 Dimethyl phthalate	163	7.419	7.419	0.000	1	896	20.0	20.8	
14 Acenaphthylene	152	7.566	7.574	-0.008	86	563	10.0	9.93	
15 Acenaphthene	153	7.739	7.747	-0.008	75	511	10.0	10.6	
16 Dibenzofuran	168	7.915	7.915	0.000	94	812	10.0	11.2	
17 Diethyl phthalate	149	8.109	8.118	-0.009	98	1420	20.1	33.9	
18 Fluorene	166	8.264	8.264	0.000	90	619	10.0	11.0	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	82	396	10.0	11.5	Ma
20 Phenanthrene	178	9.232	9.232	0.000	75	1068	10.0	11.4	
21 Anthracene	178	9.284	9.284	0.000	1	751	10.0	10.7	
22 Di-n-butyl phthalate	149	9.776	9.785	-0.009	1	974	20.0	24.8	
23 Fluoranthene	202	10.632	10.641	-0.009	33	1157	10.0	11.6	
24 Pyrene	202	10.978	10.987	-0.009	30	1189	10.0	11.9	
25 Butyl benzyl phthalate	149		10.987				ND	ND	
26 Benzo[a]anthracene	228	13.349	13.358	-0.009	74	879	10.0	11.3	
27 Chrysene	228	13.430	13.439	-0.009	71	1080	10.0	11.2	
28 Bis(2-ethylhexyl) phthalat	149		12.115				ND	ND	
29 Di-n-octyl phthalate	149		15.332				ND	ND	U
30 Benzo[b]fluoranthene	252	16.255	16.268	-0.013	49	1047	10.0	11.3	
31 Benzo[k]fluoranthene	252		16.347				ND	ND	MU
32 Benzo[a]pyrene	252	17.195	17.213	-0.018	41	812	10.0	11.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.520	20.529	-0.009	70	1078	10.0	11.5	M
34 Dibenz(a,h)anthracene	278	20.599	20.616	-0.017	78	1062	10.0	10.9	
35 Benzo[g,h,i]perylene	276	21.255	21.272	-0.017	72	1502	10.0	12.7	
$ 53 2-methylnaphthalene-d10	152	6.633	6.633	0.001	96	425	10.0	11.2	
$ 54 Fluoranthene-d10	212	10.606	10.615	-0.009	0	778	10.0	10.1	M

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Reagents:

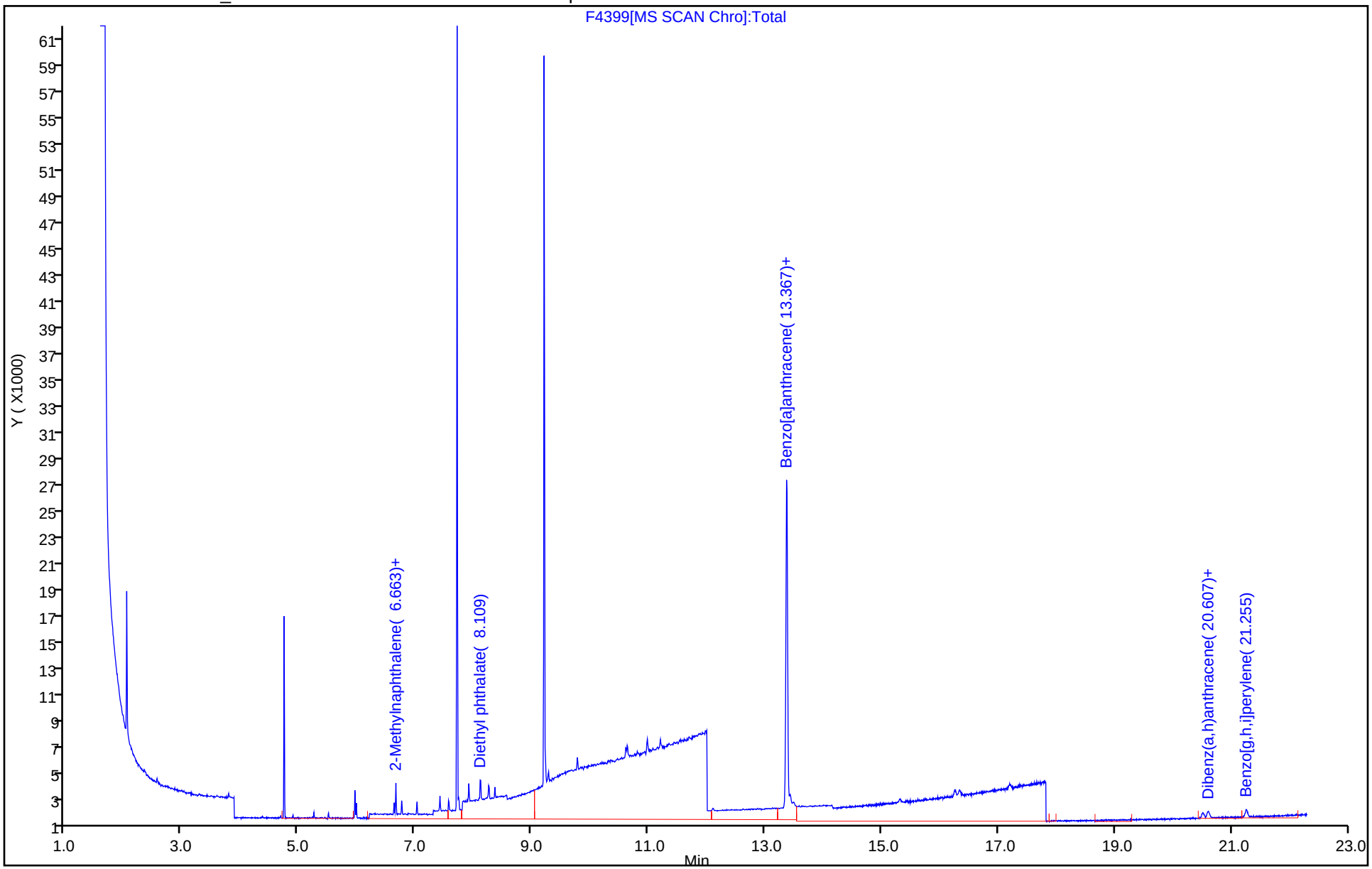
MS-SIMSL 0.01_00005 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:29 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D

Injection Date:	29-Oct-2018 16:32:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD0001			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Manual Integration/User Assign Peak Report

TestAmerica Denver

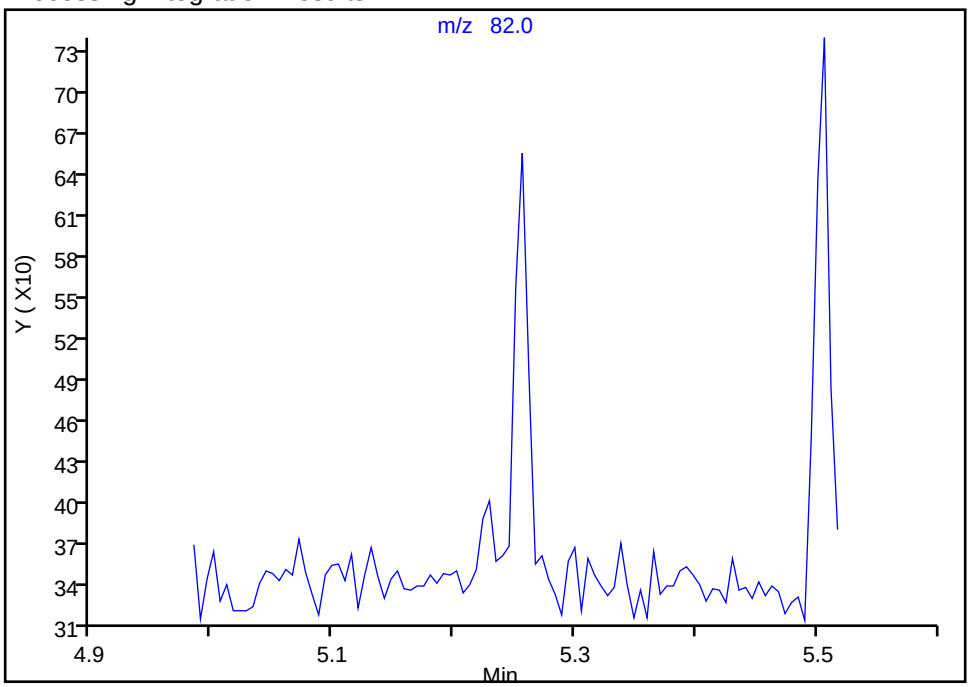
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D
Injection Date: 29-Oct-2018 16:32:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 4 Nitrobenzene-d5, CAS: 4165-60-0

Signal: 1

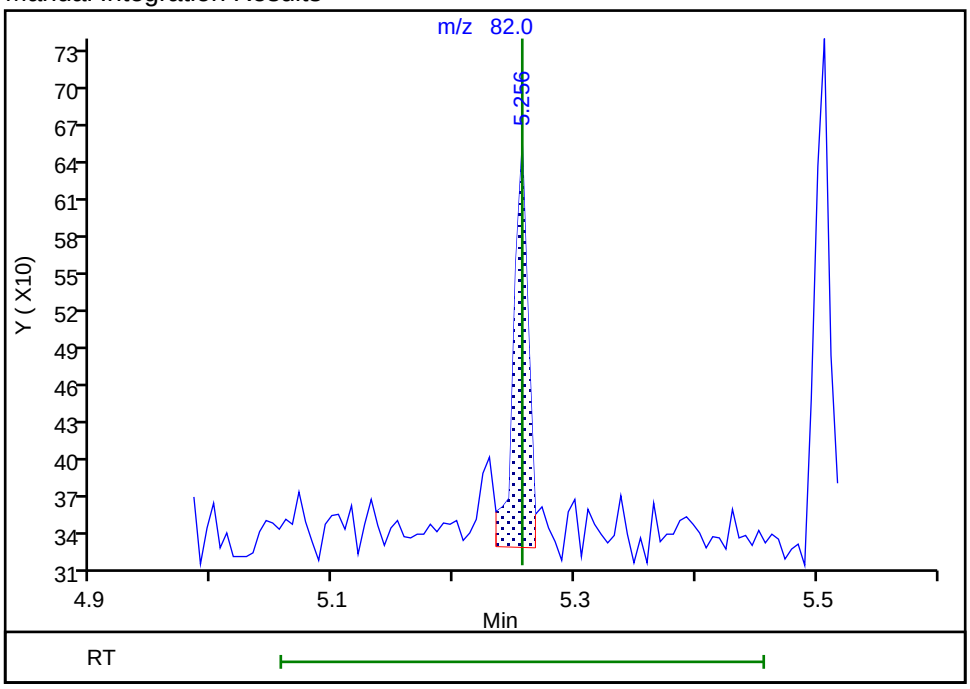
Not Detected
Expected RT: 5.26

Processing Integration Results



Manual Integration Results

RT: 5.26
Area: 276
Amount: 12.060809
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:07:52
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

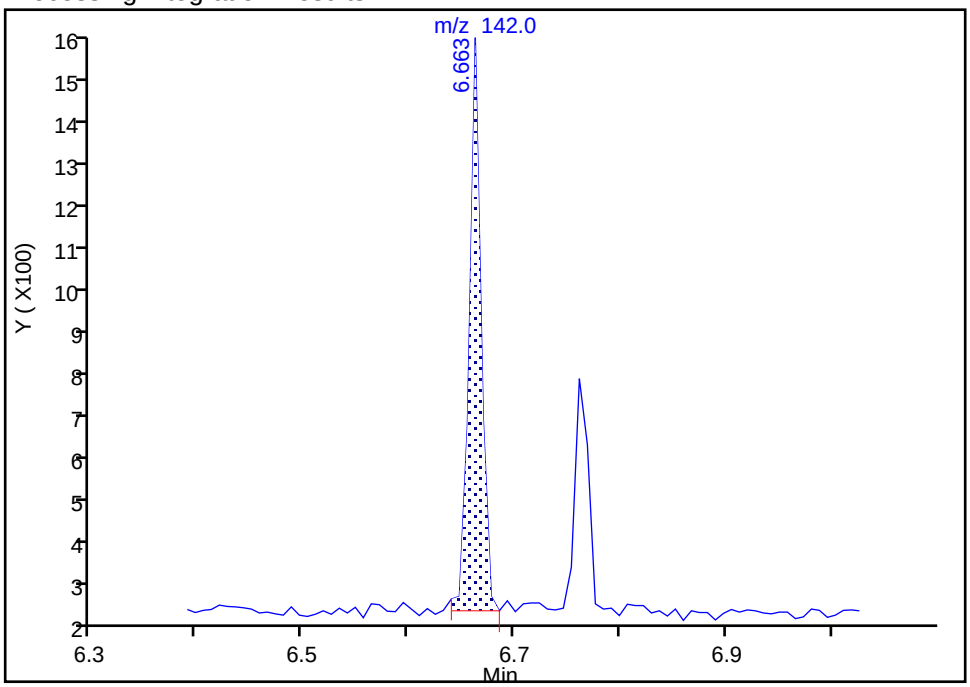
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D
Injection Date: 29-Oct-2018 16:32:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

12 1-Methylnaphthalene, CAS: 90-12-0

Signal: 1

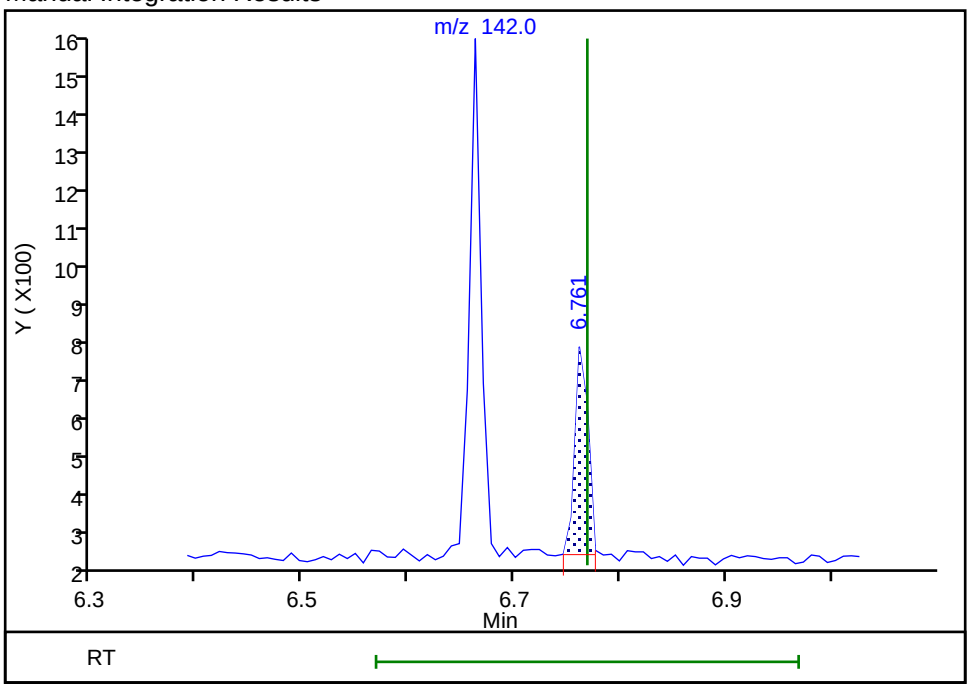
Processing Integration Results

RT: 6.66
Area: 1032
Amount: 14.920564
Amount Units: ng/ml



Manual Integration Results

RT: 6.76
Area: 460
Amount: 10.246089
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:08:12
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

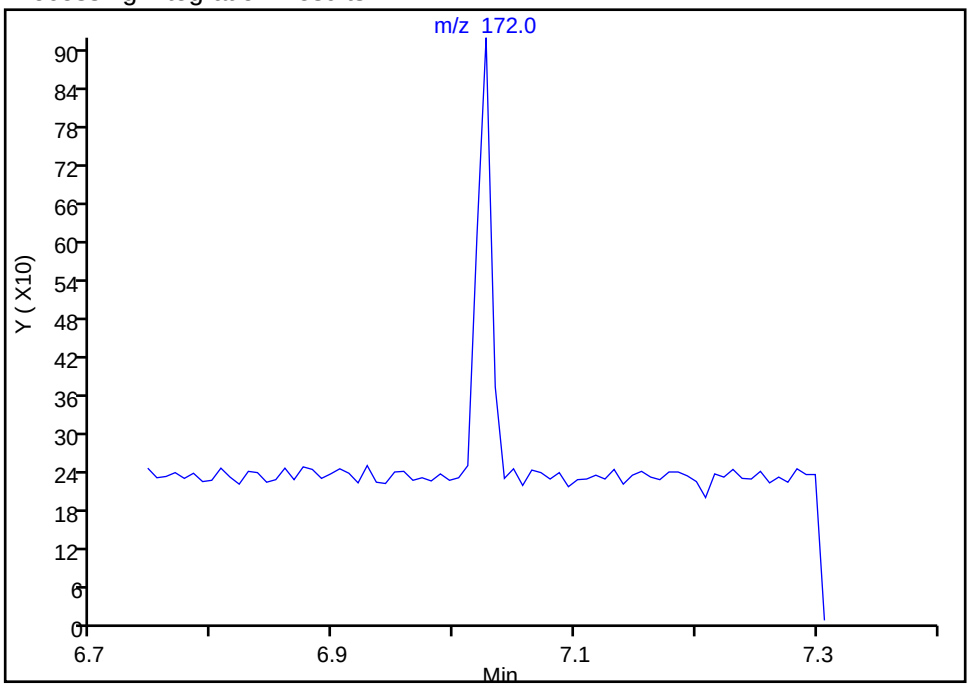
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D
Injection Date: 29-Oct-2018 16:32:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 5 2-Fluorobiphenyl, CAS: 321-60-8

Signal: 1

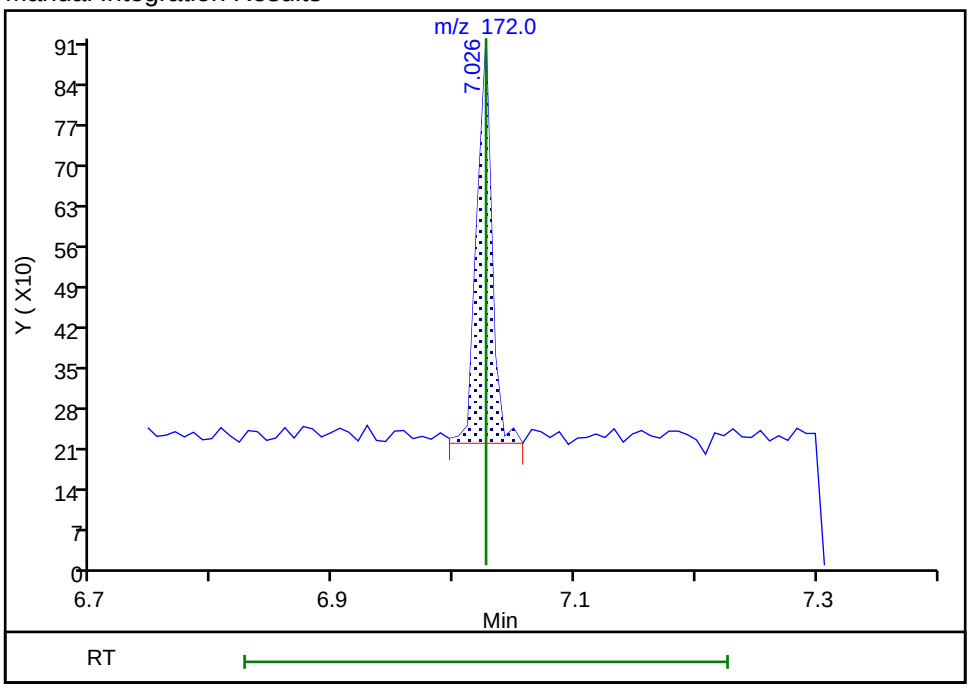
Not Detected
Expected RT: 7.03

Processing Integration Results



Manual Integration Results

RT: 7.03
Area: 605
Amount: 10.870084
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:07:57
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

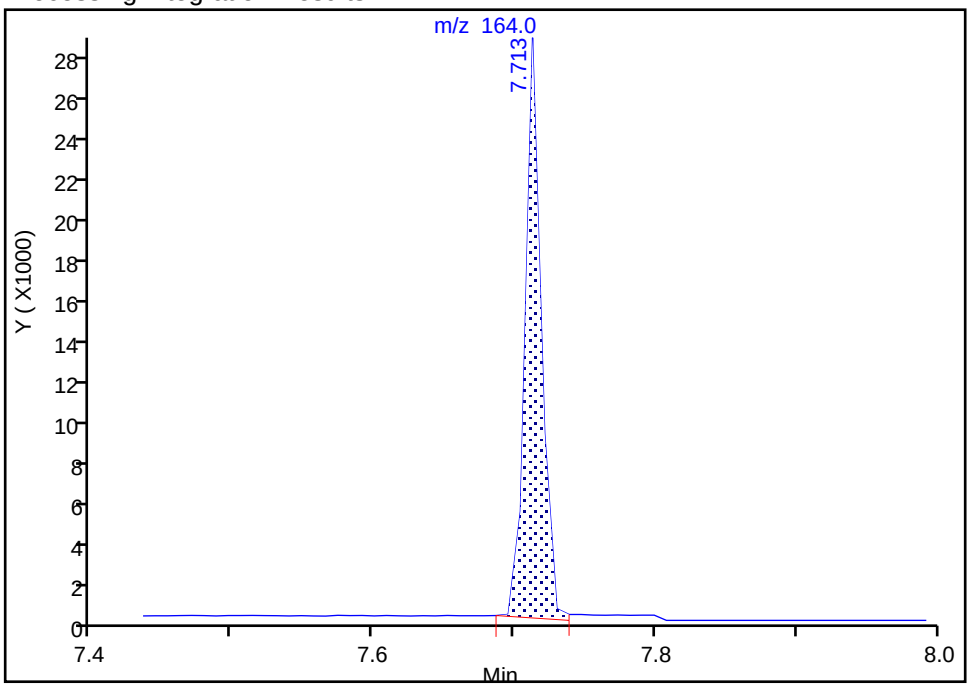
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D
Injection Date: 29-Oct-2018 16:32:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

* 1 Acenaphthene-d10, CAS: 15067-26-2

Signal: 1

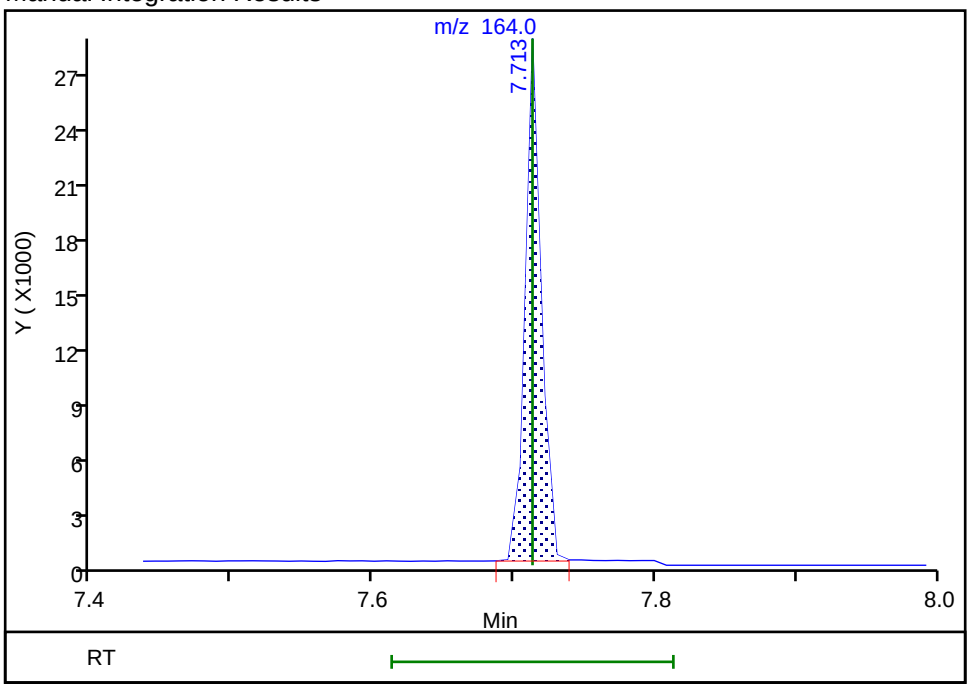
Processing Integration Results

RT: 7.71
Area: 22335
Amount: 600.0000
Amount Units: ng/ml



Manual Integration Results

RT: 7.71
Area: 21945
Amount: 600.0000
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:07:30
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

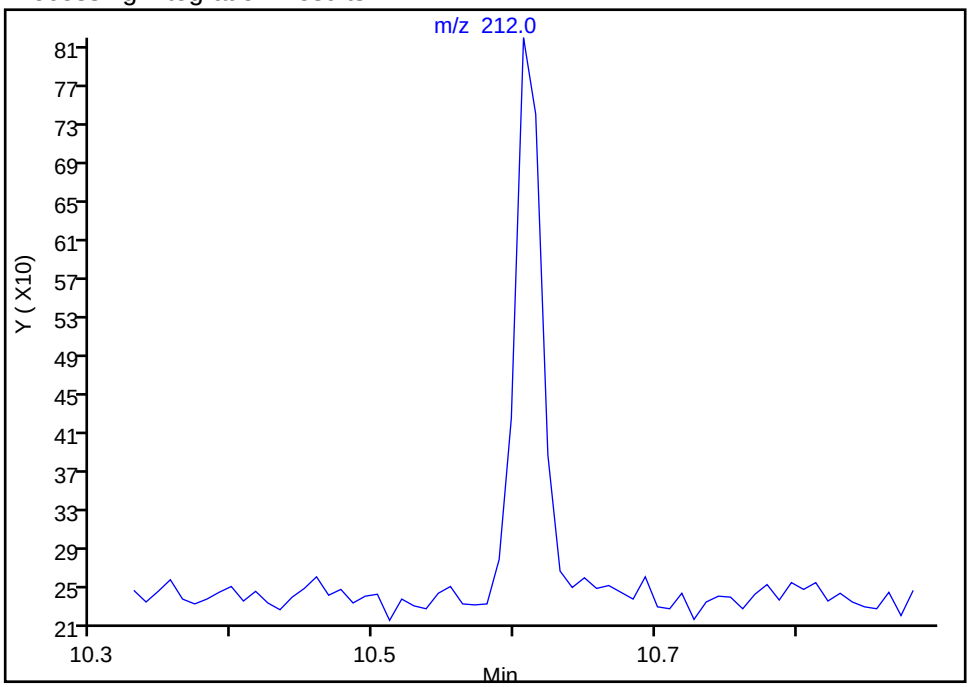
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D
Injection Date: 29-Oct-2018 16:32:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 54 Fluoranthene-d10, CAS: 93951-69-0

Signal: 1

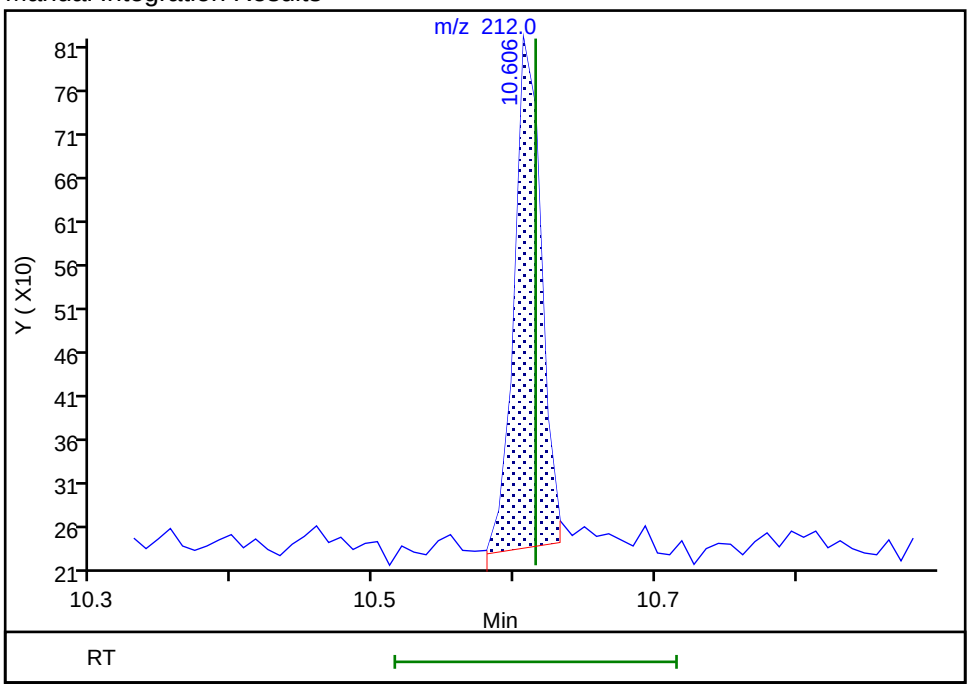
Not Detected
Expected RT: 10.61

Processing Integration Results



Manual Integration Results

RT: 10.61
Area: 778
Amount: 10.075750
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:09:31
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

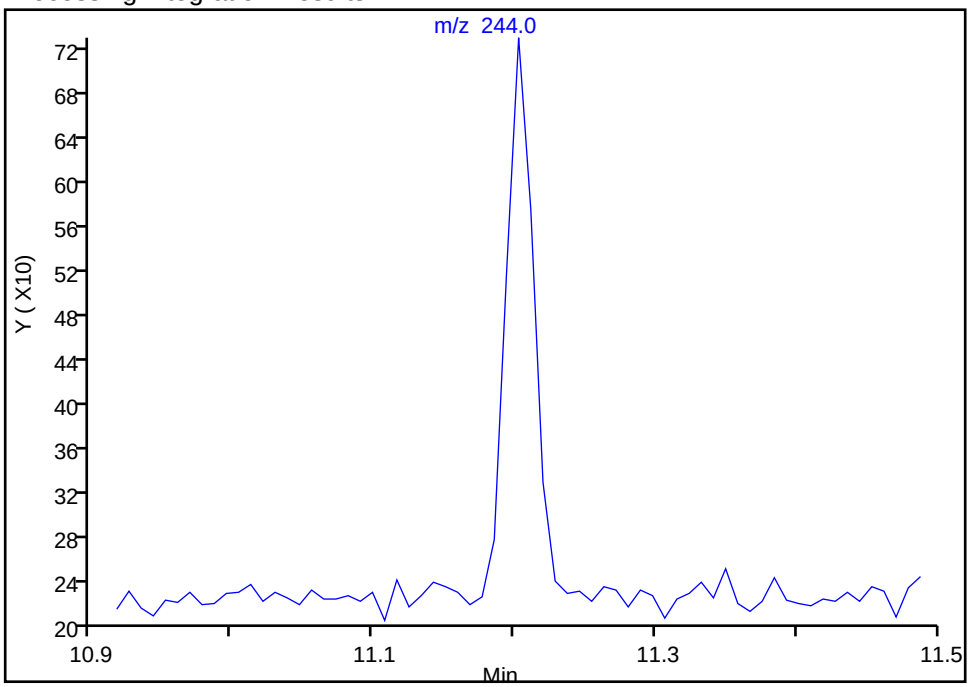
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D
Injection Date: 29-Oct-2018 16:32:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 6 Terphenyl-d14, CAS: 1718-51-0

Signal: 1

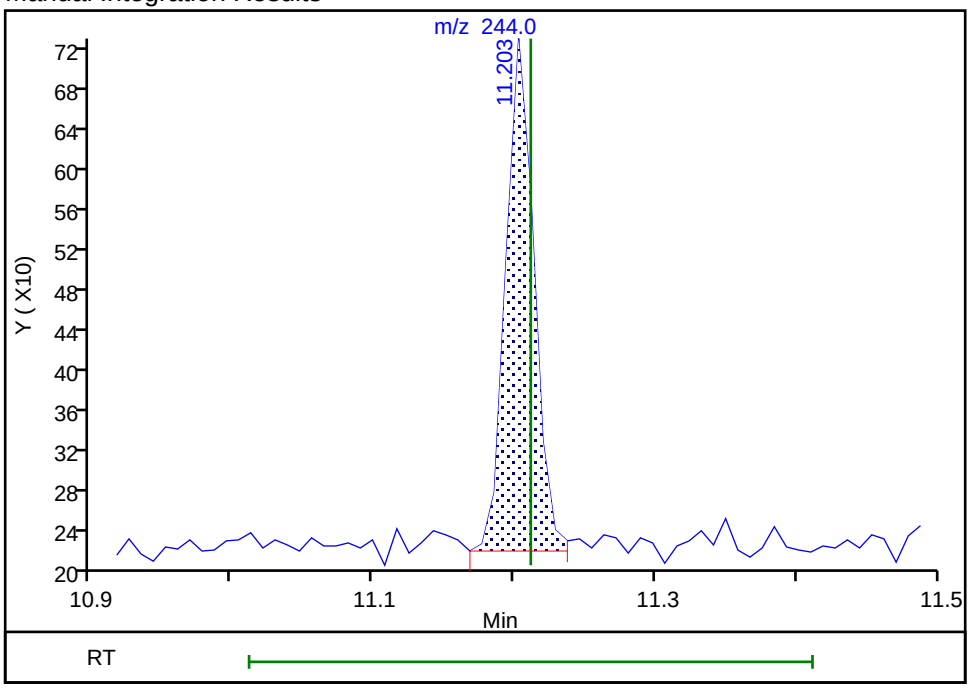
Not Detected
Expected RT: 11.21

Processing Integration Results



Manual Integration Results

RT: 11.20
Area: 703
Amount: 10.299826
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:08:01
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Denver

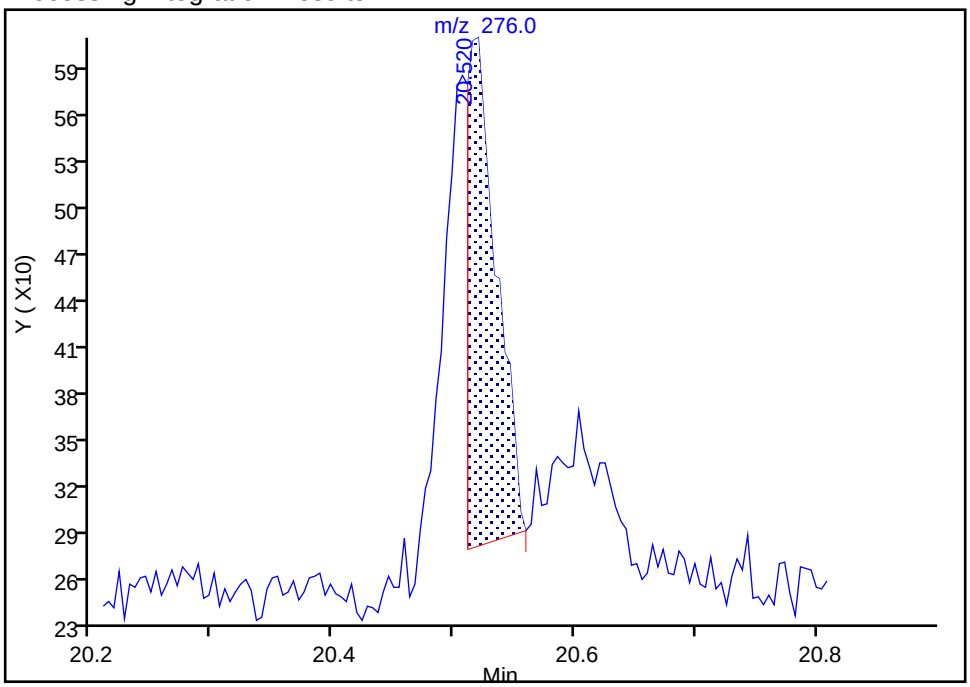
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D
Injection Date: 29-Oct-2018 16:32:30 Instrument ID: SMS_F
Lims ID: STD0001
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

33 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

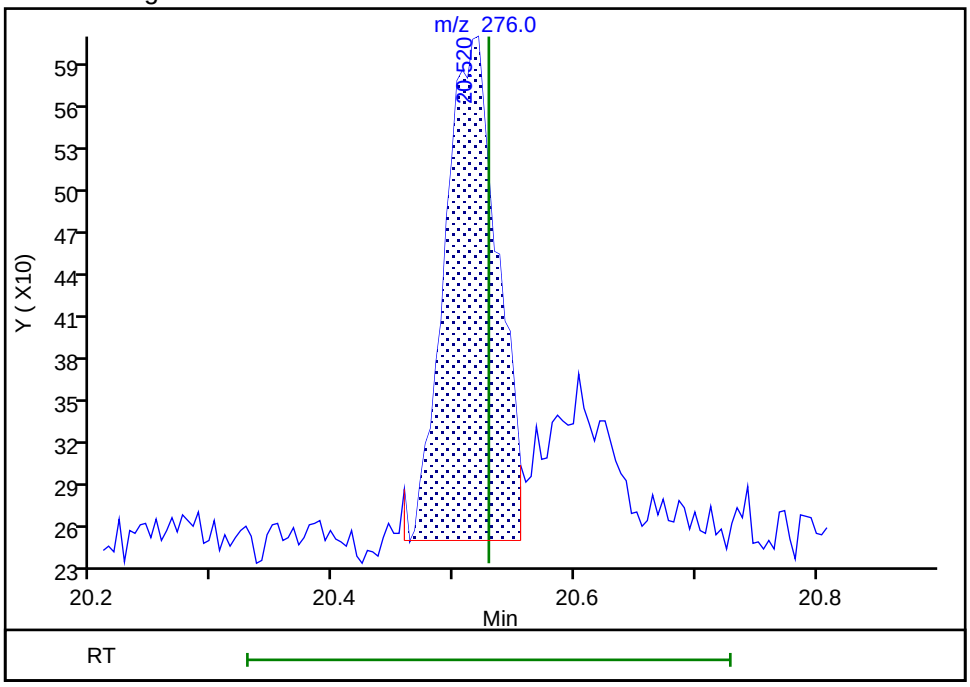
Processing Integration Results

RT: 20.52
Area: 543
Amount: 11.679407
Amount Units: ng/ml



Manual Integration Results

RT: 20.52
Area: 1078
Amount: 11.500284
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:09:10
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

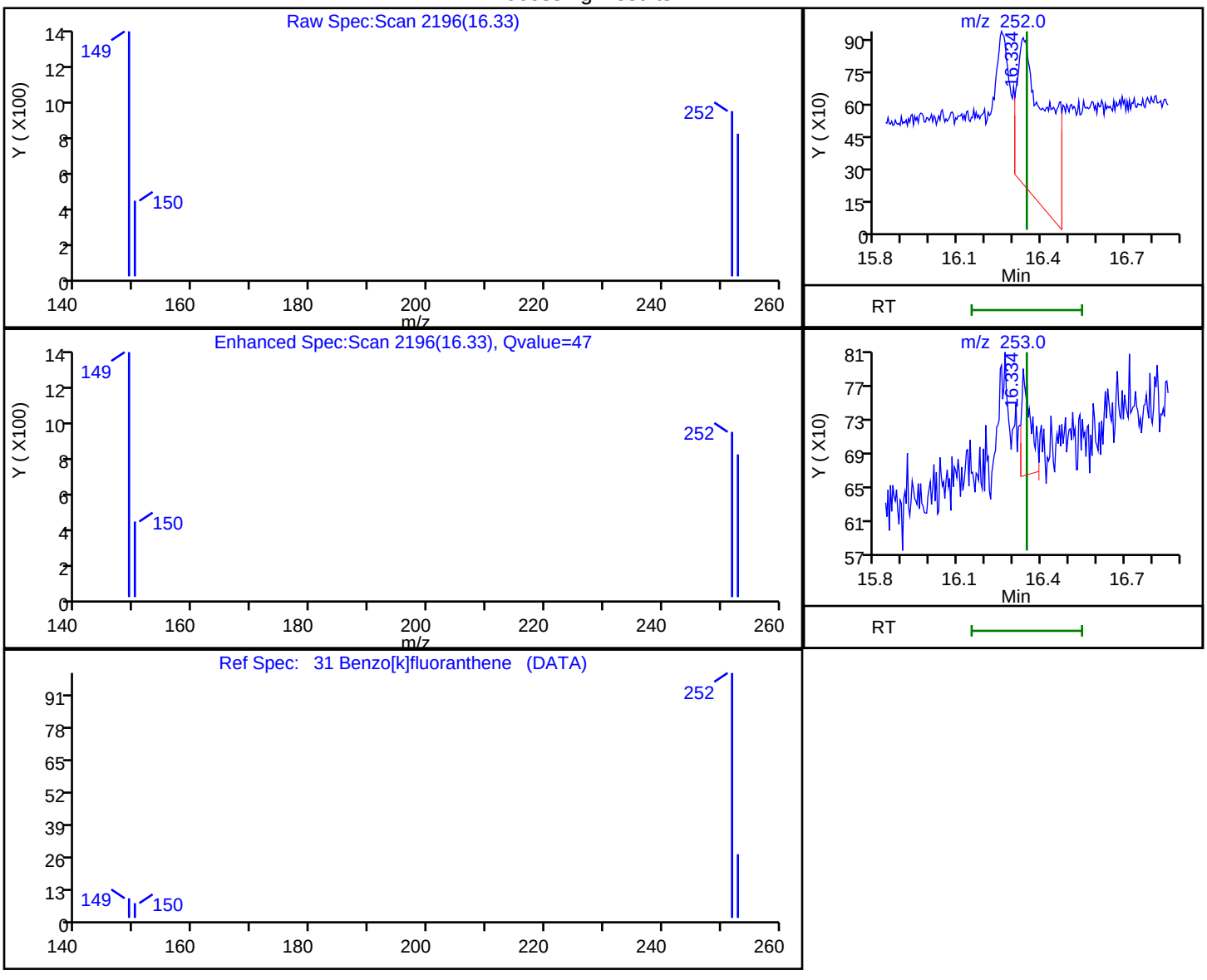
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4399.D				
Injection Date:	29-Oct-2018 16:32:30	Instrument ID:	SMS_F		
Lims ID:	STD0001				
Client ID:					
Operator ID:	WICKHAMM	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

31 Benzo[k]fluoranthene, CAS: 207-08-9

Processing Results



RT	Mass	Response	Amount
16.33	252.00	5536	31.733538
16.33	253.00	276	

Reviewer: wickhamm, 29-Oct-2018 19:09:02

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D
Lims ID: STD0002
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 29-Oct-2018 17:02:30 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std0002
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:32 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 21:53:19

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	-0.001	89	23761	600.0	600.0	M
* 2 Phenanthrene-d10	188	9.206	9.214	-0.008	99	50615	600.0	600.0	
* 3 Chrysene-d12	240	13.376	13.376	0.000	90	49531	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	91	504	20.0	20.3	a
$ 5 2-Fluorobiphenyl	172	7.026	7.026	0.000	97	1289	20.0	21.4	a
$ 6 Terphenyl-d14	244	11.203	11.211	-0.008	34	1551	20.0	20.7	a
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.563	2.557	0.006	17	404	20.0	22.1	
10 Naphthalene	128	5.985	5.985	0.000	98	1689	20.0	21.2	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	100	2251	40.0	41.8	
12 1-Methylnaphthalene	142	6.761	6.769	-0.008	97	1056	20.0	21.7	
13 Dimethyl phthalate	163	7.419	7.419	0.000	1	1815	40.0	39.0	
14 Acenaphthylene	152	7.566	7.574	-0.008	93	1211	20.0	19.7	
15 Acenaphthene	153	7.747	7.747	0.000	92	1100	20.0	21.1	M
16 Dibenzofuran	168	7.914	7.915	-0.001	96	1669	20.0	21.2	
17 Diethyl phthalate	149	8.109	8.118	-0.009	98	2364	40.2	52.1	
18 Fluorene	166	8.264	8.264	0.000	94	1151	20.0	18.9	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	92	767	20.0	20.4	
20 Phenanthrene	178	9.232	9.232	0.000	93	2118	20.0	20.7	
21 Anthracene	178	9.283	9.284	-0.001	1	1544	20.0	20.0	
22 Di-n-butyl phthalate	149	9.776	9.785	-0.009	1	2026	40.0	46.5	
23 Fluoranthene	202	10.632	10.641	-0.009	50	2149	20.0	19.7	
24 Pyrene	202	10.978	10.987	-0.009	50	2333	20.0	21.2	
25 Butyl benzyl phthalate	149		10.987				ND	ND	
26 Benzo[a]anthracene	228	13.349	13.358	-0.009	77	1881	20.0	22.4	
27 Chrysene	228	13.430	13.439	-0.009	84	2118	20.0	20.5	
28 Bis(2-ethylhexyl) phthalat	149	12.106	12.115	-0.009	1	723	40.0	39.5	
29 Di-n-octyl phthalate	149		15.332				ND	ND	U
30 Benzo[b]fluoranthene	252	16.259	16.268	-0.009	72	2067	20.0	20.7	
31 Benzo[k]fluoranthene	252	16.338	16.347	-0.009	66	1767	20.0	18.1	M
32 Benzo[a]pyrene	252	17.195	17.213	-0.018	51	1718	20.0	21.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.511	20.529	-0.018	84	2309	20.0	22.9	M
34 Dibenz(a,h)anthracene	278	20.607	20.616	-0.009	93	2160	20.0	20.6	
35 Benzo[g,h,i]perylene	276	21.259	21.272	-0.013	86	2843	20.0	22.3	
$ 53 2-methylnaphthalene-d10	152	6.632	6.633	0.000	98	899	20.0	21.8	
$ 54 Fluoranthene-d10	212	10.615	10.615	0.000	21	1674	20.0	19.8	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Reagents:

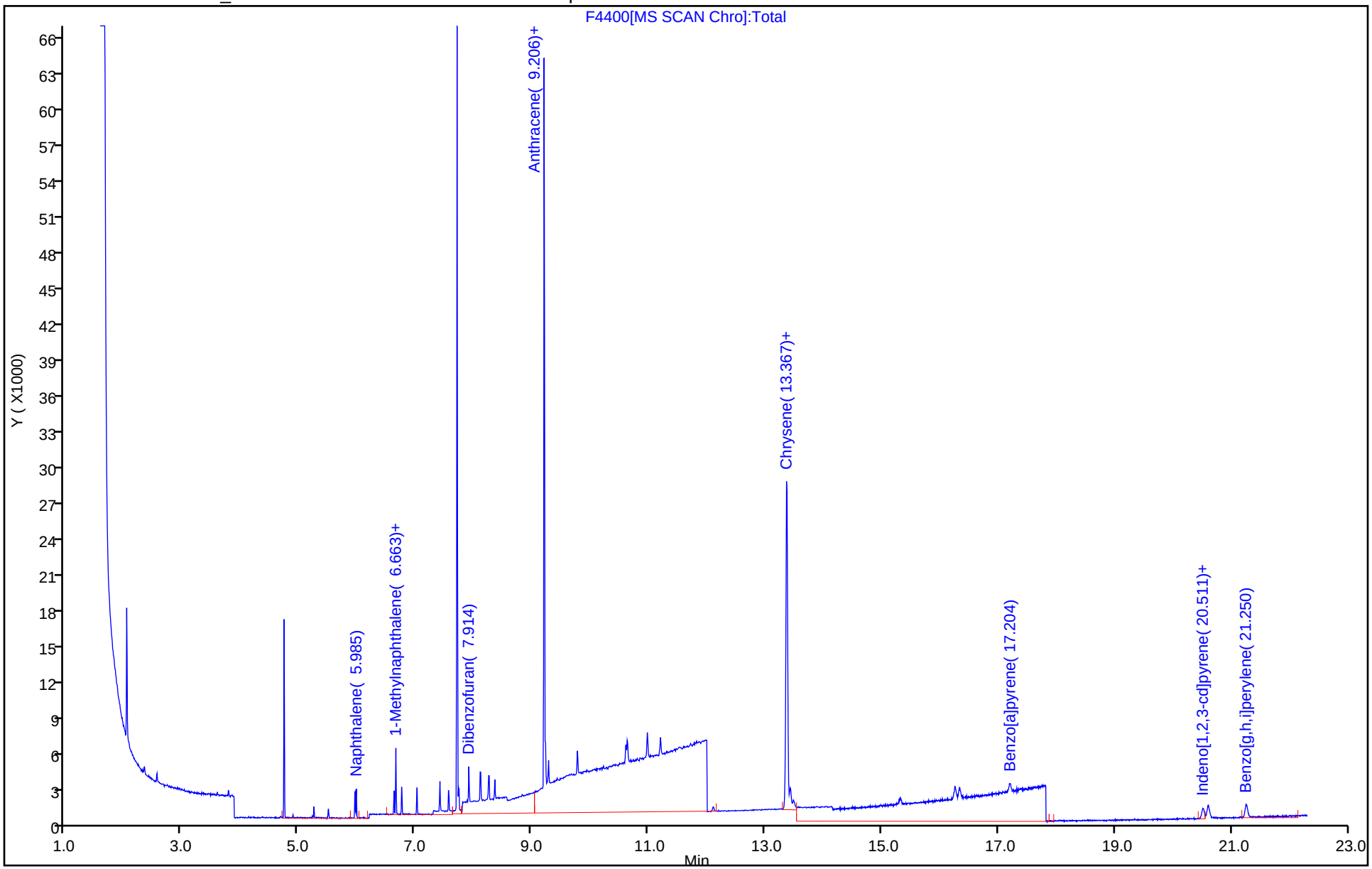
MS-SIMSL 0.02_00079 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:32 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D

Injection Date:	29-Oct-2018 17:02:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD0002			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Manual Integration/User Assign Peak Report

TestAmerica Denver

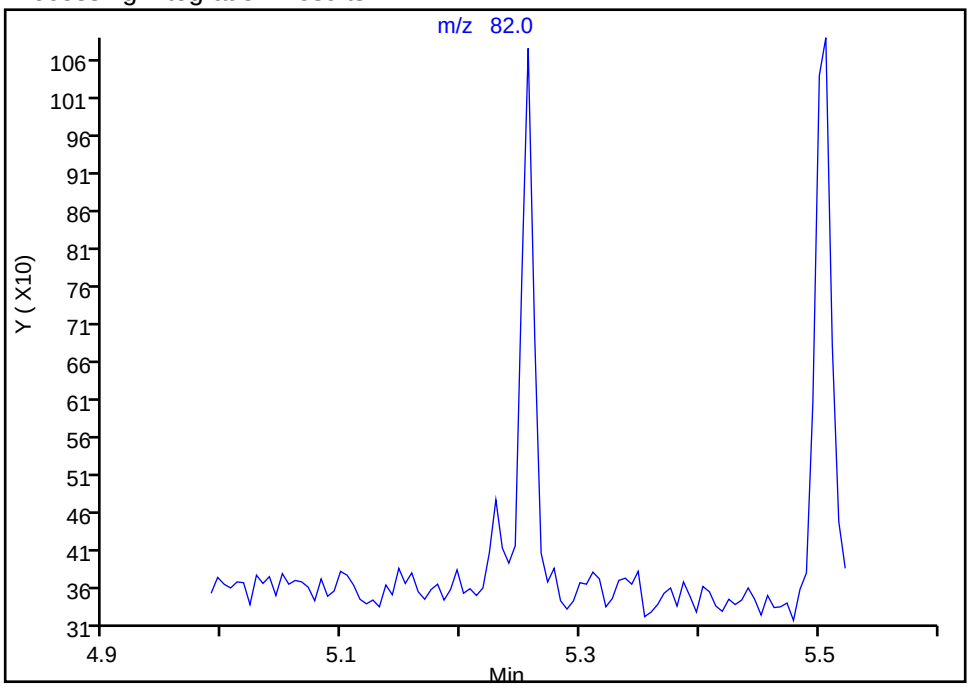
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D
Injection Date: 29-Oct-2018 17:02:30 Instrument ID: SMS_F
Lims ID: STD0002
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 4 Nitrobenzene-d5, CAS: 4165-60-0

Signal: 1

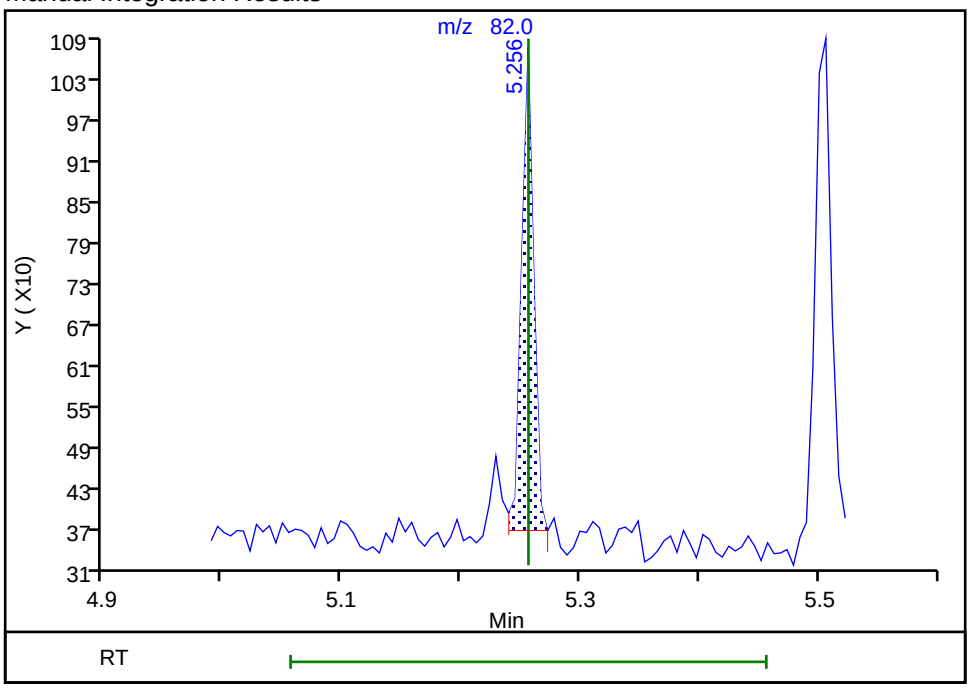
Not Detected
Expected RT: 5.26

Processing Integration Results



Manual Integration Results

RT: 5.26
Area: 504
Amount: 20.340835
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:10:03
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

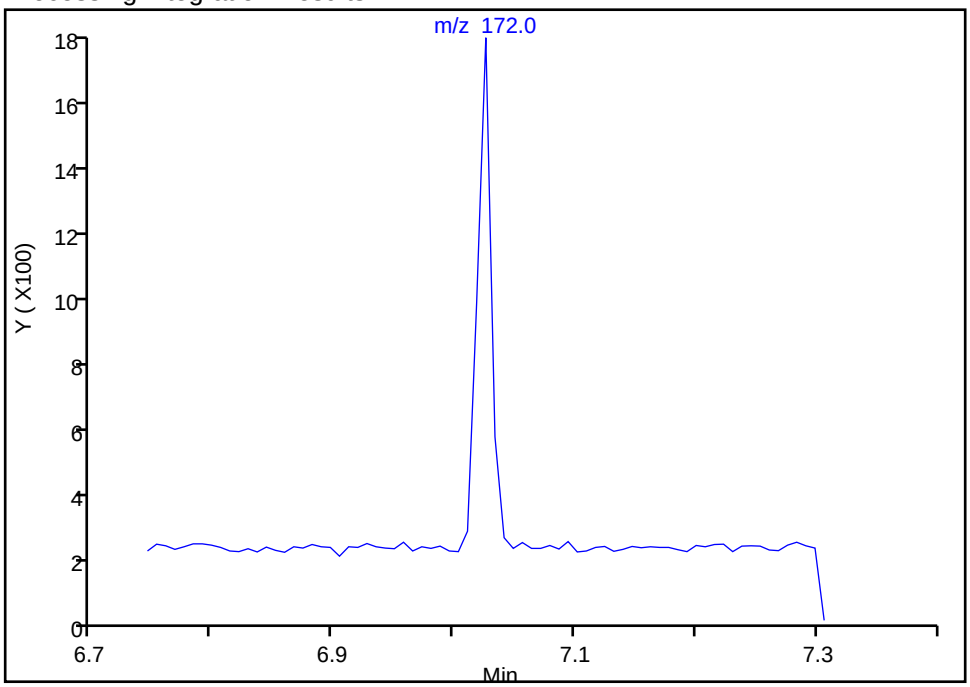
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D
Injection Date: 29-Oct-2018 17:02:30 Instrument ID: SMS_F
Lims ID: STD0002
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 5 2-Fluorobiphenyl, CAS: 321-60-8

Signal: 1

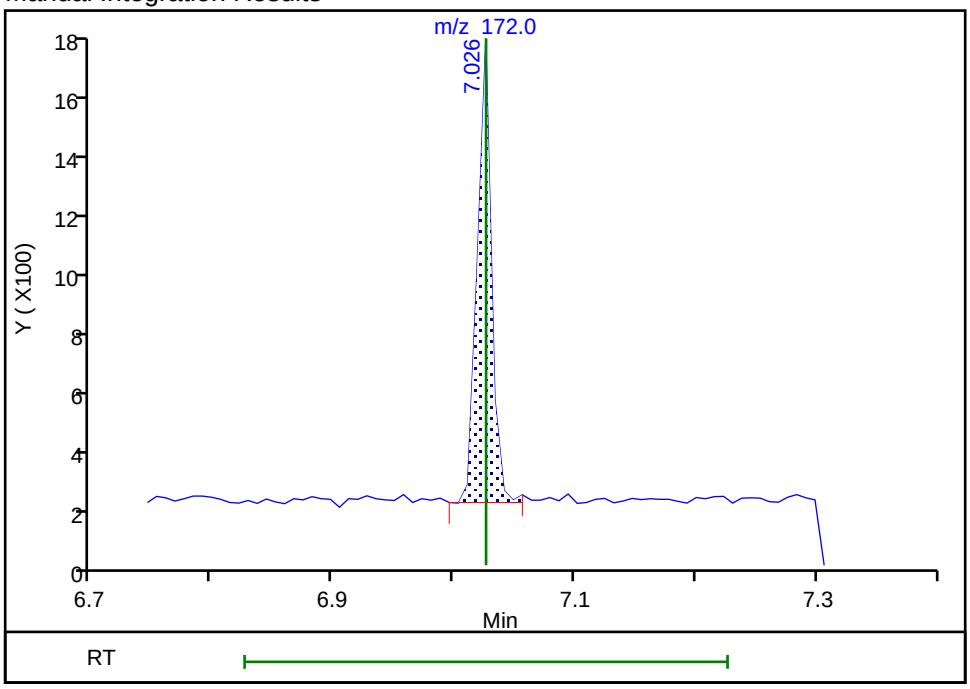
Not Detected
Expected RT: 7.03

Processing Integration Results



Manual Integration Results

RT: 7.03
Area: 1289
Amount: 21.389534
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:10:06
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

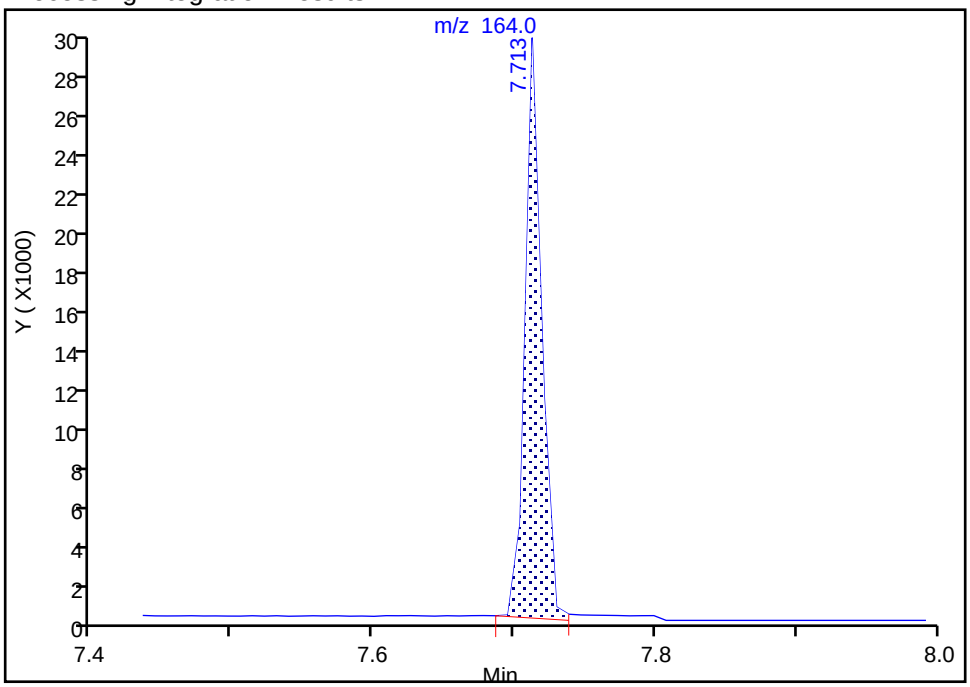
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D
Injection Date: 29-Oct-2018 17:02:30 Instrument ID: SMS_F
Lims ID: STD0002
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

* 1 Acenaphthene-d10, CAS: 15067-26-2

Signal: 1

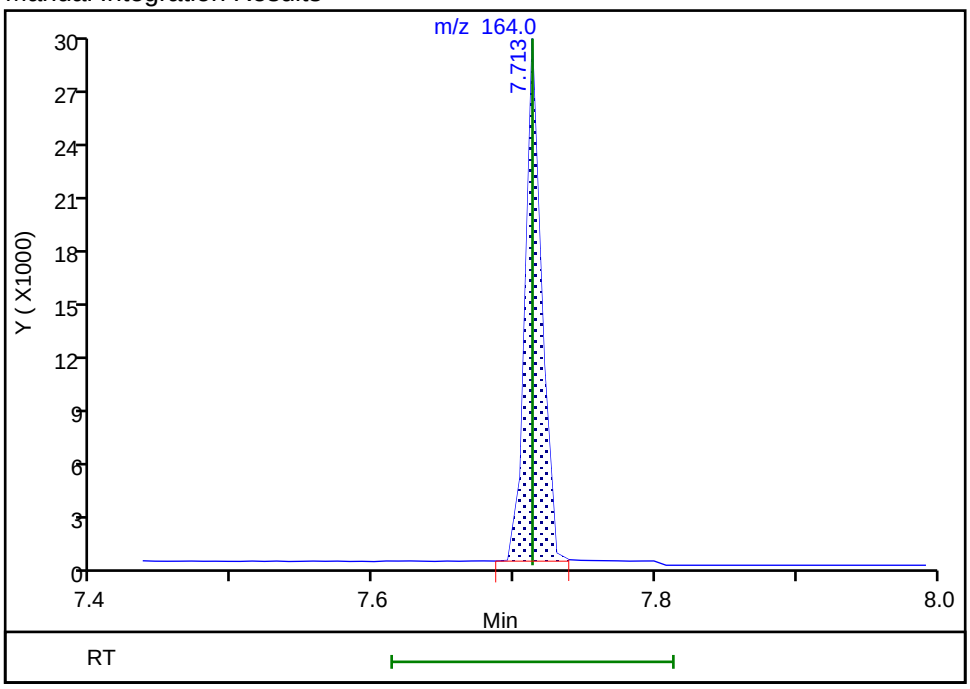
RT: 7.71
Area: 24169
Amount: 600.0000
Amount Units: ng/ml

Processing Integration Results



RT: 7.71
Area: 23761
Amount: 600.0000
Amount Units: ng/ml

Manual Integration Results



Reviewer: wickhamm, 29-Oct-2018 19:09:51
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

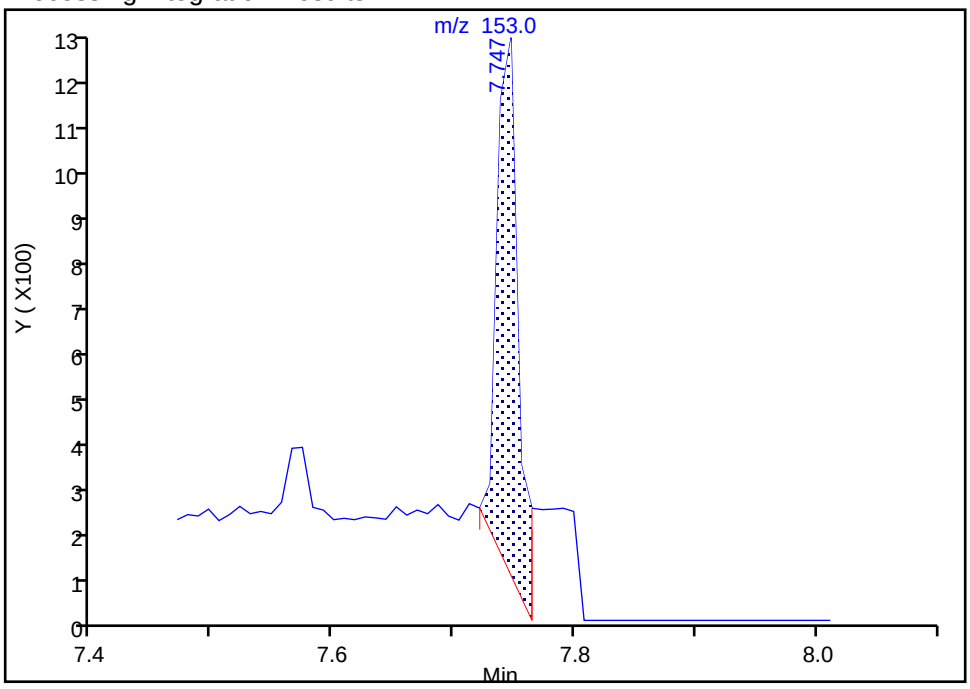
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D
Injection Date: 29-Oct-2018 17:02:30 Instrument ID: SMS_F
Lims ID: STD0002
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

15 Acenaphthene, CAS: 83-32-9

Signal: 1

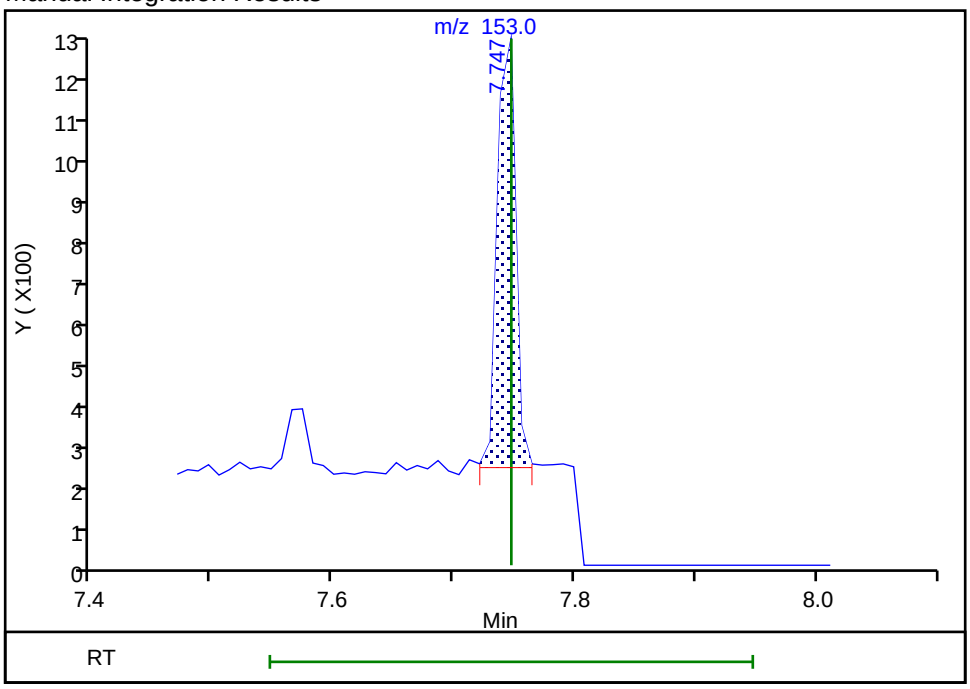
Processing Integration Results

RT: 7.75
Area: 1454
Amount: 25.981549
Amount Units: ng/ml



Manual Integration Results

RT: 7.75
Area: 1100
Amount: 21.109445
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:10:20
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

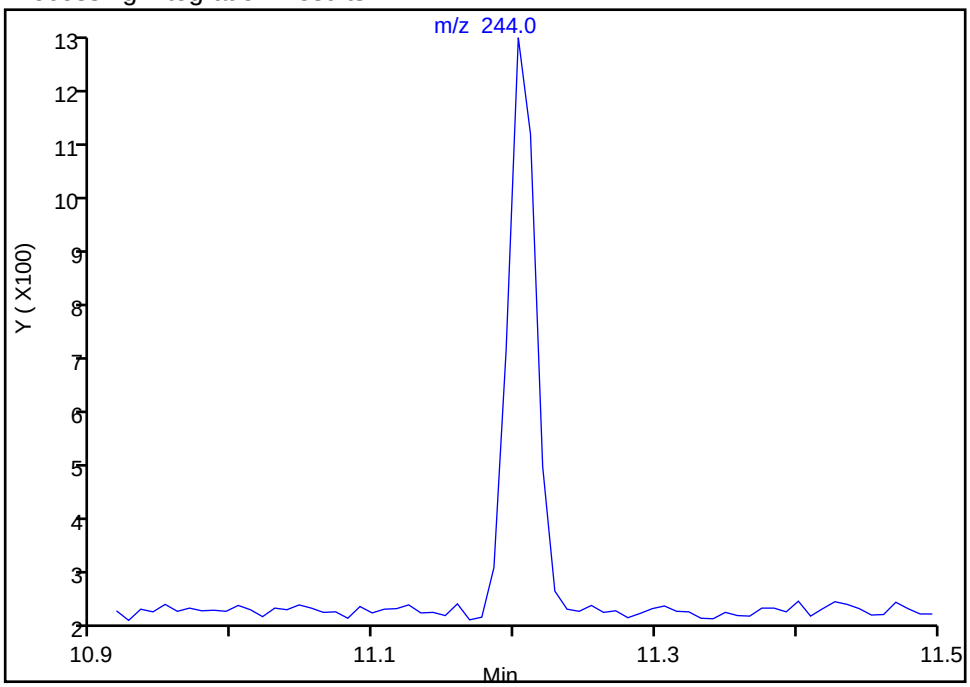
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D
Injection Date: 29-Oct-2018 17:02:30 Instrument ID: SMS_F
Lims ID: STD0002
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 6 Terphenyl-d14, CAS: 1718-51-0

Signal: 1

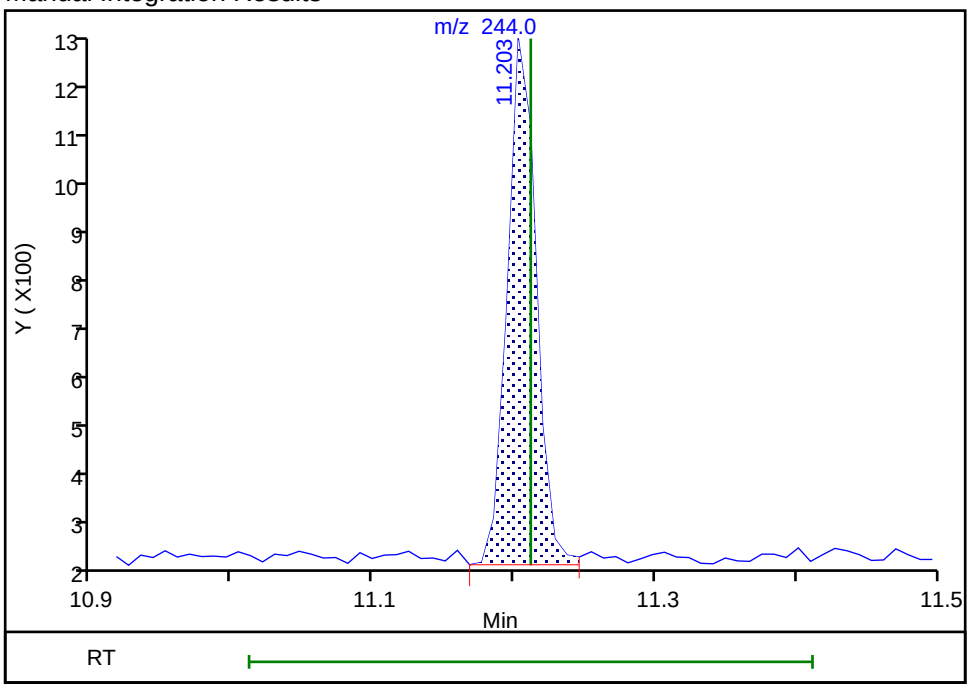
Not Detected
Expected RT: 11.21

Processing Integration Results



Manual Integration Results

RT: 11.20
Area: 1551
Amount: 20.744171
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:10:10
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

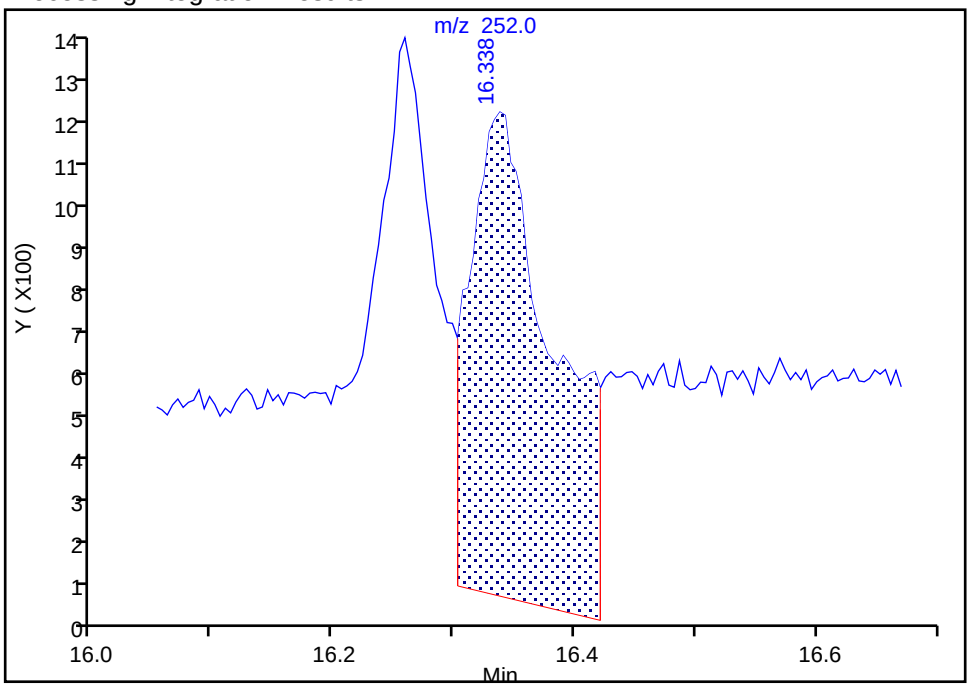
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D
Injection Date: 29-Oct-2018 17:02:30 Instrument ID: SMS_F
Lims ID: STD0002
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

31 Benzo[k]fluoranthene, CAS: 207-08-9

Signal: 1

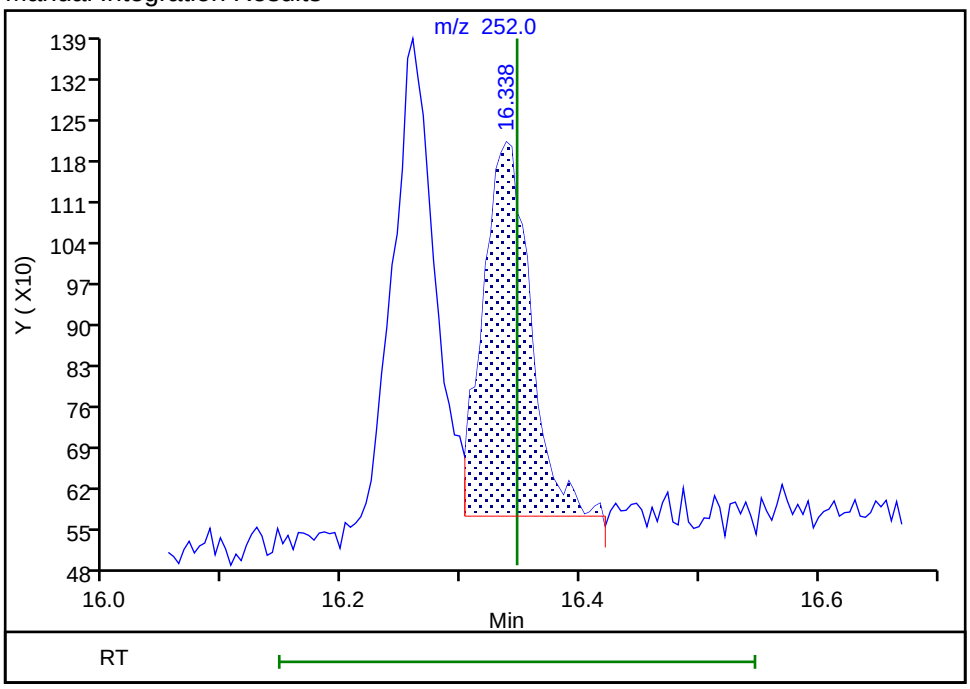
Processing Integration Results

RT: 16.34
Area: 5654
Amount: 40.212900
Amount Units: ng/ml



Manual Integration Results

RT: 16.34
Area: 1767
Amount: 18.057246
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:10:41
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

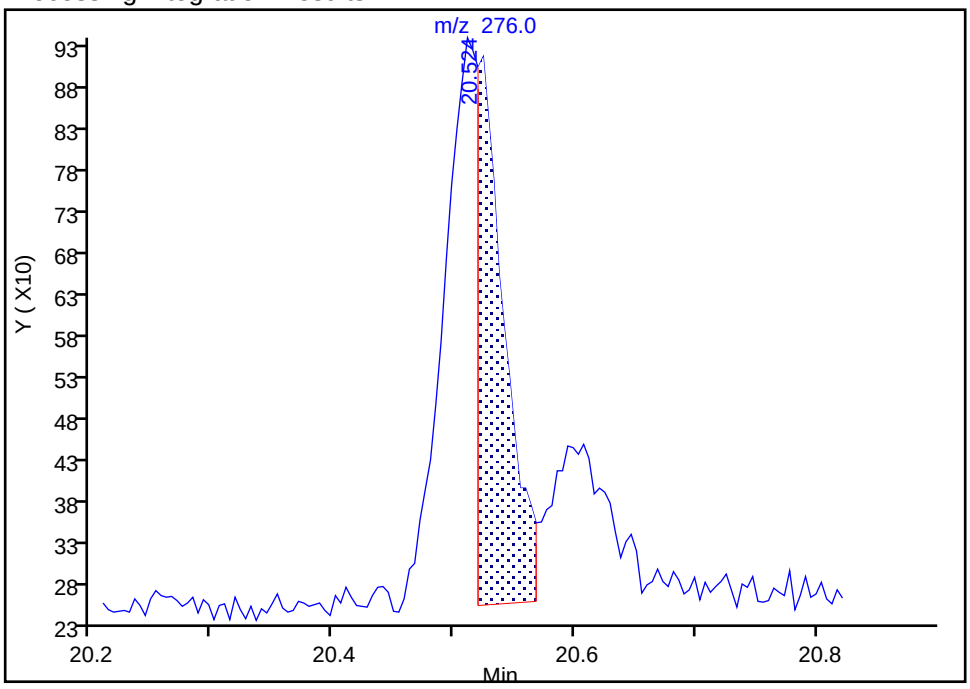
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4400.D
Injection Date: 29-Oct-2018 17:02:30 Instrument ID: SMS_F
Lims ID: STD0002
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

33 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

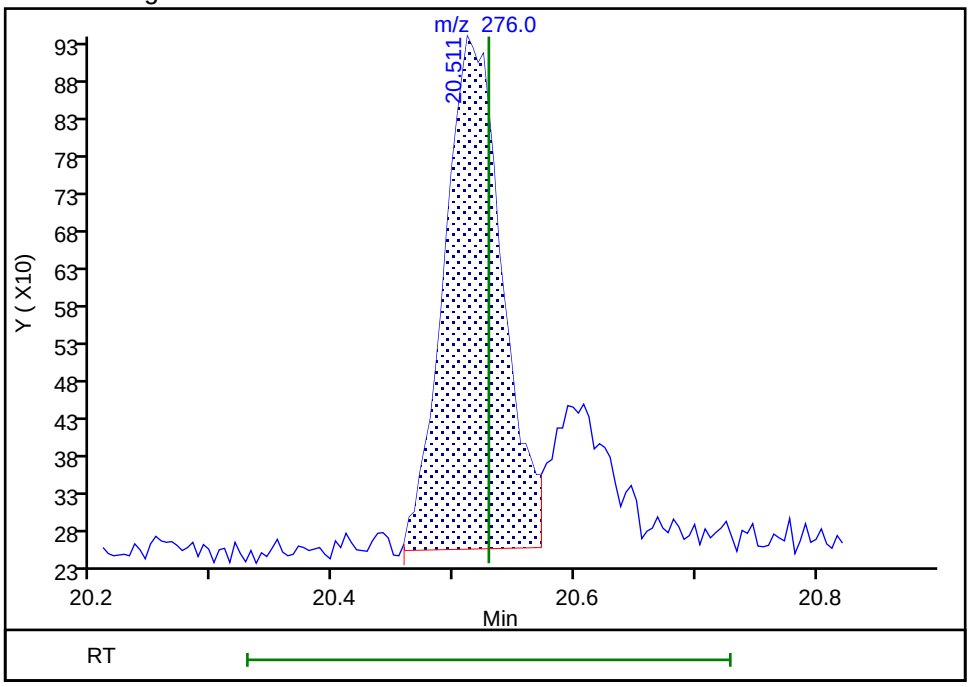
Processing Integration Results

RT: 20.52
Area: 1079
Amount: 13.124137
Amount Units: ng/ml



Manual Integration Results

RT: 20.51
Area: 2309
Amount: 22.898639
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:10:50
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4401.D
Lims ID: STD0500
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 29-Oct-2018 17:32:30 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std0500
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:35 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 21:54:34

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	93	25461	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.214	-0.008	98	54456	600.0	600.0	
* 3 Chrysene-d12	240	13.367	13.376	-0.009	91	53401	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	96	1215	50.0	45.8	a
$ 5 2-Fluorobiphenyl	172	7.026	7.026	0.000	97	3096	50.0	47.9	
$ 6 Terphenyl-d14	244	11.203	11.211	-0.008	61	3595	50.0	44.7	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.564	2.557	0.007	24	1021	50.0	52.2	
10 Naphthalene	128	5.985	5.985	0.000	99	4085	50.0	47.9	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	100	5466	100.0	94.6	
12 1-Methylnaphthalene	142	6.761	6.769	-0.008	99	2467	50.0	47.4	
13 Dimethyl phthalate	163	7.419	7.419	0.000	1	4253	100.0	85.2	
14 Acenaphthylene	152	7.566	7.574	-0.008	98	2921	50.0	44.4	
15 Acenaphthene	153	7.739	7.747	-0.008	92	2537	50.0	45.4	
16 Dibenzofuran	168	7.915	7.915	0.000	96	3911	50.1	46.4	
17 Diethyl phthalate	149	8.109	8.118	-0.009	98	4645	100.4	95.5	
18 Fluorene	166	8.254	8.264	-0.010	89	2935	50.0	45.0	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	93	1864	50.0	46.0	
20 Phenanthrene	178	9.232	9.232	0.000	96	5059	50.0	45.9	
21 Anthracene	178	9.284	9.284	0.000	1	3559	50.0	43.0	
22 Di-n-butyl phthalate	149	9.776	9.785	-0.009	1	4749	100.0	99.7	
23 Fluoranthene	202	10.632	10.641	-0.009	92	5086	50.0	43.4	
24 Pyrene	202	10.978	10.987	-0.009	91	5223	50.0	44.2	
25 Butyl benzyl phthalate	149		10.987				ND	ND	
26 Benzo[a]anthracene	228	13.340	13.358	-0.018	90	3978	50.0	43.9	
27 Chrysene	228	13.430	13.439	-0.009	97	5115	50.0	45.8	
28 Bis(2-ethylhexyl) phthalat	149	12.106	12.115	-0.009	1	1736	100.0	88.1	
29 Di-n-octyl phthalate	149	15.310	15.332	-0.022	1	3137	100.0	116.7	
30 Benzo[b]fluoranthene	252	16.251	16.268	-0.017	87	4983	50.0	46.4	
31 Benzo[k]fluoranthene	252	16.334	16.347	-0.013	82	4560	50.0	43.2	
32 Benzo[a]pyrene	252	17.191	17.213	-0.022	75	3944	50.0	46.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.511	20.529	-0.018	99	4946	50.0	45.5	
34 Dibenz(a,h)anthracene	278	20.599	20.616	-0.017	95	5119	50.0	45.3	
35 Benzo[g,h,i]perylene	276	21.251	21.272	-0.021	98	6234	50.0	45.3	
$ 53 2-methylnaphthalene-d10	152	6.633	6.633	0.001	93	2072	50.0	46.9	
$ 54 Fluoranthene-d10	212	10.606	10.615	-0.009	62	4194	50.0	46.1	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

a - User Assigned ID

Reagents:

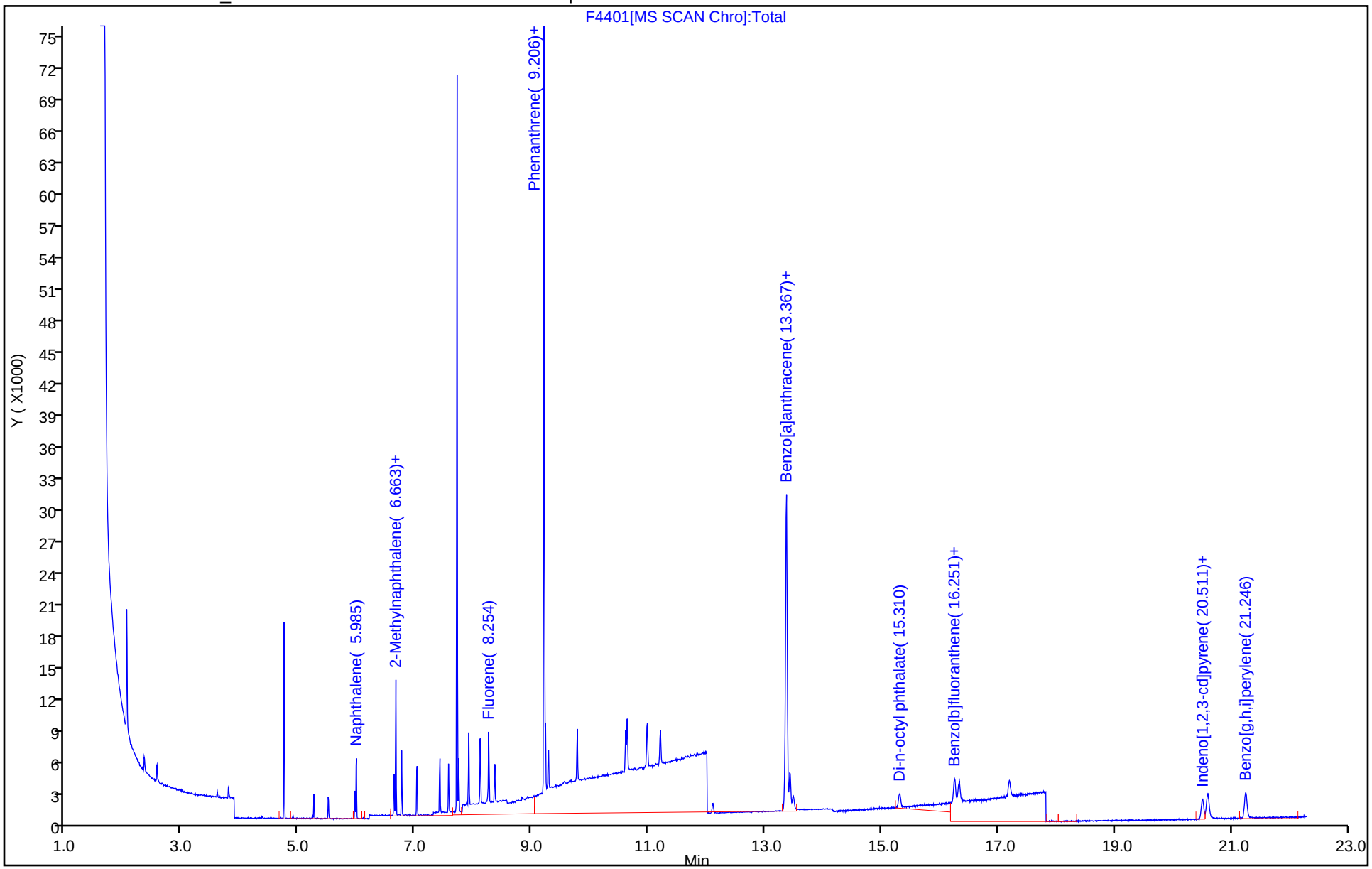
MS-SIMSL 0.05_00007 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:35 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4401.D

Injection Date:	29-Oct-2018 17:32:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD0500			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Manual Integration/User Assign Peak Report

TestAmerica Denver

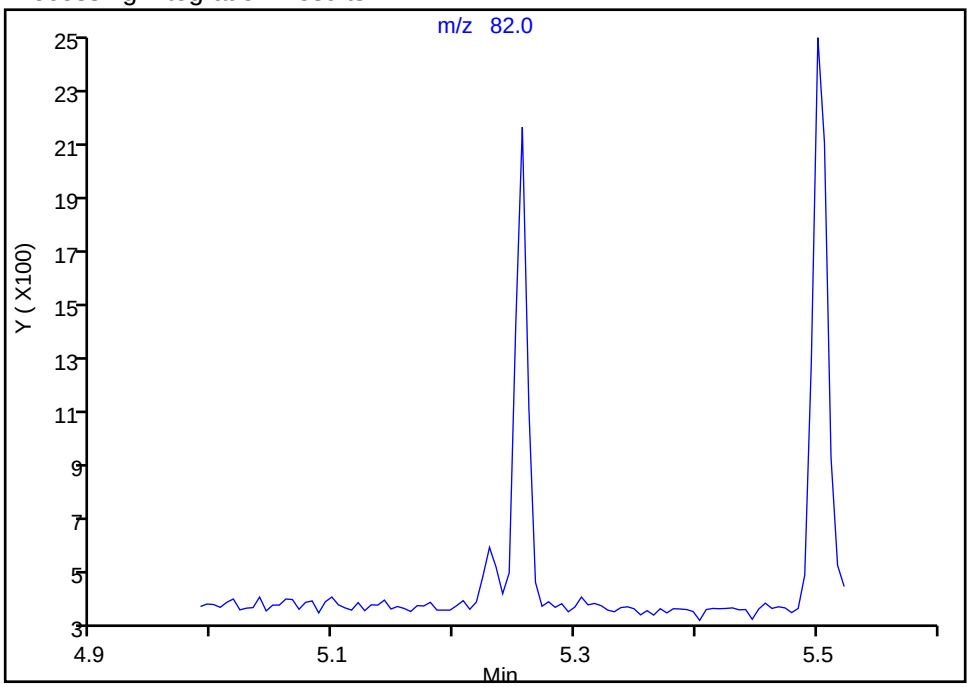
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4401.D
Injection Date: 29-Oct-2018 17:32:30 Instrument ID: SMS_F
Lims ID: STD0500
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

$ 4 Nitrobenzene-d5, CAS: 4165-60-0

Signal: 1

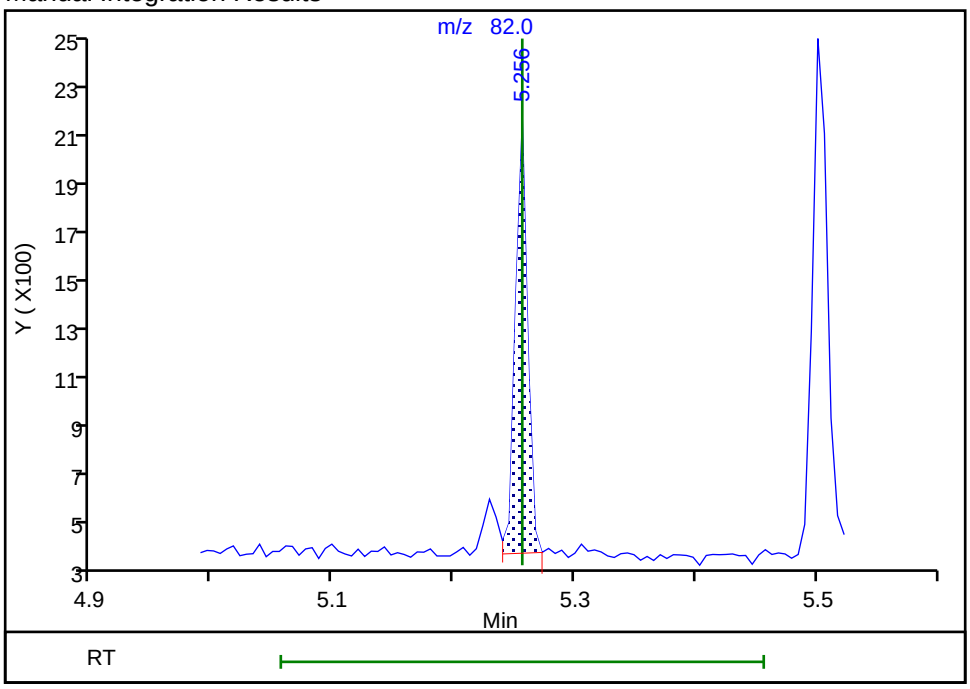
Not Detected
Expected RT: 5.26

Processing Integration Results



Manual Integration Results

RT: 5.26
Area: 1215
Amount: 45.761870
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:11:13
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 29-Oct-2018 21:58:38 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4402.D
Lims ID: STD0100
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 29-Oct-2018 18:01:30 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std0100
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:37 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 19:12:41

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	96	25360	600.0	600.0	M
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	97	54223	600.0	600.0	
* 3 Chrysene-d12	240	13.367	13.367	0.000	91	51705	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	97	2436	100.0	92.1	
$ 5 2-Fluorobiphenyl	172	7.026	7.026	0.000	98	6210	100.0	96.6	
$ 6 Terphenyl-d14	244	11.203	11.203	0.000	88	7287	100.0	91.0	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.563	2.563	0.000	32	1907	100.0	97.8	
10 Naphthalene	128	5.980	5.980	0.000	100	8519	100.0	100.3	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	99	11219	200.0	195.0	
12 1-Methylnaphthalene	142	6.761	6.761	0.000	99	5042	100.0	97.2	
13 Dimethyl phthalate	163	7.419	7.419	0.000	1	8891	200.0	178.9	
14 Acenaphthylene	152	7.566	7.566	0.000	100	5834	100.0	89.0	
15 Acenaphthene	153	7.739	7.739	0.000	95	5430	100.0	97.6	M
16 Dibenzofuran	168	7.915	7.915	0.000	95	8017	100.1	95.5	
17 Diethyl phthalate	149	8.109	8.109	0.000	98	8830	200.8	182.3	
18 Fluorene	166	8.254	8.254	0.000	91	6068	100.0	93.5	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	94	3831	100.0	95.0	
20 Phenanthrene	178	9.223	9.223	0.000	99	10412	100.0	94.8	
21 Anthracene	178	9.275	9.275	0.000	1	6933	100.0	84.0	
22 Di-n-butyl phthalate	149	9.776	9.776	0.000	1	9634	200.0	199.8	
23 Fluoranthene	202	10.632	10.632	0.000	96	10244	100.0	87.8	
24 Pyrene	202	10.969	10.969	0.000	95	10444	100.0	88.8	
25 Butyl benzyl phthalate	149		10.987				ND	ND	
26 Benzo[a]anthracene	228	13.340	13.340	0.000	93	7777	100.0	88.7	
27 Chrysene	228	13.430	13.430	0.000	97	10237	100.0	94.7	
28 Bis(2-ethylhexyl) phthalat	149	12.097	12.097	0.000	1	3311	200.0	168.7	
29 Di-n-octyl phthalate	149	15.306	15.306	0.000	1	6237	200.0	218.5	
30 Benzo[b]fluoranthene	252	16.251	16.251	0.000	95	9850	100.0	94.7	
31 Benzo[k]fluoranthene	252	16.329	16.329	0.000	92	9057	100.0	88.7	M
32 Benzo[a]pyrene	252	17.186	17.186	0.000	87	7494	100.0	91.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.507	20.507	0.000	97	10324	100.0	98.1	
34 Dibenz(a,h)anthracene	278	20.599	20.599	0.000	89	10691	100.0	97.7	
35 Benzo[g,h,i]perylene	276	21.250	21.250	0.000	99	13270	100.0	99.6	
$ 53 2-methylnaphthalene-d10	152	6.632	6.632	0.000	92	4254	100.0	96.7	
$ 54 Fluoranthene-d10	212	10.606	10.606	0.000	84	8298	100.0	91.6	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

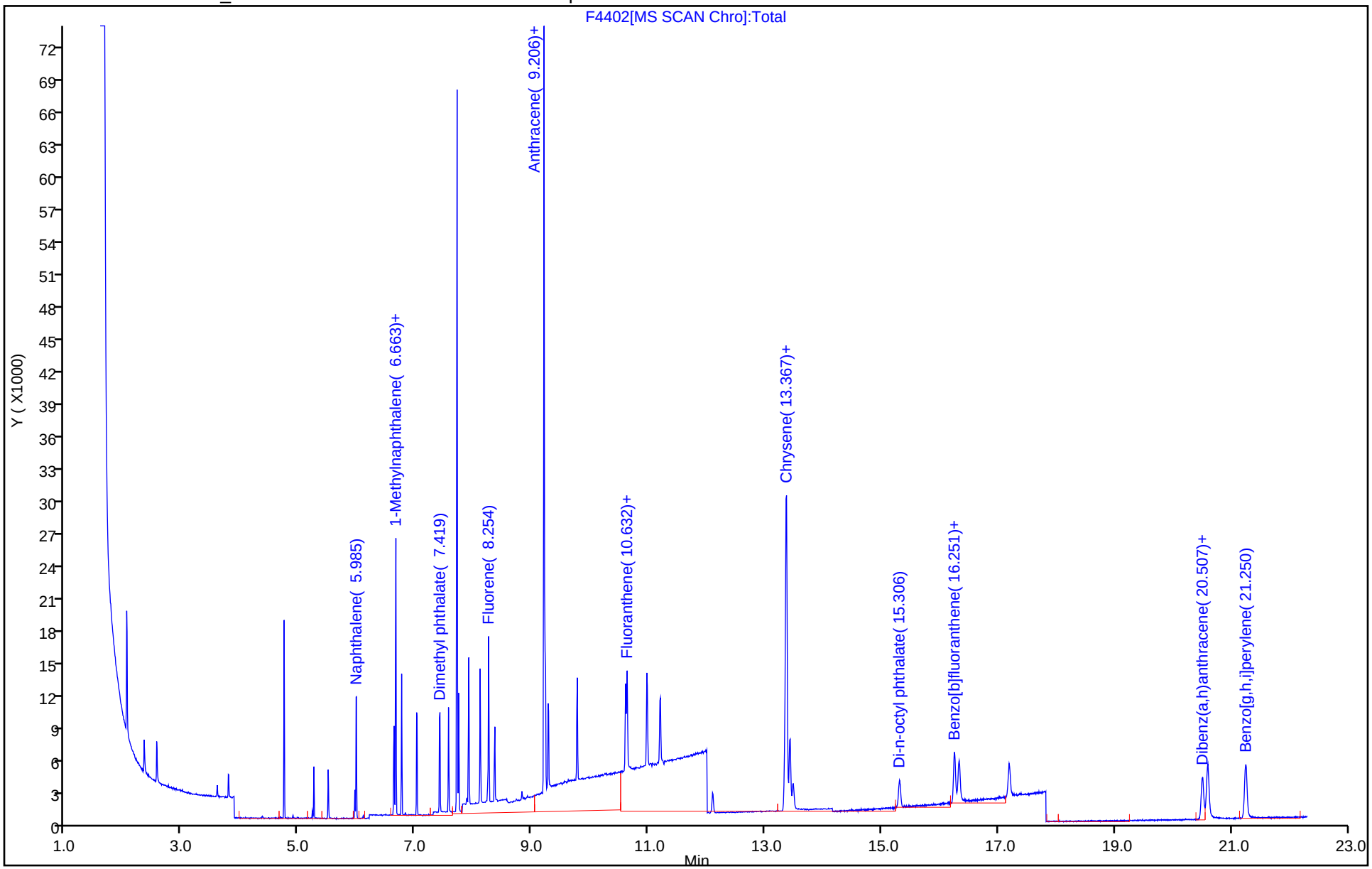
MS-SIMSL 0.1_00075 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:38 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4402.D

Injection Date:	29-Oct-2018 18:01:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD0100			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Manual Integration/User Assign Peak Report

TestAmerica Denver

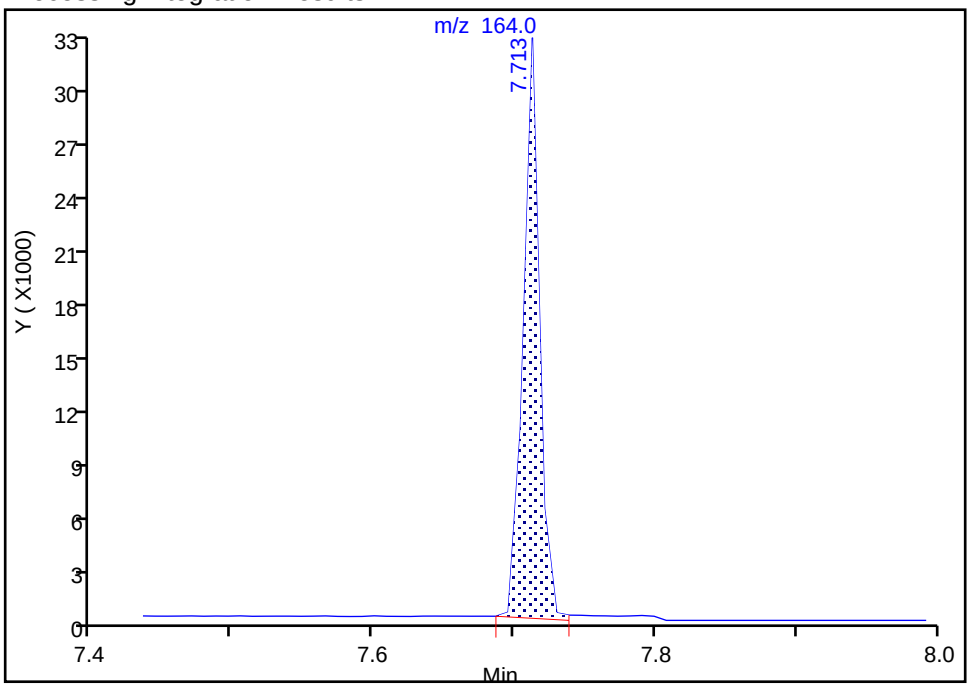
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4402.D
Injection Date: 29-Oct-2018 18:01:30 Instrument ID: SMS_F
Lims ID: STD0100
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

* 1 Acenaphthene-d10, CAS: 15067-26-2

Signal: 1

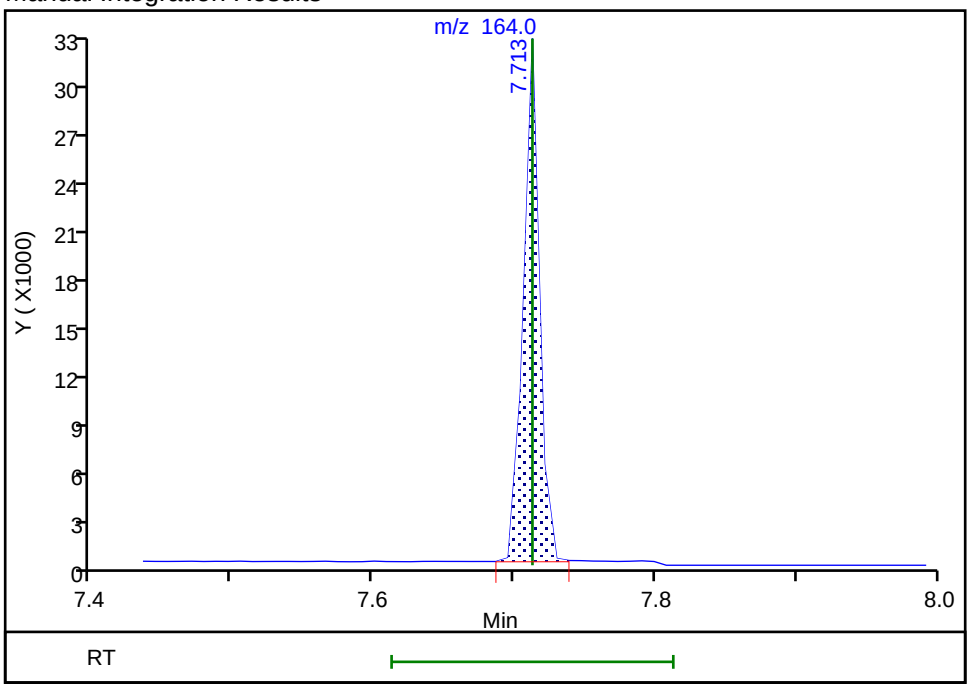
Processing Integration Results

RT: 7.71
Area: 25715
Amount: 600.0000
Amount Units: ng/ml



Manual Integration Results

RT: 7.71
Area: 25360
Amount: 600.0000
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:11:59
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

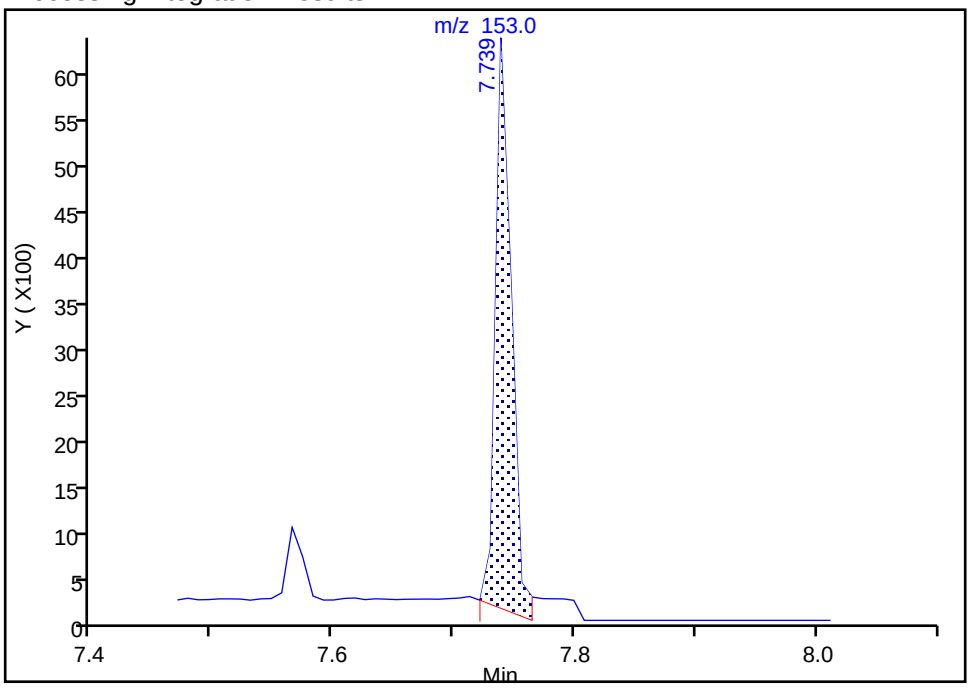
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4402.D
Injection Date: 29-Oct-2018 18:01:30 Instrument ID: SMS_F
Lims ID: STD0100
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

15 Acenaphthene, CAS: 83-32-9

Signal: 1

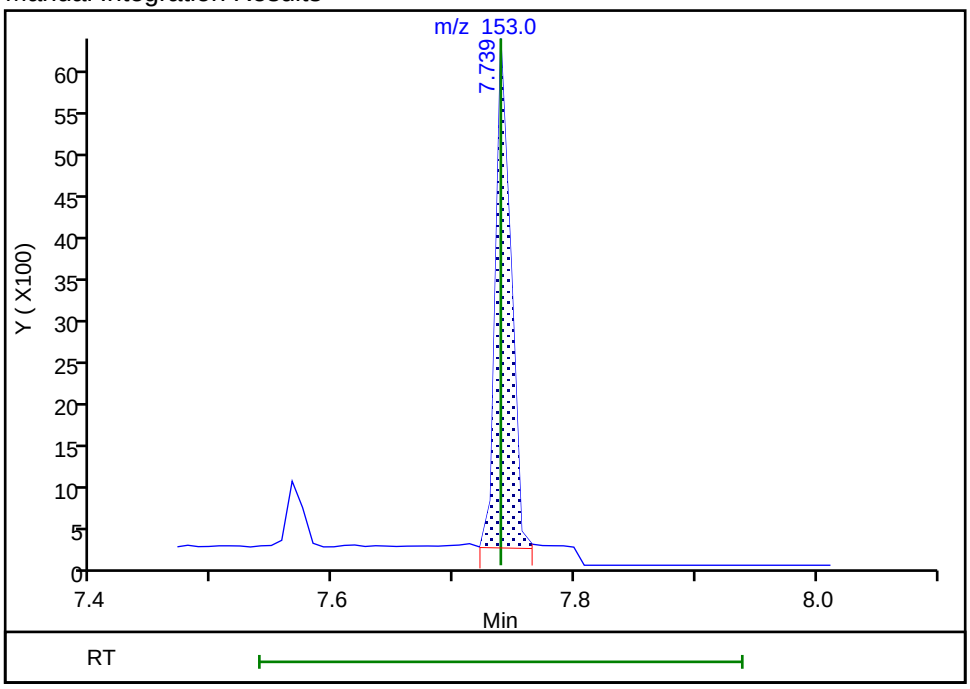
Processing Integration Results

RT: 7.74
Area: 5737
Amount: 103.0078
Amount Units: ng/ml



Manual Integration Results

RT: 7.74
Area: 5430
Amount: 97.633625
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:12:13
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

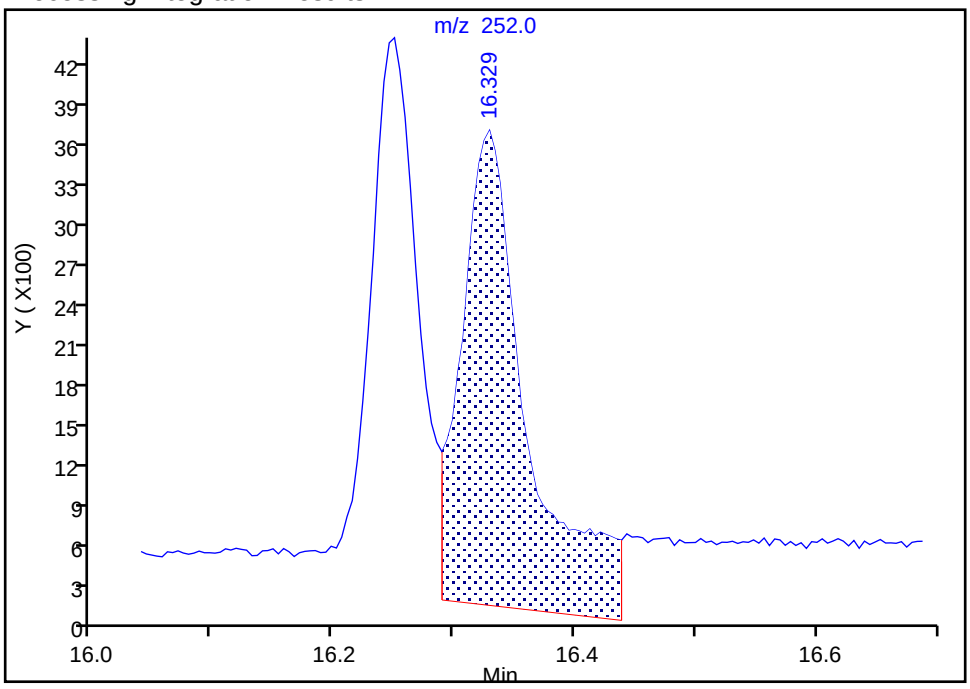
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4402.D
Injection Date: 29-Oct-2018 18:01:30 Instrument ID: SMS_F
Lims ID: STD0100
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

31 Benzo[k]fluoranthene, CAS: 207-08-9

Signal: 1

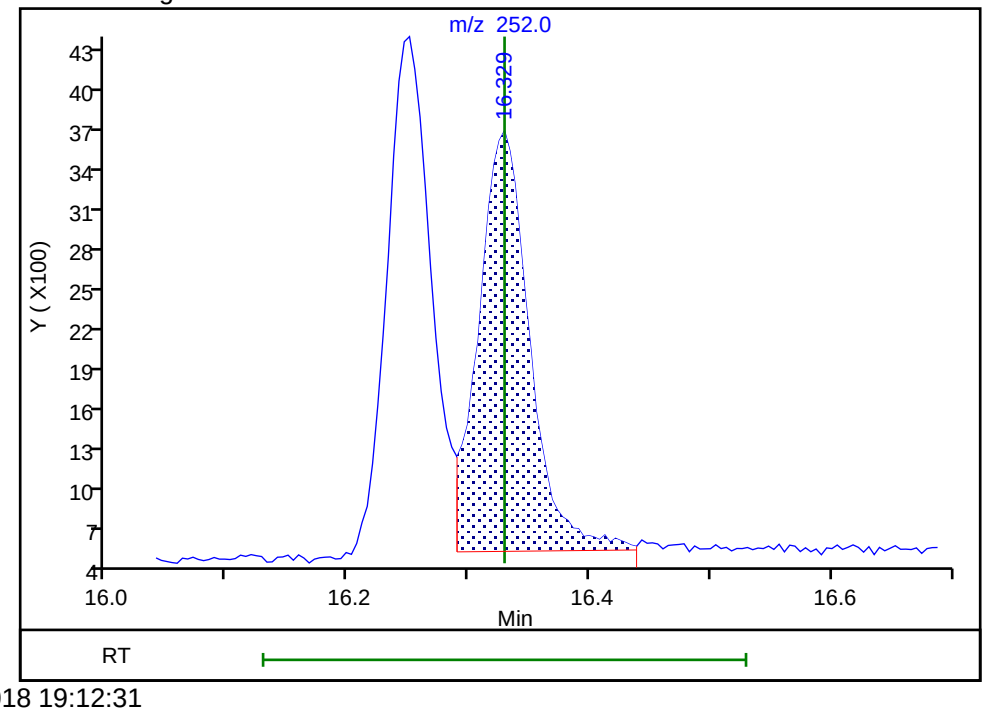
Processing Integration Results

RT: 16.33
Area: 13516
Amount: 116.2875
Amount Units: ng/ml



Manual Integration Results

RT: 16.33
Area: 9057
Amount: 88.663297
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:12:31
Audit Action: Assigned New Baseline Audit Reason: Baseline

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4403.D
Lims ID: STD0300
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 29-Oct-2018 18:31:30 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std0300
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:40 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 19:14:00

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	97	24734	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	98	53830	600.0	600.0	
* 3 Chrysene-d12	240	13.367	13.367	0.000	93	53371	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	99	7134	300.0	276.6	
$ 5 2-Fluorobiphenyl	172	7.019	7.026	-0.007	99	18332	300.0	292.2	
$ 6 Terphenyl-d14	244	11.203	11.203	0.000	97	25400	300.0	319.4	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.557	2.563	-0.006	31	5372	300.0	282.6	
10 Naphthalene	128	5.980	5.980	0.000	100	24560	300.0	296.5	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	98	33550	600.0	597.9	
12 1-Methylnaphthalene	142	6.761	6.761	0.000	98	15015	300.0	296.7	
13 Dimethyl phthalate	163	7.410	7.419	-0.009	1	27212	600.0	561.3	
14 Acenaphthylene	152	7.566	7.566	0.000	100	17771	300.0	278.1	
15 Acenaphthene	153	7.739	7.739	0.000	96	16055	300.0	296.0	M
16 Dibenzofuran	168	7.915	7.915	0.001	94	23943	300.3	292.6	
17 Diethyl phthalate	149	8.109	8.109	0.000	98	24452	602.4	517.7	
18 Fluorene	166	8.254	8.254	0.000	93	18400	300.0	290.7	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	93	11463	300.0	286.2	
20 Phenanthrene	178	9.223	9.223	0.000	100	31665	300.0	290.3	
21 Anthracene	178	9.275	9.275	0.000	1	22115	300.0	270.0	
22 Di-n-butyl phthalate	149	9.776	9.776	0.000	1	29593	600.0	586.9	
23 Fluoranthene	202	10.632	10.632	0.000	100	32871	300.0	283.7	
24 Pyrene	202	10.969	10.969	0.000	98	32223	300.0	275.9	
25 Butyl benzyl phthalate	149		10.987				ND	ND	
26 Benzo[a]anthracene	228	13.340	13.340	0.000	60	24476	300.0	270.3	
27 Chrysene	228	13.430	13.430	0.000	95	32528	300.0	291.6	
28 Bis(2-ethylhexyl) phthalat	149	12.097	12.097	0.000	1	9865	600.0	506.2	
29 Di-n-octyl phthalate	149	15.306	15.306	0.000	1	18714	600.0	584.7	
30 Benzo[b]fluoranthene	252	16.251	16.251	0.000	100	30648	300.0	285.4	
31 Benzo[k]fluoranthene	252	16.325	16.329	-0.004	99	29499	300.0	279.8	M
32 Benzo[a]pyrene	252	17.191	17.186	0.005	99	22609	300.0	266.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.502	20.507	-0.005	92	30679	300.0	282.4	
34 Dibenz(a,h)anthracene	278	20.594	20.599	-0.005	85	32389	300.0	286.8	
35 Benzo[g,h,i]perylene	276	21.246	21.250	-0.004	95	39963	300.0	290.5	
$ 53 2-methylnaphthalene-d10	152	6.633	6.632	0.001	90	12582	300.0	293.2	
$ 54 Fluoranthene-d10	212	10.606	10.606	0.000	96	25942	300.0	288.4	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

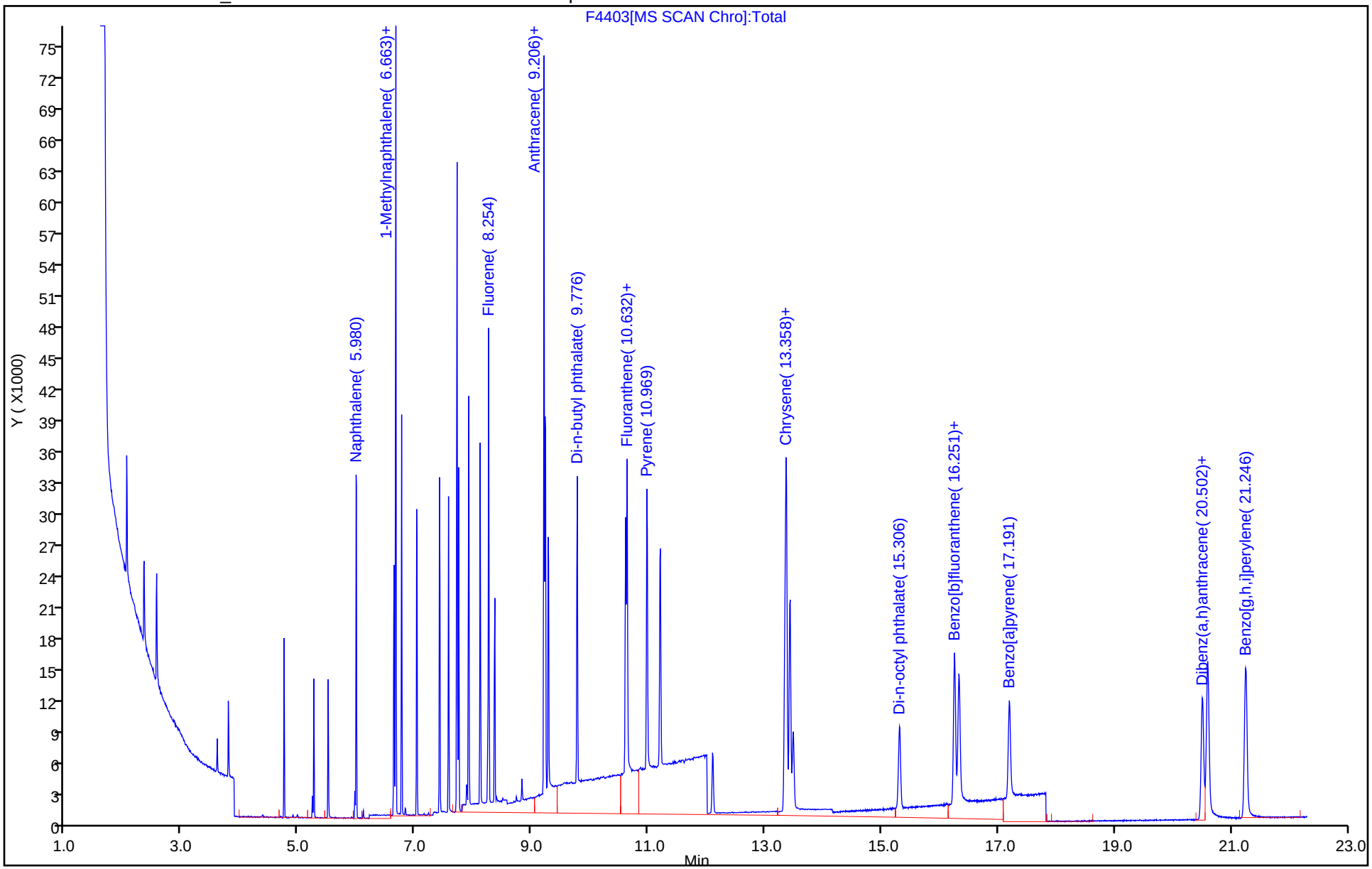
MS-SIMSL 0.3_00074 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:41 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4403.D

Injection Date:	29-Oct-2018 18:31:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD0300			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Manual Integration/User Assign Peak Report

TestAmerica Denver

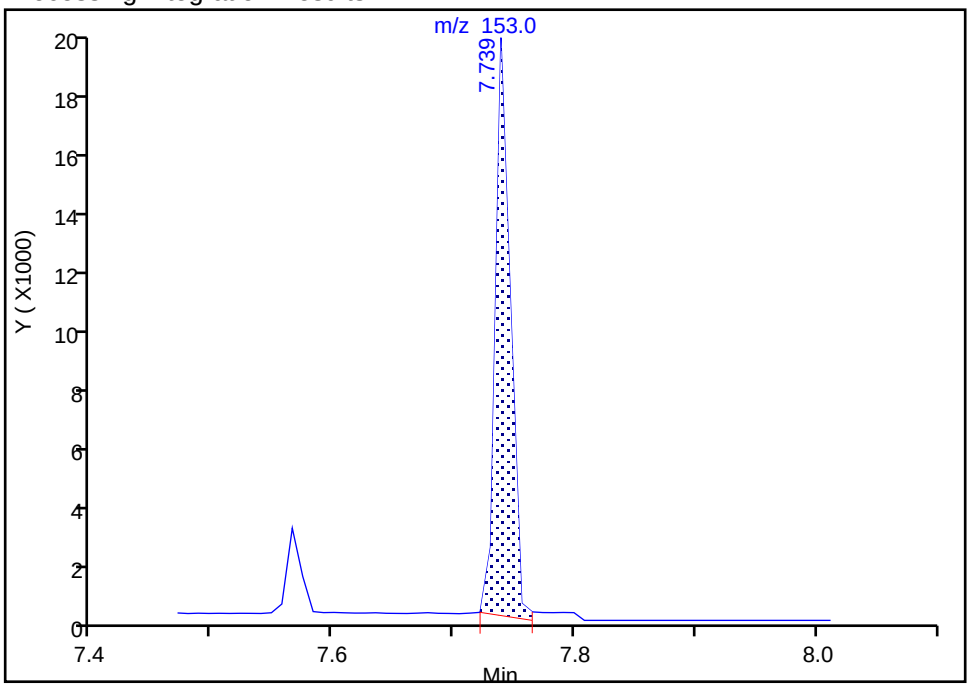
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4403.D
Injection Date: 29-Oct-2018 18:31:30 Instrument ID: SMS_F
Lims ID: STD0300
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

15 Acenaphthene, CAS: 83-32-9

Signal: 1

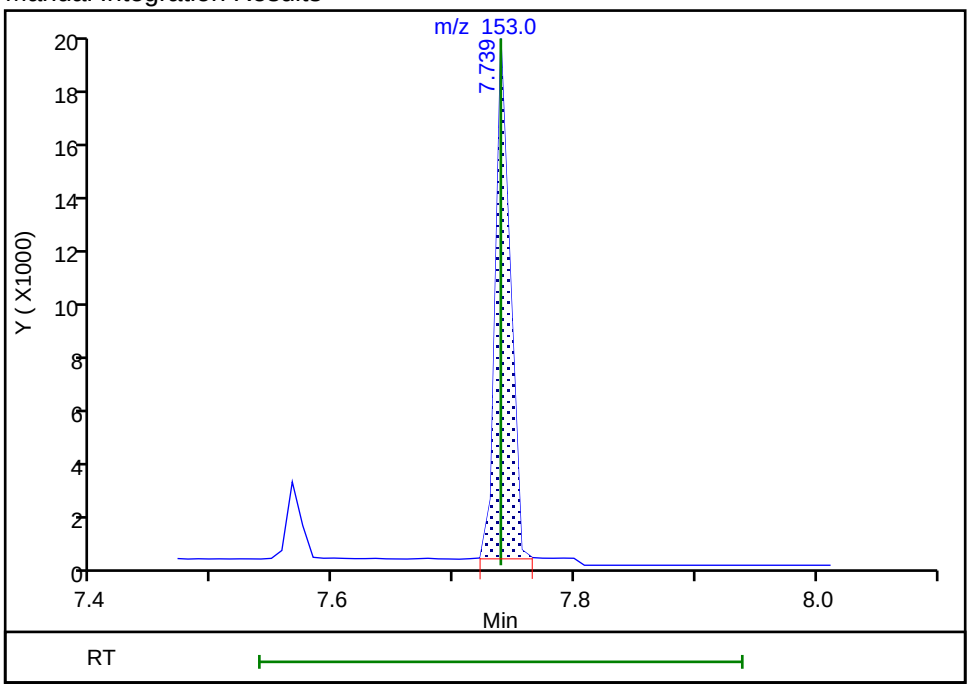
Processing Integration Results

RT: 7.74
Area: 16366
Amount: 304.0823
Amount Units: ng/ml



Manual Integration Results

RT: 7.74
Area: 16055
Amount: 295.9817
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:13:25
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Denver

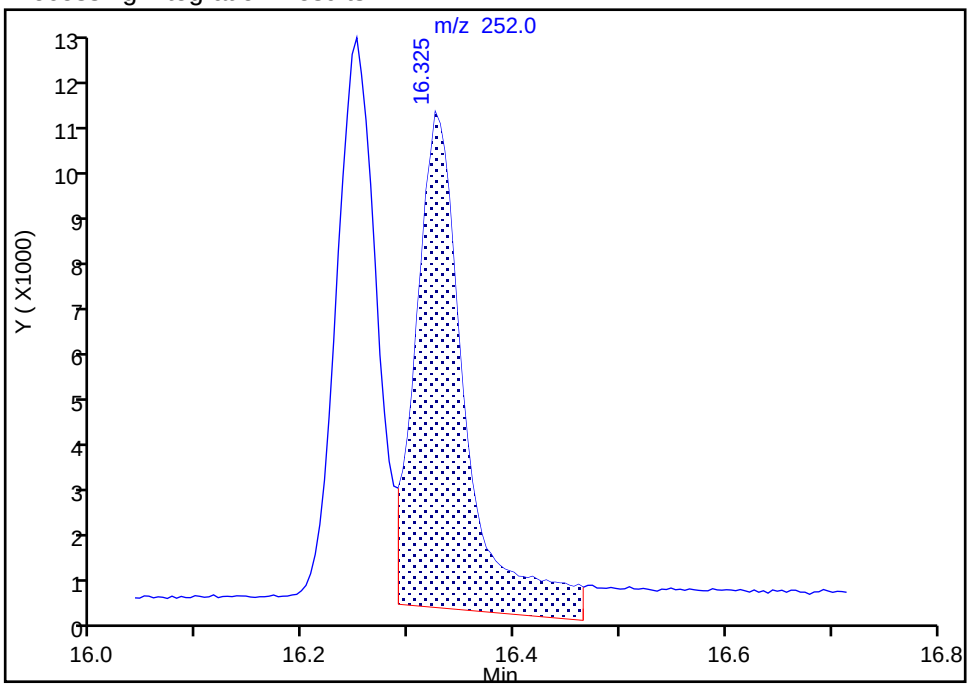
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4403.D
Injection Date: 29-Oct-2018 18:31:30 Instrument ID: SMS_F
Lims ID: STD0300
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

31 Benzo[k]fluoranthene, CAS: 207-08-9

Signal: 1

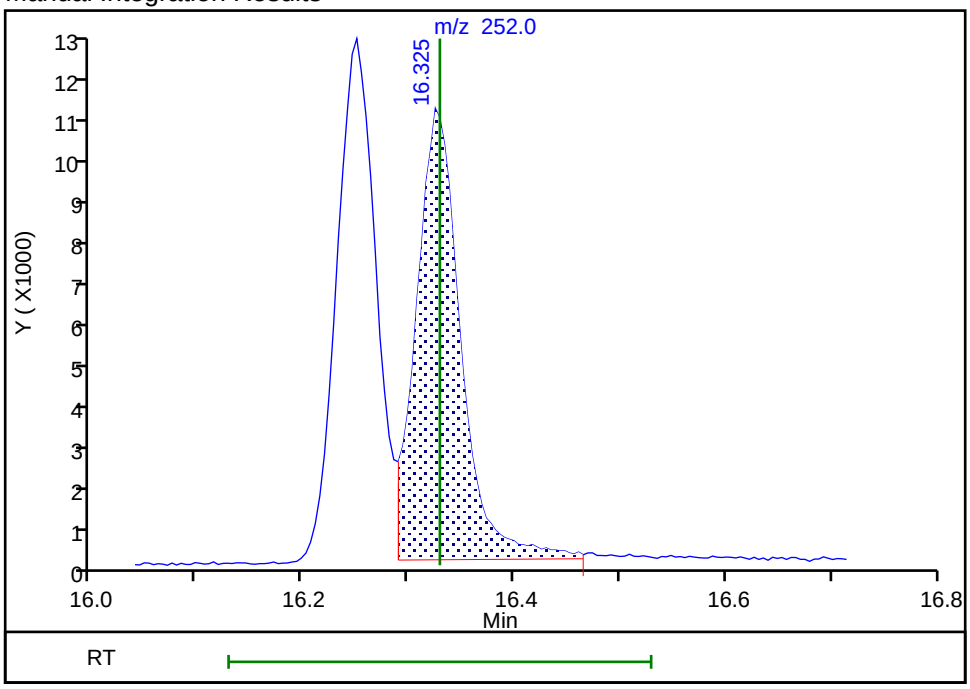
Processing Integration Results

RT: 16.32
Area: 34013
Amount: 341.2154
Amount Units: ng/ml



Manual Integration Results

RT: 16.32
Area: 29499
Amount: 279.7654
Amount Units: ng/ml



Reviewer: wickhamm, 29-Oct-2018 19:13:49
Audit Action: Assigned New Baseline Audit Reason: Baseline

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4404.D
Lims ID: STD1200
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 29-Oct-2018 19:01:30 ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std1200
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:43 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 21:55:31

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	98	33605	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	97	73455	600.0	600.0	
* 3 Chrysene-d12	240	13.367	13.367	0.000	98	78570	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	98	39792	1200.0	1135.5	
$ 5 2-Fluorobiphenyl	172	7.019	7.026	-0.007	100	97251	1200.0	1141.0	
$ 6 Terphenyl-d14	244	11.203	11.203	0.000	99	126747	1200.0	1168.1	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.551	2.563	-0.012	43	30045	1200.0	1163.2	
10 Naphthalene	128	5.980	5.980	0.000	100	129326	1200.0	1149.2	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	97	179548	2400.0	2355.2	
12 1-Methylnaphthalene	142	6.761	6.761	0.000	97	79998	1200.0	1163.6	
13 Dimethyl phthalate	163	7.410	7.419	-0.009	1	159540	2400.0	2422.1	
14 Acenaphthylene	152	7.566	7.566	0.000	99	104551	1200.0	1204.2	
15 Acenaphthene	153	7.739	7.739	0.000	97	86093	1200.0	1168.2	
16 Dibenzofuran	168	7.915	7.915	0.001	92	129484	1201.2	1164.6	
17 Diethyl phthalate	149	8.109	8.109	0.000	98	157153	2409.6	2449.0	
18 Fluorene	166	8.255	8.254	0.001	95	103673	1200.0	1205.4	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	92	61347	1200.0	1122.6	
20 Phenanthrene	178	9.223	9.223	0.000	100	172037	1200.0	1156.0	
21 Anthracene	178	9.275	9.275	0.000	1	133735	1200.0	1196.5	
22 Di-n-butyl phthalate	149	9.776	9.776	0.000	1	202164	2400.0	2391.8	
23 Fluoranthene	202	10.632	10.632	0.000	100	187968	1200.0	1188.7	
24 Pyrene	202	10.970	10.969	0.001	99	184722	1200.0	1159.2	
25 Butyl benzyl phthalate	149	10.970	10.987	-0.017	1	1353	2400.0	0	
26 Benzo[a]anthracene	228	13.340	13.340	0.000	42	152521	1200.0	1144.3	
27 Chrysene	228	13.421	13.430	-0.009	95	191863	1200.0	1168.3	
28 Bis(2-ethylhexyl) phthalat	149	12.106	12.097	0.009	1	68082	2400.0	2560.2	
29 Di-n-octyl phthalate	149	15.310	15.306	0.004	1	121239	2400.0	2251.6	
30 Benzo[b]fluoranthene	252	16.246	16.251	-0.005	97	181300	1200.0	1146.6	
31 Benzo[k]fluoranthene	252	16.325	16.329	-0.004	98	201669	1200.0	1299.2	
32 Benzo[a]pyrene	252	17.191	17.186	0.005	95	143629	1200.0	1151.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.507	20.507	0.000	90	174647	1200.0	1091.9	
34 Dibenz(a,h)anthracene	278	20.594	20.599	-0.005	83	191031	1200.0	1149.0	
35 Benzo[g,h,i]perylene	276	21.251	21.250	0.001	93	218564	1200.0	1079.3	
$ 53 2-methylnaphthalene-d10	152	6.633	6.632	0.001	89	66535	1200.0	1141.3	
$ 54 Fluoranthene-d10	212	10.606	10.606	0.000	100	147296	1200.0	1199.9	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

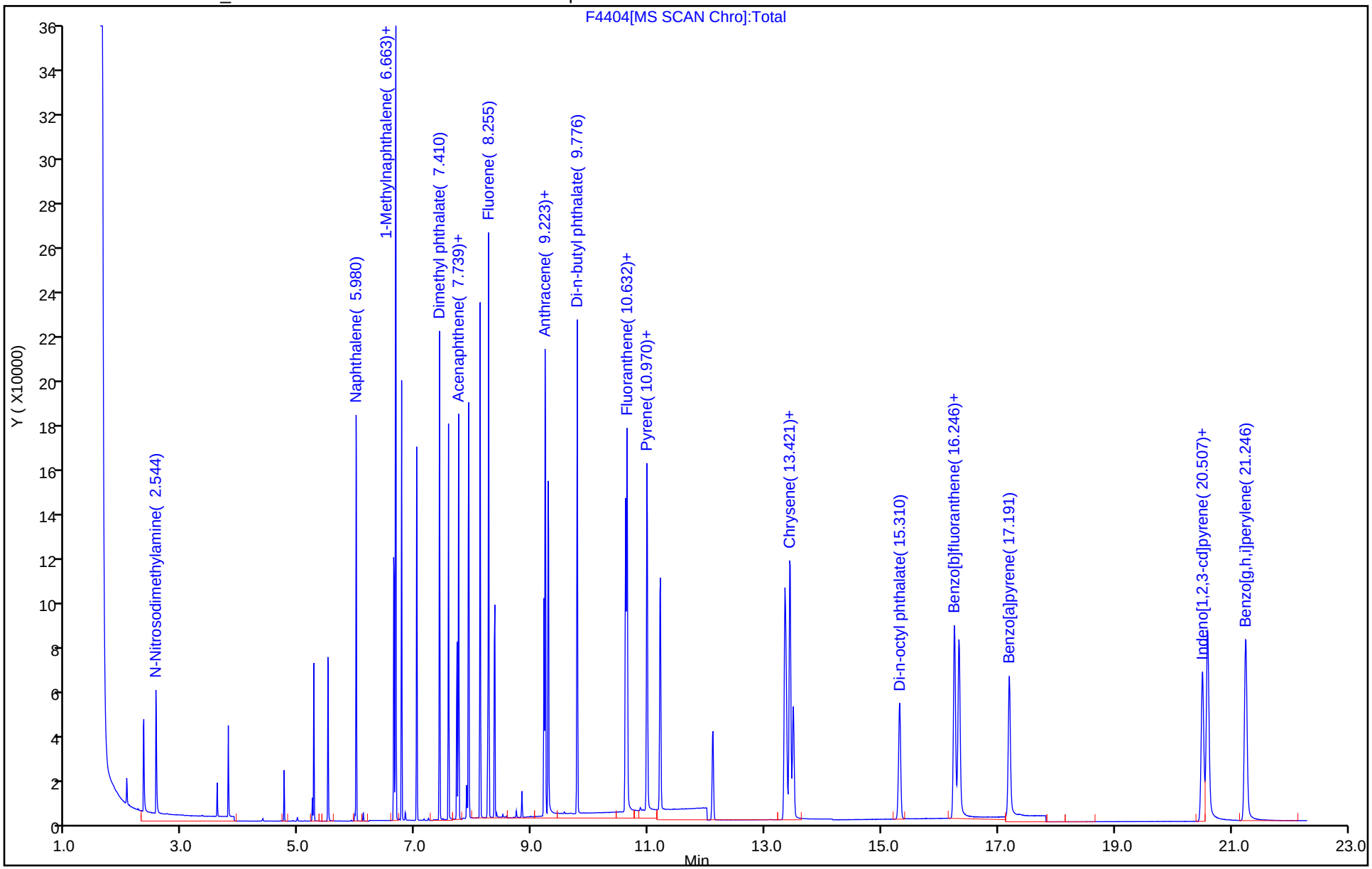
MS-SIMSL 1.2_00075 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:43 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4404.D

Injection Date:	29-Oct-2018 19:01:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD1200			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4405.D
Lims ID: STD2500
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 29-Oct-2018 19:31:30 ALS Bottle#: 9 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std2500
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:45 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 20:07:56

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	97	23383	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	97	51550	600.0	600.0	
* 3 Chrysene-d12	240	13.358	13.367	-0.009	47	56197	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	98	66335	2500.0	2720.5	
$ 5 2-Fluorobiphenyl	172	7.019	7.026	-0.007	100	161780	2500.0	2728.0	
$ 6 Terphenyl-d14	244	11.194	11.203	-0.009	98	215115	2500.0	2824.9	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.544	2.563	-0.019	44	47383	2500.0	2636.4	
10 Naphthalene	128	5.980	5.980	0.000	100	208192	2500.0	2658.7	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	97	291162	5000.0	5488.9	
12 1-Methylnaphthalene	142	6.761	6.761	0.000	97	130622	2500.0	2730.6	
13 Dimethyl phthalate	163	7.410	7.419	-0.009	1	278989	5000.0	6087.2	
14 Acenaphthylene	152	7.566	7.566	0.000	99	182035	2500.0	3013.2	
15 Acenaphthene	153	7.739	7.739	0.000	97	142141	2500.0	2771.8	
16 Dibenzofuran	168	7.915	7.915	0.001	91	215284	2502.5	2782.8	
17 Diethyl phthalate	149	8.109	8.109	0.000	99	274435	5020.0	6146.1	
18 Fluorene	166	8.254	8.254	0.000	96	176625	2500.0	2951.4	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	91	104402	2500.0	2722.2	
20 Phenanthrene	178	9.223	9.223	0.000	100	284570	2500.0	2724.6	
21 Anthracene	178	9.275	9.275	0.000	1	236321	2500.0	3012.8	
22 Di-n-butyl phthalate	149	9.776	9.776	0.000	1	376147	5000.0	5000.8	
23 Fluoranthene	202	10.632	10.632	0.000	100	323789	2500.0	2917.6	
24 Pyrene	202	10.969	10.969	0.000	99	315592	2500.0	2822.0	
25 Butyl benzyl phthalate	149	10.969	10.987	-0.018	1	2047	5000.0	0	
26 Benzo[a]anthracene	228	13.340	13.340	0.000	38	267604	2500.0	2807.1	
27 Chrysene	228	13.421	13.430	-0.009	94	323973	2500.0	2758.1	
28 Bis(2-ethylhexyl) phthalat	149	12.097	12.097	0.000	1	131365	5000.0	7039.1	
29 Di-n-octyl phthalate	149	15.310	15.306	0.004	1	230150	5000.0	5063.6	
30 Benzo[b]fluoranthene	252	16.251	16.251	0.000	97	309018	2500.0	2732.5	
31 Benzo[k]fluoranthene	252	16.325	16.329	-0.004	97	338217	2500.0	3046.3	
32 Benzo[a]pyrene	252	17.191	17.186	0.005	95	263293	2500.0	2950.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.502	20.507	-0.005	90	294007	2500.0	2569.8	
34 Dibenz(a,h)anthracene	278	20.594	20.599	-0.005	83	319437	2500.0	2686.2	
35 Benzo[g,h,i]perylene	276	21.251	21.250	0.001	93	362369	2500.0	2501.9	
$ 53 2-methylnaphthalene-d10	152	6.633	6.632	0.001	88	108683	2500.0	2679.3	
$ 54 Fluoranthene-d10	212	10.606	10.606	0.000	100	250239	2500.0	2904.8	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

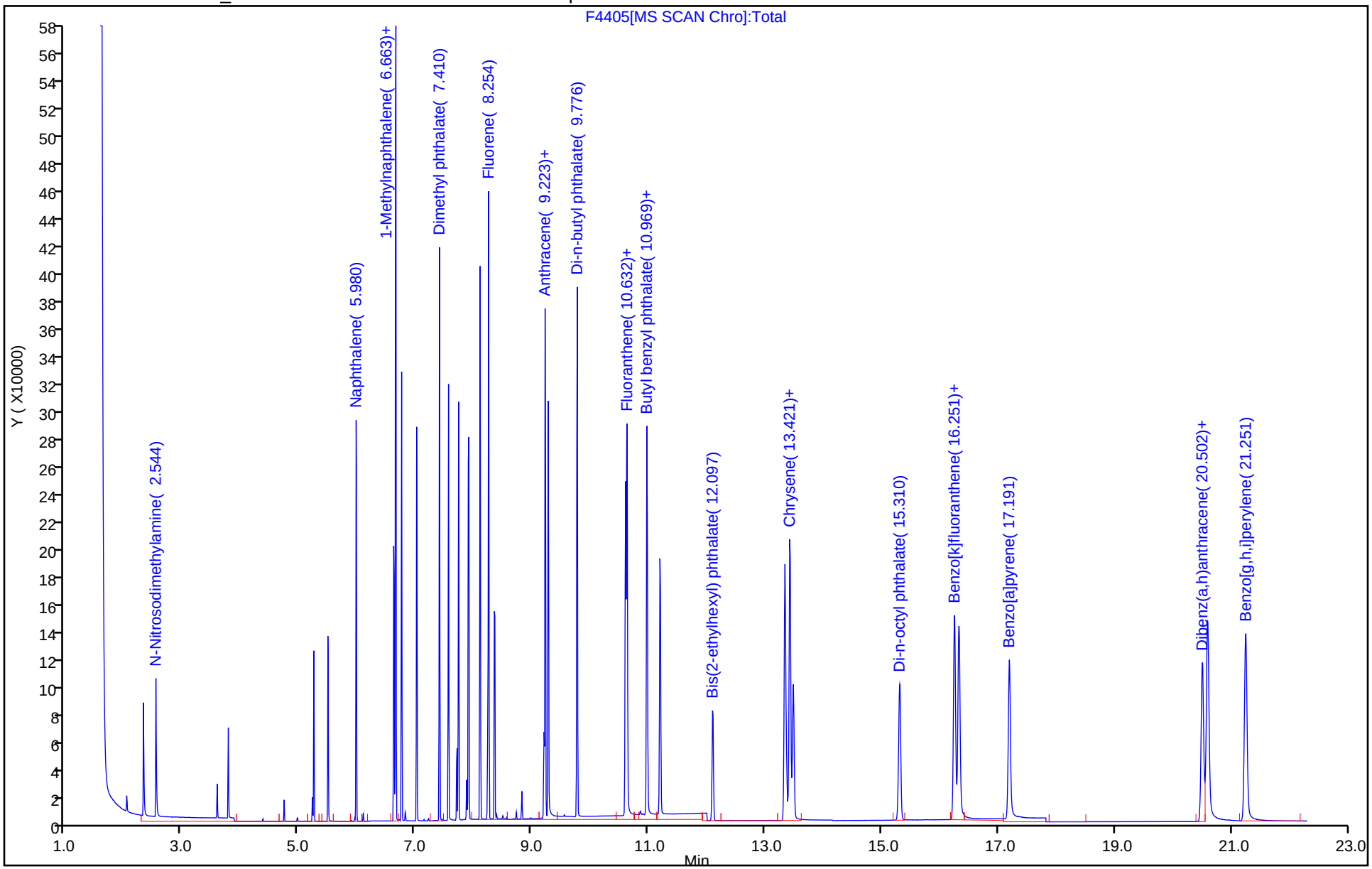
MS-SIMSL 2.5_00074 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:46 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4405.D

Injection Date:	29-Oct-2018 19:31:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD2500			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D
Lims ID: STD5000
Client ID:
Sample Type: IC Calib Level: 9
Inject. Date: 29-Oct-2018 20:00:30 ALS Bottle#: 10 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: std5000
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:48 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 21:00:17

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	97	29110	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	97	60672	600.0	600.0	
* 3 Chrysene-d12	240	13.358	13.367	-0.009	32	67799	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	97	154261	5000.0	5081.8	
$ 5 2-Fluorobiphenyl	172	7.019	7.026	-0.007	100	351658	5000.0	4763.1	
$ 6 Terphenyl-d14	244	11.194	11.203	-0.009	98	468240	5000.0	5224.5	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.544	2.563	-0.019	42	104151	5000.0	4654.8	
10 Naphthalene	128	5.980	5.980	0.000	100	448120	5000.0	4596.8	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	97	635609	10000	9624.9	
12 1-Methylnaphthalene	142	6.761	6.761	0.000	97	286227	5000.0	4806.2	
13 Dimethyl phthalate	163	7.410	7.419	-0.009	1	640600	10000	11227	
14 Acenaphthylene	152	7.566	7.566	0.000	99	436620	5000.0	5805.5	
15 Acenaphthene	153	7.739	7.739	0.000	98	313964	5000.0	4918.0	
16 Dibenzofuran	168	7.915	7.915	0.001	91	455166	5005.0	4726.0	
17 Diethyl phthalate	149	8.109	8.109	0.000	100	644109	10040	11587	
18 Fluorene	166	8.255	8.254	0.000	97	379461	5000.0	5093.3	
19 N-Nitrosodiphenylamine	169	8.352	8.361	-0.009	97	225054	5000.0	4985.8	
20 Phenanthrene	178	9.223	9.223	0.000	100	611829	5000.0	4977.2	
21 Anthracene	178	9.275	9.275	0.000	1	549841	5000.0	5956.0	
22 Di-n-butyl phthalate	149	9.776	9.776	0.000	1	974337	10000	8549.0	
23 Fluoranthene	202	10.632	10.632	0.000	100	692368	5000.0	5300.9	
24 Pyrene	202	10.970	10.969	0.001	99	694454	5000.0	5276.1	
25 Butyl benzyl phthalate	149	10.970	10.987	-0.017	1	4451	10000	0	
26 Benzo[a]anthracene	228	13.340	13.340	0.000	37	612573	5000.0	5326.1	
27 Chrysene	228	13.421	13.430	-0.009	95	693366	5000.0	4892.7	
28 Bis(2-ethylhexyl) phthalat	149	12.097	12.097	0.000	1	370566	10000	16871	
29 Di-n-octyl phthalate	149	15.310	15.306	0.004	1	692105	10000	9993.0	
30 Benzo[b]fluoranthene	252	16.251	16.251	0.000	97	668265	5000.0	4897.9	
31 Benzo[k]fluoranthene	252	16.325	16.329	-0.004	97	746517	5000.0	5573.2	
32 Benzo[a]pyrene	252	17.187	17.186	0.001	94	608628	5000.0	5652.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.503	20.507	-0.005	90	633911	5000.0	4592.7	
34 Dibenz(a,h)anthracene	278	20.594	20.599	-0.005	83	696717	5000.0	4856.3	
35 Benzo[g,h,i]perylene	276	21.246	21.250	-0.004	93	755750	5000.0	4325.0	
$ 53 2-methylnaphthalene-d10	152	6.633	6.632	0.001	88	236976	5000.0	4692.7	
$ 54 Fluoranthene-d10	212	10.606	10.606	0.000	100	547857	5000.0	5403.4	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

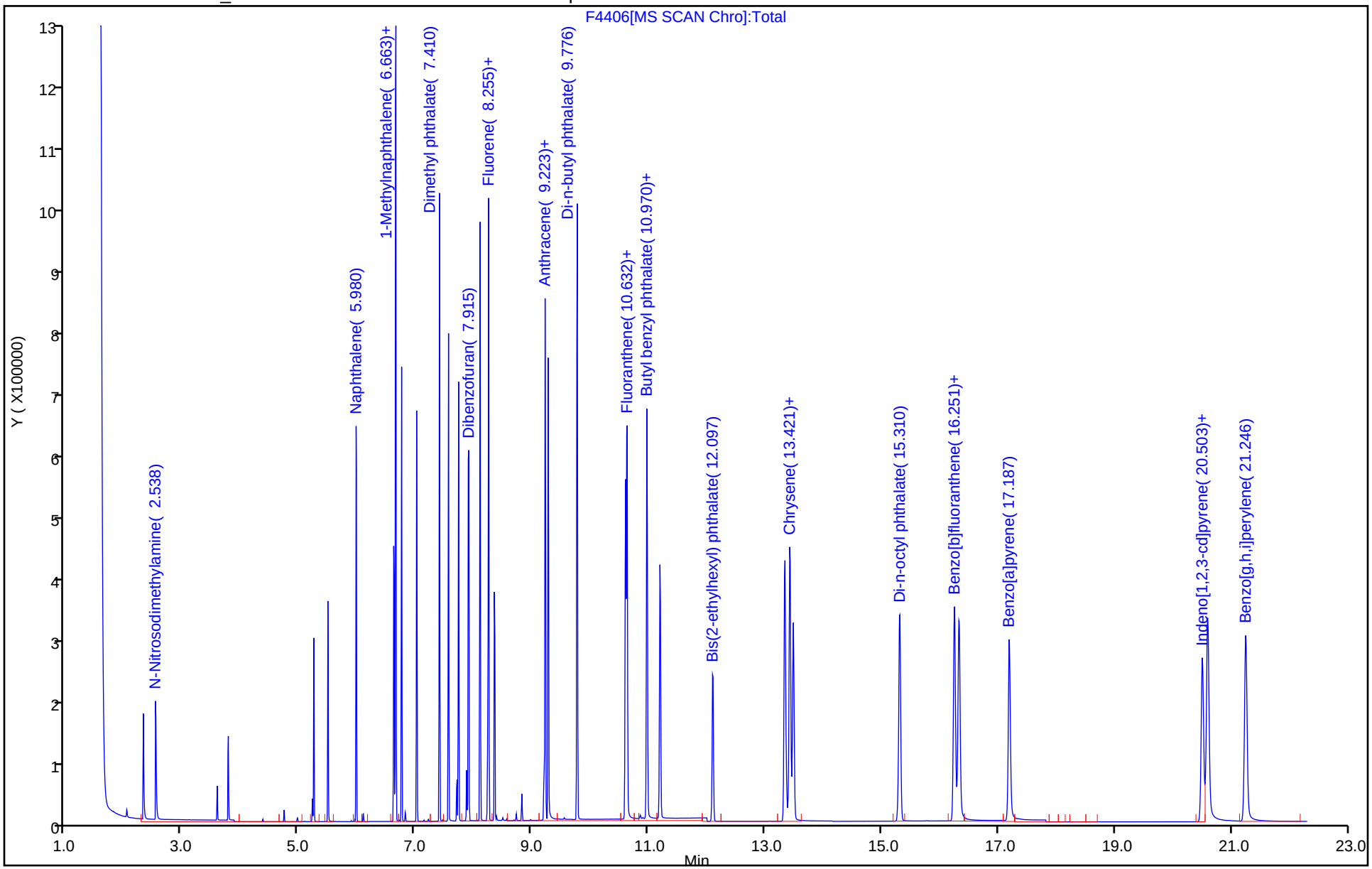
MS-SIMSL 5_00076 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:49 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Injection Date:	29-Oct-2018 20:00:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	STD5000			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-435404/12 Calibration Date: 10/29/2018 20:30

Instrument ID: SMS_F Calib Start Date: 10/29/2018 16:02

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/29/2018 20:00

Lab File ID: F4407.D Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	2.009	1.988	0.7000	594000	600000	-1.0	20.0
2-Methylnaphthalene	Ave	1.361	1.341	0.4000	591000	600000	-1.5	20.0
1-Methylnaphthalene	Ave	1.227	1.282	0.0500	626000	600000	4.4	20.0
Acenaphthylene	Ave	1.550	1.482	0.9000	573000	600000	-4.4	20.0
Acenaphthene	Ave	1.316	1.296	0.9000	591000	600000	-1.5	20.0
Fluorene	Ave	1.536	1.568	0.9000	613000	600000	2.1	20.0
Phenanthrene	Ave	1.216	1.208	0.7000	596000	600000	-0.6	20.0
Anthracene	Ave	0.9130	0.8833	0.7000	580000	600000	-3.3	20.0
Fluoranthene	Ave	1.292	1.193	0.6000	554000	600000	-7.6	20.0
Pyrene	Ave	1.302	1.239	0.6000	571000	600000	-4.8	20.0
Benzo[a]anthracene	Ave	1.018	0.9412	0.8000	555000	600000	-7.5	20.0
Chrysene	Ave	1.254	1.330	0.7000	636000	600000	6.0	20.0
Benzo[b]fluoranthene	Ave	1.207	1.111	0.7000	552000	600000	-8.0	20.0
Benzo[k]fluoranthene	Ave	1.185	1.197	0.7000	606000	600000	1.0	20.0
Benzo[a]pyrene	Ave	0.9529	0.8365	0.7000	527000	600000	-12.2	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.221	1.061	0.5000	521000	600000	-13.2	20.0
Dibenz(a,h)anthracene	Ave	1.270	1.190	0.4000	562000	600000	-6.3	20.0
Benzo[g,h,i]perylene	Ave	1.546	1.388	0.5000	539000	600000	-10.2	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4407.D
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 29-Oct-2018 20:30:30 ALS Bottle#: 11 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: icv
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist:

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:48 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 21:00:55

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	98	24945	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	97	53849	600.0	600.0	
* 3 Chrysene-d12	240	13.358	13.367	-0.009	99	53312	600.0	600.0	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.551	2.563	-0.012	38	11591	600.0	604.5	
10 Naphthalene	128	5.980	5.980	0.000	100	49602	600.0	593.8	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	97	33457	600.0	591.2	
12 1-Methylnaphthalene	142	6.761	6.761	0.000	97	31971	600.0	626.5	
13 Dimethyl phthalate	163	7.410	7.419	-0.009	1	28341	600.0	579.6	
14 Acenaphthylene	152	7.566	7.566	0.000	99	36958	600.0	573.5	
15 Acenaphthene	153	7.739	7.739	0.000	97	32331	600.0	591.0	
16 Dibenzofuran	168	7.915	7.915	0.001	92	49912	600.0	604.8	
17 Diethyl phthalate	149	8.109	8.109	0.000	99	26909	600.0	564.9	
18 Fluorene	166	8.255	8.254	0.001	96	39120	600.0	612.8	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	92	23887	600.0	596.2	
20 Phenanthrene	178	9.223	9.223	0.000	100	65050	600.0	596.2	
21 Anthracene	178	9.275	9.275	0.000	1	47562	600.0	580.5	
22 Di-n-butyl phthalate	149	9.777	9.776	0.000	1	30011	600.0	594.4	
23 Fluoranthene	202	10.632	10.632	0.000	100	64262	600.0	554.3	
24 Pyrene	202	10.970	10.969	0.001	99	66709	600.0	571.0	
25 Butyl benzyl phthalate	149		10.987				ND	ND	
26 Benzo[a]anthracene	228	13.340	13.340	0.000	51	50177	600.0	554.8	
27 Chrysene	228	13.421	13.430	-0.009	95	70890	600.0	636.2	
28 Bis(2-ethylhexyl) phthalat	149	12.097	12.097	0.000	1	9620	600.0	493.5	
29 Di-n-octyl phthalate	149	15.302	15.306	-0.004	1	17200	600.0	541.1	
30 Benzo[b]fluoranthene	252	16.246	16.251	-0.005	99	59221	600.0	552.0	
31 Benzo[k]fluoranthene	252	16.321	16.329	-0.008	98	63832	600.0	606.0	
32 Benzo[a]pyrene	252	17.191	17.186	0.005	97	44594	600.0	526.7	
33 Indeno[1,2,3-cd]pyrene	276	20.503	20.507	-0.004	91	56553	600.0	521.1	
34 Dibenz(a,h)anthracene	278	20.590	20.599	-0.009	84	63428	600.0	562.2	
35 Benzo[g,h,i]perylene	276	21.246	21.250	-0.004	94	74019	600.0	538.7	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

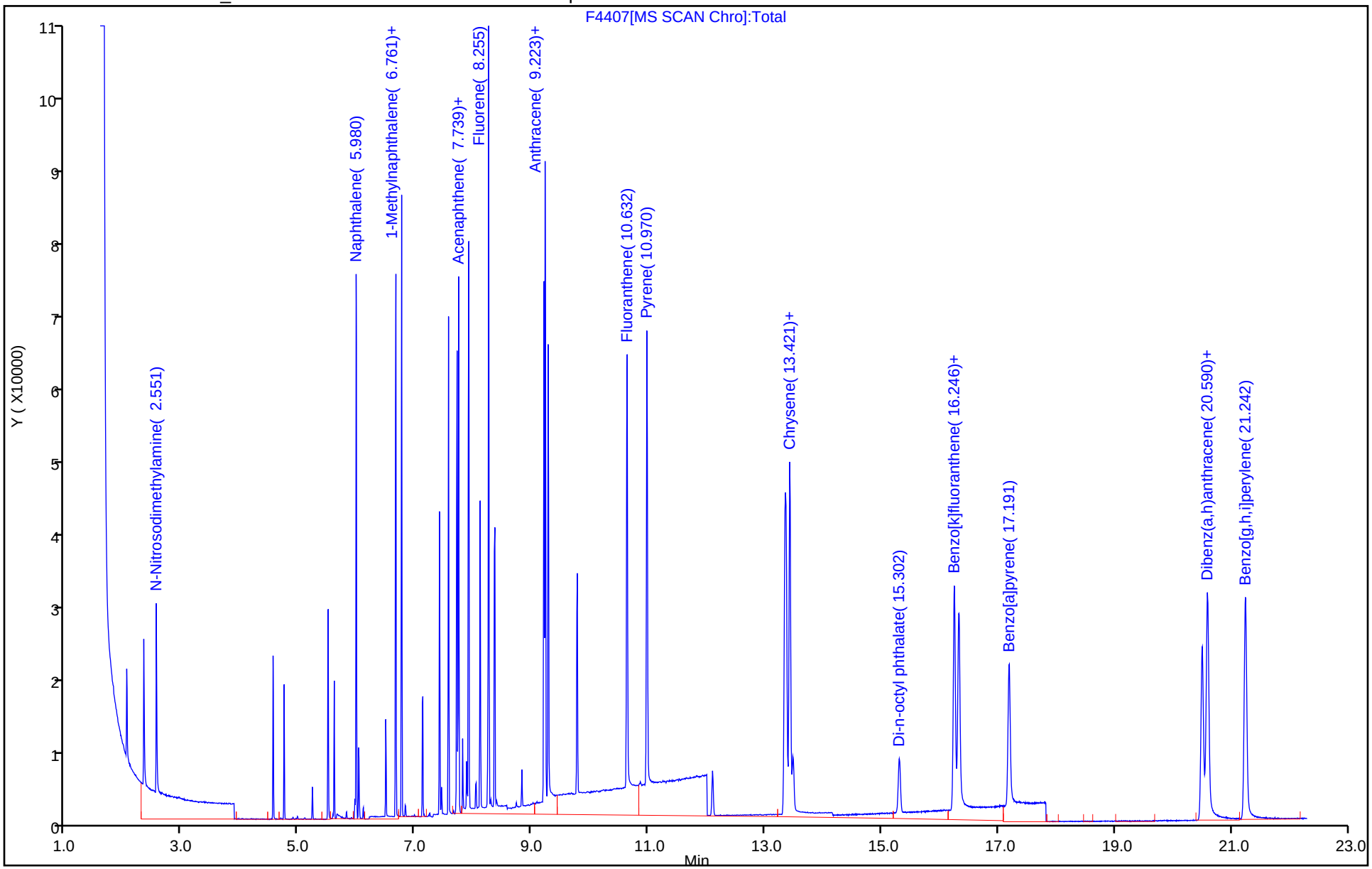
MS-SIM SSV2_00004 Amount Added: 200.00 Units: uL

Report Date: 29-Oct-2018 21:58:52 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4407.D

Injection Date:	29-Oct-2018 20:30:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	icv			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-435422/3 Calibration Date: 10/29/2018 21:09

Instrument ID: SMS_F Calib Start Date: 10/29/2018 16:02

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/29/2018 20:00

Lab File ID: F4409.D Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	2.009	1.888	0.7000	564000	600000	-6.0	20.0
2-Methylnaphthalene	Ave	1.361	1.286	0.4000	1130000	1200000	-5.5	20.0
1-Methylnaphthalene	Ave	1.227	1.161	0.0500	567000	600000	-5.4	20.0
Acenaphthylene	Ave	1.550	1.422	0.9000	551000	600000	-8.2	20.0
Acenaphthene	Ave	1.316	1.238	0.9000	565000	600000	-5.9	20.0
Fluorene	Ave	1.536	1.484	0.9000	580000	600000	-3.3	20.0
Phenanthrene	Ave	1.216	1.138	0.7000	562000	600000	-6.4	20.0
Anthracene	Ave	0.9130	0.8073	0.7000	531000	600000	-11.6	20.0
Fluoranthene	Ave	1.292	1.204	0.6000	559000	600000	-6.8	20.0
Pyrene	Ave	1.302	1.186	0.6000	547000	600000	-8.9	20.0
Benzo[a]anthracene	Ave	1.018	0.8693	0.8000	512000	600000	-14.6	20.0
Chrysene	Ave	1.254	1.162	0.7000	556000	600000	-7.3	20.0
Benzo[b]fluoranthene	Ave	1.207	1.048	0.7000	521000	600000	-13.2	20.0
Benzo[k]fluoranthene	Ave	1.185	1.098	0.7000	556000	600000	-7.4	20.0
Benzo[a]pyrene	Ave	0.9529	0.7654	0.7000	482000	600000	-19.7	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.221	0.9947	0.5000	489000	600000	-18.6	20.0
Dibenz(a,h)anthracene	Ave	1.270	1.085	0.4000	513000	600000	-14.6	20.0
Benzo[g,h,i]perylene	Ave	1.546	1.316	0.5000	511000	600000	-14.9	20.0
Nitrobenzene-d5	Ave	0.6257	0.5512		529000	600000	-11.9	20.0
2-methylnaphthalene-d10	Ave	1.041	0.9748		562000	600000	-6.3	35.0
2-Fluorobiphenyl	Ave	1.522	1.453		573000	600000	-4.5	20.0
Fluoranthene-d10	Ave	1.003	0.9451		566000	600000	-5.7	35.0
Terphenyl-d14	Ave	0.8863	0.8398		569000	600000	-5.2	20.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4409.D
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 29-Oct-2018 21:09:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 30-Oct-2018 19:06:12 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: wickhamm Date: 29-Oct-2018 21:41:10

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	97	26379	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	97	57478	600.0	600.0	
* 3 Chrysene-d12	240	13.358	13.358	0.000	99	57797	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	98	14541	600.0	528.6	
$ 5 2-Fluorobiphenyl	172	7.019	7.019	0.000	99	38322	600.0	572.8	
$ 6 Terphenyl-d14	244	11.194	11.194	0.000	98	48272	600.0	568.5	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.550	2.550	0.000	37	11349	600.0	559.7	
10 Naphthalene	128	5.980	5.980	0.000	100	49800	600.0	563.7	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	98	67846	1200.0	1133.7	
12 1-Methylnaphthalene	142	6.761	6.761	0.000	98	30620	600.0	567.4	
13 Dimethyl phthalate	163	7.410	7.410	0.000	1	58522	1200.0	1131.9	
14 Acenaphthylene	152	7.566	7.566	0.000	99	37520	600.0	550.5	
15 Acenaphthene	153	7.739	7.739	0.000	96	32668	600.0	564.7	
16 Dibenzofuran	168	7.914	7.914	0.000	92	50520	600.6	578.9	
17 Diethyl phthalate	149	8.109	8.109	0.000	98	55130	1204.8	1094.4	
18 Fluorene	166	8.254	8.254	0.000	95	39159	600.0	580.0	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	92	24164	600.0	565.1	
20 Phenanthrene	178	9.223	9.223	0.000	100	65429	600.0	561.8	
21 Anthracene	178	9.275	9.275	0.000	1	46401	600.0	530.6	
22 Di-n-butyl phthalate	149	9.776	9.776	0.000	1	66162	1200.0	1147.2	
23 Fluoranthene	202	10.632	10.632	0.000	100	69228	600.0	559.5	
24 Pyrene	202	10.969	10.969	0.000	99	68179	600.0	546.8	
25 Butyl benzyl phthalate	149	10.969	10.969	0.000	1	562	1200.0	0	
26 Benzo[a]anthracene	228	13.340	13.340	0.000	52	50242	600.0	512.4	
27 Chrysene	228	13.421	13.421	0.000	95	67162	600.0	555.9	
28 Bis(2-ethylhexyl) phthalat	149	12.097	12.097	0.000	1	20851	1200.0	1002.1	
29 Di-n-octyl phthalate	149	15.301	15.301	0.000	1	38548	1200.0	1060.9	
30 Benzo[b]fluoranthene	252	16.246	16.246	0.000	98	60580	600.0	520.8	
31 Benzo[k]fluoranthene	252	16.325	16.325	0.000	99	63438	600.0	555.6	
32 Benzo[a]pyrene	252	17.186	17.186	0.000	97	44239	600.0	482.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.498	20.498	0.000	91	57489	600.0	488.6	
34 Dibenz(a,h)anthracene	278	20.585	20.585	0.000	84	62697	600.0	512.6	
35 Benzo[g,h,i]perylene	276	21.242	21.242	0.000	94	76048	600.0	510.5	
$ 53 2-methylnaphthalene-d10	152	6.632	6.632	0.000	90	25715	600.0	561.9	
$ 54 Fluoranthene-d10	212	10.606	10.606	0.000	99	54325	600.0	565.6	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

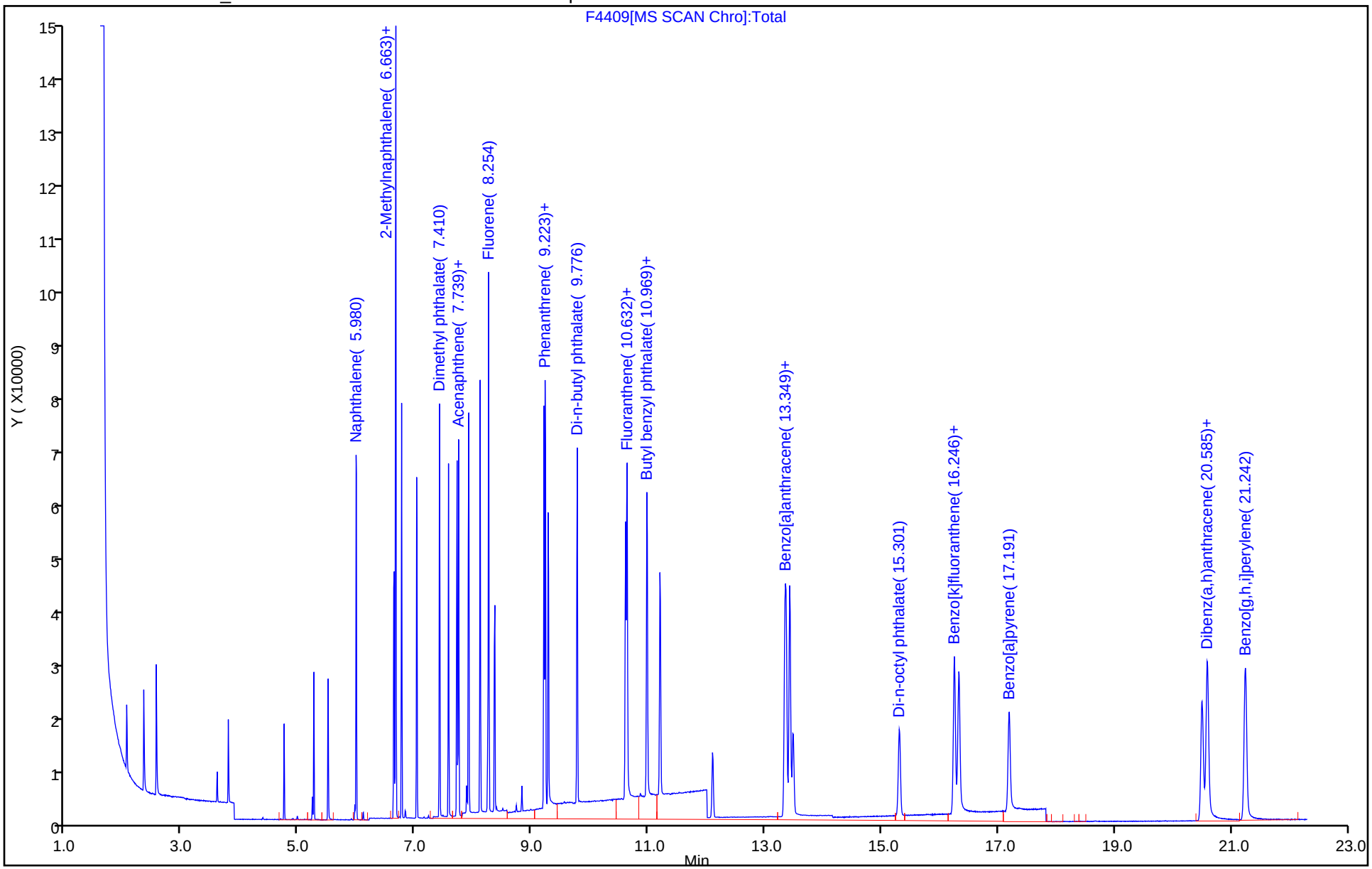
MS-SIMSL 0.6_00144 Amount Added: 200.00 Units: uL

Report Date: 30-Oct-2018 19:06:13 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4409.D

Injection Date:	29-Oct-2018 21:09:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	ccv			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCVC 280-435422/25 Calibration Date: 10/30/2018 07:57

Instrument ID: SMS_F Calib Start Date: 10/29/2018 16:02

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/29/2018 20:00

Lab File ID: F4431.D Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	2.009	1.932	0.7000	577000	600000	-3.8	50.0
2-Methylnaphthalene	Ave	1.361	1.323	0.4000	1170000	1200000	-2.8	50.0
1-Methylnaphthalene	Ave	1.227	1.184	0.0500	579000	600000	-3.5	50.0
Acenaphthylene	Ave	1.550	1.461	0.9000	565000	600000	-5.8	50.0
Acenaphthene	Ave	1.316	1.276	0.9000	582000	600000	-3.0	50.0
Fluorene	Ave	1.536	1.499	0.9000	586000	600000	-2.4	50.0
Phenanthrene	Ave	1.216	1.214	0.7000	599000	600000	-0.1	50.0
Anthracene	Ave	0.9130	0.8409	0.7000	553000	600000	-7.9	50.0
Fluoranthene	Ave	1.292	1.222	0.6000	568000	600000	-5.4	50.0
Pyrene	Ave	1.302	1.193	0.6000	550000	600000	-8.3	50.0
Benzo[a]anthracene	Ave	1.018	0.8743	0.8000	515000	600000	-14.1	50.0
Chrysene	Ave	1.254	1.274	0.7000	610000	600000	1.6	50.0
Benzo[b]fluoranthene	Ave	1.207	1.044	0.7000	519000	600000	-13.5	50.0
Benzo[k]fluoranthene	Ave	1.185	1.225	0.7000	620000	600000	3.3	50.0
Benzo[a]pyrene	Ave	0.9529	0.7416	0.7000	467000	600000	-22.2	50.0
Indeno[1,2,3-cd]pyrene	Ave	1.221	0.9188	0.5000	451000	600000	-24.8	50.0
Dibenz(a,h)anthracene	Ave	1.270	1.033	0.4000	488000	600000	-18.6	50.0
Benzo[g,h,i]perylene	Ave	1.546	1.301	0.5000	505000	600000	-15.8	50.0
Nitrobenzene-d5	Ave	0.6257	0.5525		530000	600000	-11.7	50.0
2-methylnaphthalene-d10	Ave	1.041	0.9691		559000	600000	-6.9	50.0
2-Fluorobiphenyl	Ave	1.522	1.456		574000	600000	-4.3	50.0
Fluoranthene-d10	Ave	1.003	0.9306		557000	600000	-7.2	50.0
Terphenyl-d14	Ave	0.8863	0.8127		550000	600000	-8.3	50.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4431.D
Lims ID: ccvc
Client ID:
Sample Type: CCVC
Inject. Date: 30-Oct-2018 07:57:30 ALS Bottle#: 24 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVC
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 30-Oct-2018 19:07:23 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: wickhamm Date: 30-Oct-2018 15:01:42

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	95	34536	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	97	72779	600.0	600.0	
* 3 Chrysene-d12	240	13.358	13.358	0.000	95	70616	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	97	19082	600.0	529.9	
$ 5 2-Fluorobiphenyl	172	7.019	7.019	0.000	100	50290	600.0	574.1	
$ 6 Terphenyl-d14	244	11.194	11.194	0.000	99	59145	600.0	550.1	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.550	2.550	0.000	43	14368	600.0	541.3	
10 Naphthalene	128	5.980	5.980	0.000	100	66725	600.0	576.9	
11 2-Methylnaphthalene	142	6.655	6.663	-0.008	93	91368	1200.0	1166.2	
12 1-Methylnaphthalene	142	6.761	6.761	0.000	95	40904	600.0	578.9	
13 Dimethyl phthalate	163	7.410	7.410	0.000	1	76249	1200.0	1126.4	
14 Acenaphthylene	152	7.566	7.566	0.000	98	50448	600.0	565.4	
15 Acenaphthene	153	7.739	7.739	0.000	99	44072	600.0	581.9	
16 Dibenzofuran	168	7.915	7.914	0.001	90	65062	600.6	569.4	
17 Diethyl phthalate	149	8.109	8.109	0.000	100	68674	1204.8	1041.3	
18 Fluorene	166	8.254	8.254	0.000	97	51784	600.0	585.9	
19 N-Nitrosodiphenylamine	169	8.351	8.361	-0.010	99	30767	600.0	568.2	
20 Phenanthrene	178	9.223	9.223	0.000	100	88373	600.0	599.3	
21 Anthracene	178	9.275	9.275	0.000	1	61197	600.0	552.6	
22 Di-n-butyl phthalate	149	9.768	9.776	-0.008	1	81793	1200.0	1123.2	
23 Fluoranthene	202	10.624	10.632	-0.008	100	88943	600.0	567.7	
24 Pyrene	202	10.969	10.969	0.000	100	86849	600.0	550.1	
25 Butyl benzyl phthalate	149	10.969	10.969	0.000	1	839	1200.0	0	
26 Benzo[a]anthracene	228	13.331	13.340	-0.009	48	61737	600.0	515.4	
27 Chrysene	228	13.412	13.421	-0.009	95	89967	600.0	609.5	
28 Bis(2-ethylhexyl) phthalat	149	12.097	12.097	0.000	1	23483	1200.0	891.3	
29 Di-n-octyl phthalate	149	15.297	15.301	-0.004	1	43010	1200.0	975.9	
30 Benzo[b]fluoranthene	252	16.237	16.246	-0.009	98	73723	600.0	518.8	
31 Benzo[k]fluoranthene	252	16.316	16.325	-0.009	98	86481	600.0	619.9	
32 Benzo[a]pyrene	252	17.178	17.186	-0.008	96	52372	600.0	467.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.489	20.498	-0.009	91	64883	600.0	451.3	
34 Dibenz(a,h)anthracene	278	20.581	20.585	-0.004	84	72942	600.0	488.1	
35 Benzo[g,h,i]perylene	276	21.229	21.242	-0.013	94	91902	600.0	505.0	
$ 53 2-methylnaphthalene-d10	152	6.625	6.632	-0.007	99	33469	600.0	558.6	
$ 54 Fluoranthene-d10	212	10.598	10.606	-0.008	99	67727	600.0	556.9	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

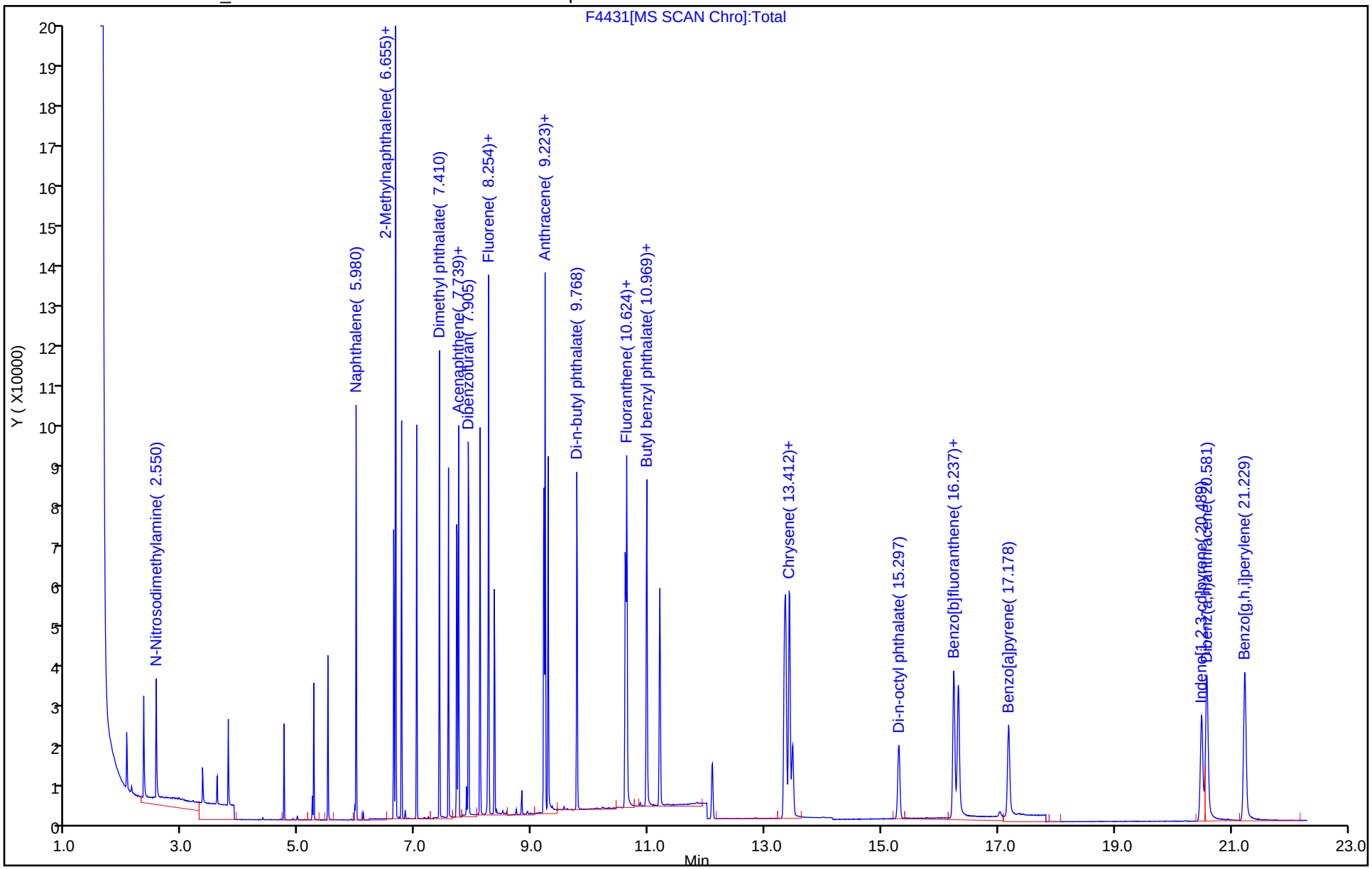
MS-SIMSL 0.6_00144 Amount Added: 200.00 Units: uL

Report Date: 30-Oct-2018 19:07:24 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4431.D

Injection Date:	30-Oct-2018 07:57:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	ccvc			Worklist Smp#:	25
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-435950/3 Calibration Date: 11/01/2018 18:29

Instrument ID: SMS_F Calib Start Date: 10/29/2018 16:02

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/29/2018 20:00

Lab File ID: F4474.D Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	2.009	2.014	0.7000	601000	600000	0.2	20.0
2-Methylnaphthalene	Ave	1.361	1.359	0.4000	1200000	1200000	-0.2	20.0
1-Methylnaphthalene	Ave	1.227	1.210	0.0500	591000	600000	-1.5	20.0
Acenaphthylene	Ave	1.550	1.593	0.9000	616000	600000	2.7	20.0
Acenaphthene	Ave	1.316	1.303	0.9000	594000	600000	-1.0	20.0
Fluorene	Ave	1.536	1.558	0.9000	609000	600000	1.5	20.0
Phenanthrene	Ave	1.216	1.223	0.7000	603000	600000	0.6	20.0
Anthracene	Ave	0.9130	0.9306	0.7000	612000	600000	1.9	20.0
Fluoranthene	Ave	1.292	1.279	0.6000	594000	600000	-1.0	20.0
Pyrene	Ave	1.302	1.236	0.6000	570000	600000	-5.0	20.0
Benzo[a]anthracene	Ave	1.018	0.9645	0.8000	569000	600000	-5.2	20.0
Chrysene	Ave	1.254	1.292	0.7000	618000	600000	3.0	20.0
Benzo[b]fluoranthene	Ave	1.207	1.106	0.7000	550000	600000	-8.4	20.0
Benzo[k]fluoranthene	Ave	1.185	1.167	0.7000	591000	600000	-1.5	20.0
Benzo[a]pyrene	Ave	0.9529	0.9335	0.7000	588000	600000	-2.0	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.221	1.062	0.5000	522000	600000	-13.1	20.0
Dibenz(a,h)anthracene	Ave	1.270	1.135	0.4000	536000	600000	-10.6	20.0
Benzo[g,h,i]perylene	Ave	1.546	1.366	0.5000	530000	600000	-11.7	20.0
Nitrobenzene-d5	Ave	0.6257	0.6481		622000	600000	3.6	20.0
2-methylnaphthalene-d10	Ave	1.041	1.012		583000	600000	-2.8	35.0
2-Fluorobiphenyl	Ave	1.522	1.514		597000	600000	-0.5	20.0
Fluoranthene-d10	Ave	1.003	0.9891		592000	600000	-1.4	35.0
Terphenyl-d14	Ave	0.8863	0.8390		568000	600000	-5.3	20.0

Report Date: 02-Nov-2018 17:19:53 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4474.D
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 01-Nov-2018 18:29:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:52 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 01-Nov-2018 18:55:24

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.721	7.721	0.000	93	24170	600.0	600.0	M
* 2 Phenanthrene-d10	188	9.215	9.215	0.000	97	53542	600.0	600.0	
* 3 Chrysene-d12	240	13.376	13.376	0.000	98	51365	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	99	15665	600.0	621.5	
$ 5 2-Fluorobiphenyl	172	7.026	7.026	0.000	100	36585	600.0	596.8	
$ 6 Terphenyl-d14	244	11.212	11.212	0.000	100	44919	600.0	567.9	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.531	2.531	0.000	40	11935	600.0	642.4	
10 Naphthalene	128	5.985	5.985	0.000	100	48684	600.0	601.5	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	95	65676	1200.0	1197.8	
12 1-Methylnaphthalene	142	6.769	6.769	0.000	93	29234	600.0	591.2	
13 Dimethyl phthalate	163	7.419	7.419	0.000	1	66030	1200.0	1393.8	
14 Acenaphthylene	152	7.575	7.575	0.000	98	38491	600.0	616.4	
15 Acenaphthene	153	7.747	7.747	0.000	99	31495	600.0	594.2	
16 Dibenzofuran	168	7.915	7.915	0.000	95	47591	600.6	595.1	
17 Diethyl phthalate	149	8.119	8.119	0.000	96	72560	1204.8	1572.1	
18 Fluorene	166	8.264	8.264	0.000	99	37663	600.0	608.9	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	100	24915	600.0	625.5	
20 Phenanthrene	178	9.232	9.232	0.000	100	65456	600.0	603.4	
21 Anthracene	178	9.284	9.284	0.000	1	49825	600.0	611.6	
22 Di-n-butyl phthalate	149	9.785	9.785	0.000	1	80379	1200.0	1445.3	
23 Fluoranthene	202	10.641	10.641	0.000	100	68485	600.0	594.2	
24 Pyrene	202	10.987	10.987	0.000	100	66189	600.0	569.8	
25 Butyl benzyl phthalate	149	10.987	10.987	0.000	1	620	1200.0	0	
26 Benzo[a]anthracene	228	13.349	13.349	0.000	42	49541	600.0	568.6	
27 Chrysene	228	13.439	13.439	0.000	95	66359	600.0	618.1	
28 Bis(2-ethylhexyl) phthalat	149	12.115	12.115	0.000	1	24637	1200.0	1271.0	
29 Di-n-octyl phthalate	149	15.319	15.319	0.000	1	41316	1200.0	1259.2	
30 Benzo[b]fluoranthene	252	16.264	16.264	0.000	98	56824	600.0	549.7	
31 Benzo[k]fluoranthene	252	16.342	16.342	0.000	98	59957	600.0	590.8	
32 Benzo[a]pyrene	252	17.204	17.204	0.000	96	47947	600.0	587.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.520	20.520	0.000	91	54539	600.0	521.6	
34 Dibenz(a,h)anthracene	278	20.612	20.612	0.000	85	58298	600.0	536.4	
35 Benzo[g,h,i]perylene	276	21.264	21.264	0.000	95	70150	600.0	529.9	
$ 53 2-methylnaphthalene-d10	152	6.633	6.633	0.000	99	24456	600.0	583.3	
$ 54 Fluoranthene-d10	212	10.615	10.615	0.000	100	52959	600.0	591.9	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

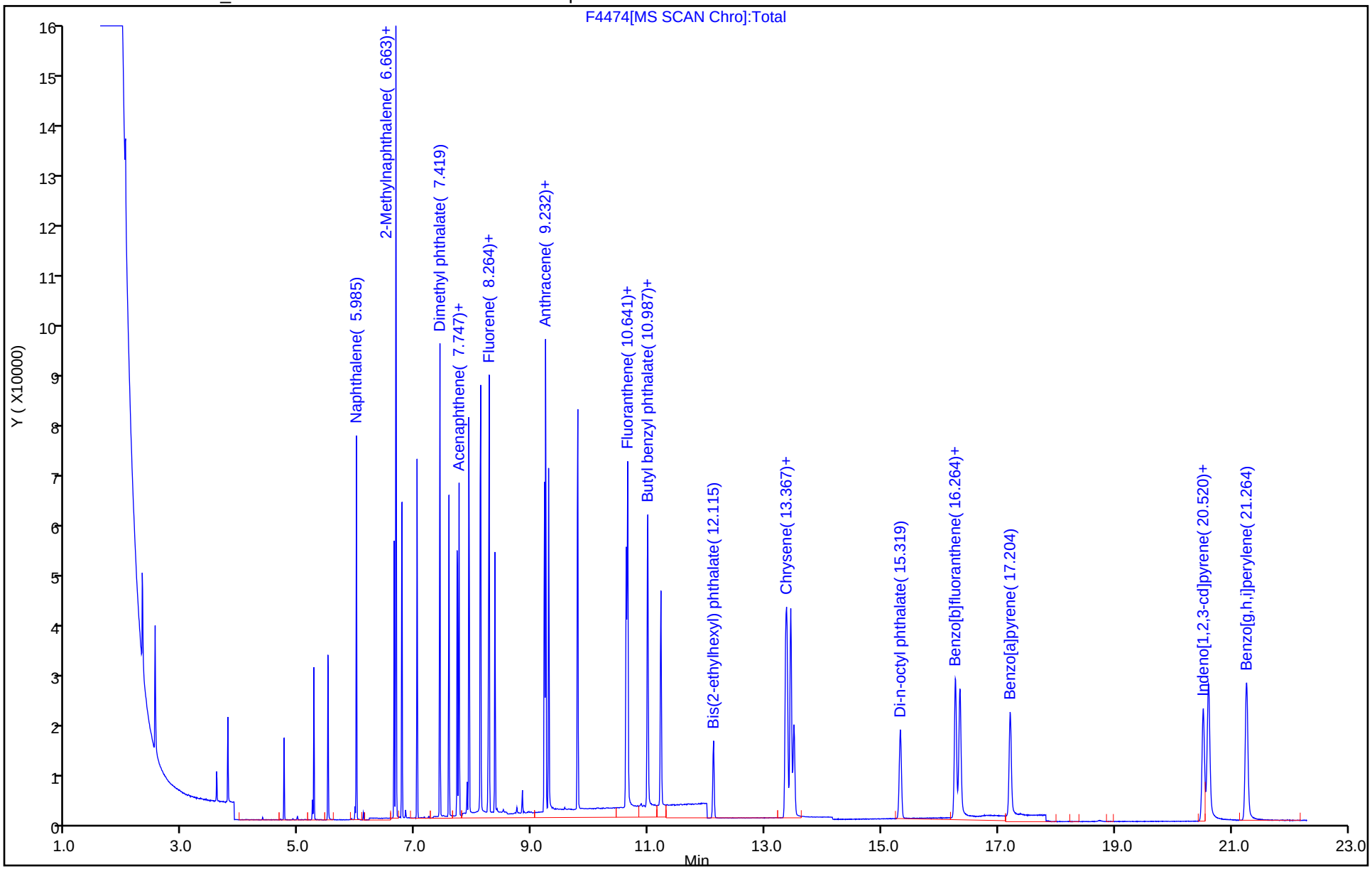
MS-SIM CCV_00080 Amount Added: 200.00 Units: uL

Report Date: 02-Nov-2018 17:19:53 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4474.D

Injection Date:	01-Nov-2018 18:29:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	ccv			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



Manual Integration/User Assign Peak Report

TestAmerica Denver

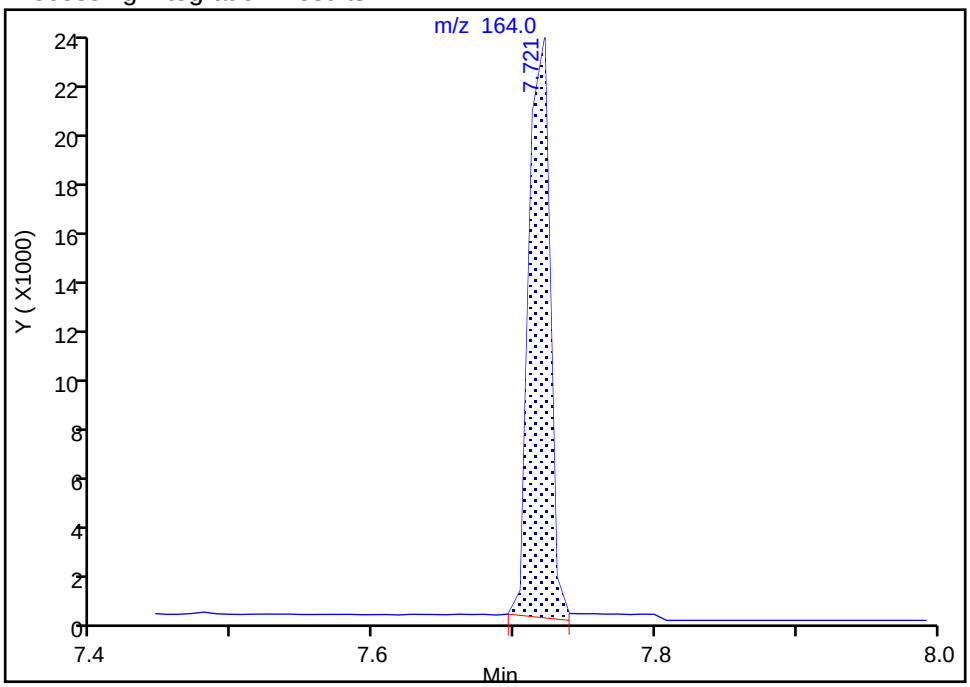
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4474.D
Injection Date: 01-Nov-2018 18:29:30 Instrument ID: SMS_F
Lims ID: ccv
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

* 1 Acenaphthene-d10, CAS: 15067-26-2

Signal: 1

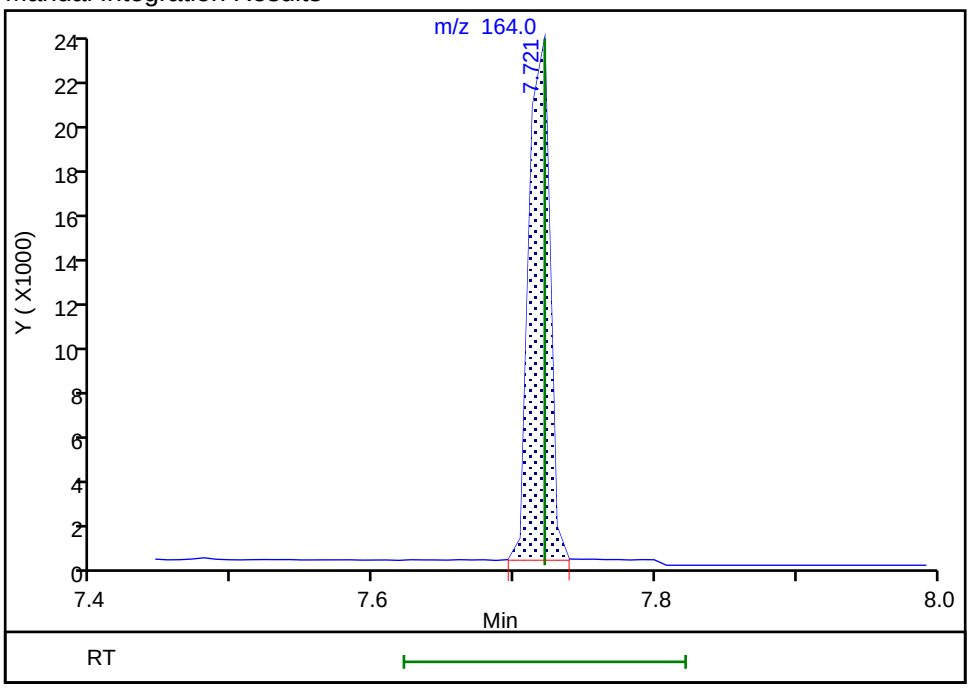
Processing Integration Results

RT: 7.72
Area: 24481
Amount: 600.0000
Amount Units: ng/ml



Manual Integration Results

RT: 7.72
Area: 24170
Amount: 600.0000
Amount Units: ng/ml



Reviewer: wickhamm, 01-Nov-2018 18:55:14
Audit Action: Assigned New Baseline Audit Reason: Baseline

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCVC 280-435950/25 Calibration Date: 11/02/2018 05:24

Instrument ID: SMS_F Calib Start Date: 10/29/2018 16:02

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/29/2018 20:00

Lab File ID: F4496.D Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	2.009	2.093	0.7000	625000	600000	4.2	50.0
2-Methylnaphthalene	Ave	1.361	1.409	0.4000	1240000	1200000	3.5	50.0
1-Methylnaphthalene	Ave	1.227	1.259	0.0500	615000	600000	2.6	50.0
Acenaphthylene	Ave	1.550	1.440	0.9000	557000	600000	-7.1	50.0
Acenaphthene	Ave	1.316	1.291	0.9000	589000	600000	-1.9	50.0
Fluorene	Ave	1.536	1.499	0.9000	586000	600000	-2.4	50.0
Phenanthrene	Ave	1.216	1.242	0.7000	613000	600000	2.1	50.0
Anthracene	Ave	0.9130	0.8292	0.7000	545000	600000	-9.2	50.0
Fluoranthene	Ave	1.292	1.236	0.6000	574000	600000	-4.3	50.0
Pyrene	Ave	1.302	1.147	0.6000	529000	600000	-11.8	50.0
Benzo[a]anthracene	Ave	1.018	0.7952*	0.8000	469000	600000	-21.9	50.0
Chrysene	Ave	1.254	1.318	0.7000	630000	600000	5.1	50.0
Benzo[b]fluoranthene	Ave	1.207	0.9256	0.7000	460000	600000	-23.3	50.0
Benzo[k]fluoranthene	Ave	1.185	1.110	0.7000	562000	600000	-6.4	50.0
Benzo[a]pyrene	Ave	0.9529	0.5911*	0.7000	372000	600000	-38.0	50.0
Indeno[1,2,3-cd]pyrene	Ave	1.221	0.7397	0.5000	363000	600000	-39.4	50.0
Dibenz(a,h)anthracene	Ave	1.270	0.8811	0.4000	416000	600000	-30.6	50.0
Benzo[g,h,i]perylene	Ave	1.546	1.084	0.5000	421000	600000	-29.9	50.0
Nitrobenzene-d5	Ave	0.6257	0.5867		563000	600000	-6.2	50.0
2-methylnaphthalene-d10	Ave	1.041	1.028		593000	600000	-1.2	50.0
2-Fluorobiphenyl	Ave	1.522	1.562		616000	600000	2.7	50.0
Fluoranthene-d10	Ave	1.003	0.9152		548000	600000	-8.7	50.0
Terphenyl-d14	Ave	0.8863	0.8129		550000	600000	-8.3	50.0

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4496.D
Lims ID: ccvc
Client ID:
Sample Type: CCVC
Inject. Date: 02-Nov-2018 05:24:30 ALS Bottle#: 24 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVC
Operator ID: WICKHAMM Instrument ID: SMS_F
Sublist: chrom-SMSF_8270SIMX*sub8

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:20:37 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 02-Nov-2018 14:42:35

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.704	7.721	-0.017	79	25141	600.0	600.0	
* 2 Phenanthrene-d10	188	9.197	9.215	-0.018	100	53342	600.0	600.0	
* 3 Chrysene-d12	240	13.349	13.376	-0.027	96	48919	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.251	5.256	-0.005	100	14749	600.0	562.6	
$ 5 2-Fluorobiphenyl	172	7.019	7.026	-0.007	99	39276	600.0	616.0	
$ 6 Terphenyl-d14	244	11.185	11.212	-0.027	99	43359	600.0	550.3	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.531	2.531	0.000	45	11742	600.0	607.6	
10 Naphthalene	128	5.980	5.985	-0.005	100	52616	600.0	624.9	
11 2-Methylnaphthalene	142	6.655	6.663	-0.008	96	70848	1200.0	1242.2	
12 1-Methylnaphthalene	142	6.761	6.769	-0.008	93	31655	600.0	615.5	
13 Dimethyl phthalate	163	7.410	7.419	-0.009	1	55851	1200.0	1133.4	a
14 Acenaphthylene	152	7.566	7.575	-0.008	98	36191	600.0	557.2	
15 Acenaphthene	153	7.739	7.747	-0.008	100	32467	600.0	588.9	
16 Dibenzofuran	168	7.905	7.915	-0.010	94	49703	600.6	597.5	
17 Diethyl phthalate	149	8.099	8.119	-0.020	95	57499	1204.8	1197.7	
18 Fluorene	166	8.254	8.264	-0.010	100	37680	600.0	585.6	
19 N-Nitrosodiphenylamine	169	8.351	8.361	-0.010	100	20399	600.0	514.0	
20 Phenanthrene	178	9.223	9.232	-0.009	100	66230	600.0	612.8	
21 Anthracene	178	9.275	9.284	-0.009	1	44231	600.0	545.0	
22 Di-n-butyl phthalate	149	9.768	9.785	-0.017	1	54315	1200.0	1029.2	
23 Fluoranthene	202	10.624	10.641	-0.017	100	65950	600.0	574.3	
24 Pyrene	202	10.961	10.987	-0.026	99	61208	600.0	528.9	
25 Butyl benzyl phthalate	149		10.987				ND	ND	
26 Benzo[a]anthracene	228	13.322	13.349	-0.027	45	38902	600.0	468.8	
27 Chrysene	228	13.412	13.439	-0.027	95	64455	600.0	630.4	
28 Bis(2-ethylhexyl) phthalat	149	12.088	12.115	-0.027	1	15380	1200.0	796.4	
29 Di-n-octyl phthalate	149	15.284	15.319	-0.035	1	27611	1200.0	909.8	
30 Benzo[b]fluoranthene	252	16.229	16.264	-0.035	98	45280	600.0	460.0	
31 Benzo[k]fluoranthene	252	16.307	16.342	-0.035	98	54303	600.0	561.9	
32 Benzo[a]pyrene	252	17.169	17.204	-0.035	97	28915	600.0	372.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
33 Indeno[1,2,3-cd]pyrene	276	20.480	20.520	-0.040	92	36184	600.0	363.3	
34 Dibenz(a,h)anthracene	278	20.568	20.612	-0.044	86	43100	600.0	416.4	
35 Benzo[g,h,i]perylene	276	21.224	21.264	-0.040	95	53019	600.0	420.5	
$ 53 2-methylnaphthalene-d10	152	6.625	6.633	-0.008	98	25852	600.0	592.8	
$ 54 Fluoranthene-d10	212	10.598	10.615	-0.017	100	48818	600.0	547.6	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

a - User Assigned ID

Reagents:

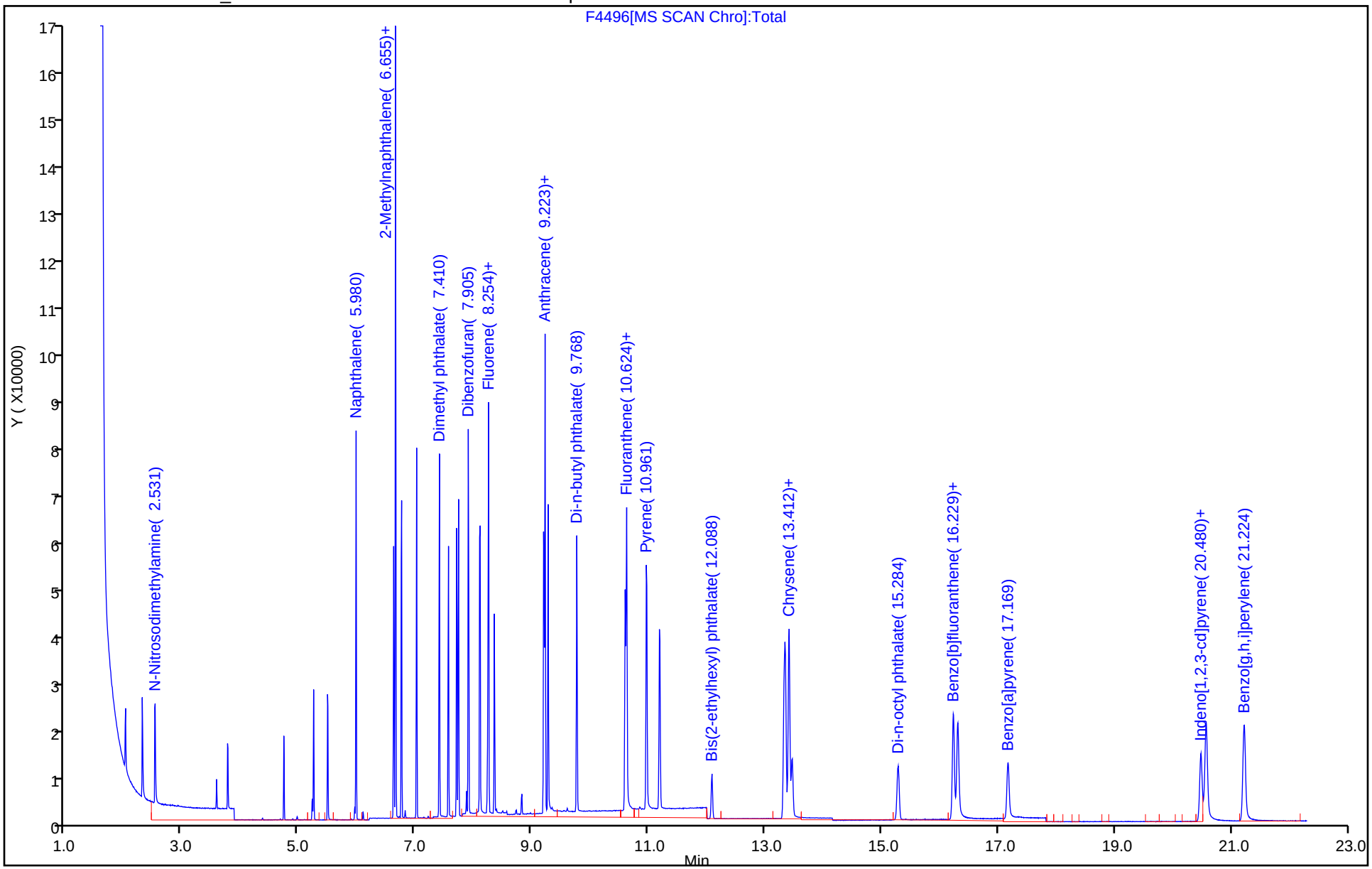
MS-SIM CCV_00080 Amount Added: 200.00 Units: uL

Report Date: 02-Nov-2018 17:20:38 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4496.D

Injection Date:	02-Nov-2018 05:24:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	ccvc			Worklist Smp#:	25
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 29-Oct-2018 15:45:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 29-Oct-2018 21:58:20 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK003

First Level Reviewer: wickhamm Date: 29-Oct-2018 18:56:21

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
38 Pentachlorophenol_T	266	3.885	3.885	0.000	80	328371	NR	NR	
39 DFTPP									
40 Benzidine_T	184	4.977	4.977	0.000	96	2499541	NR	NR	
41 4,4'-DDE	246	4.149	4.149	0.000	42	7831	NR	NR	
42 4,4'-DDD	235	5.415	5.415	0.000	62	12474	NR	NR	a
43 4,4'-DDT	235	5.642	5.642	0.000	96	1044699	NR	NR	a

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
a - User Assigned ID

Reagents:

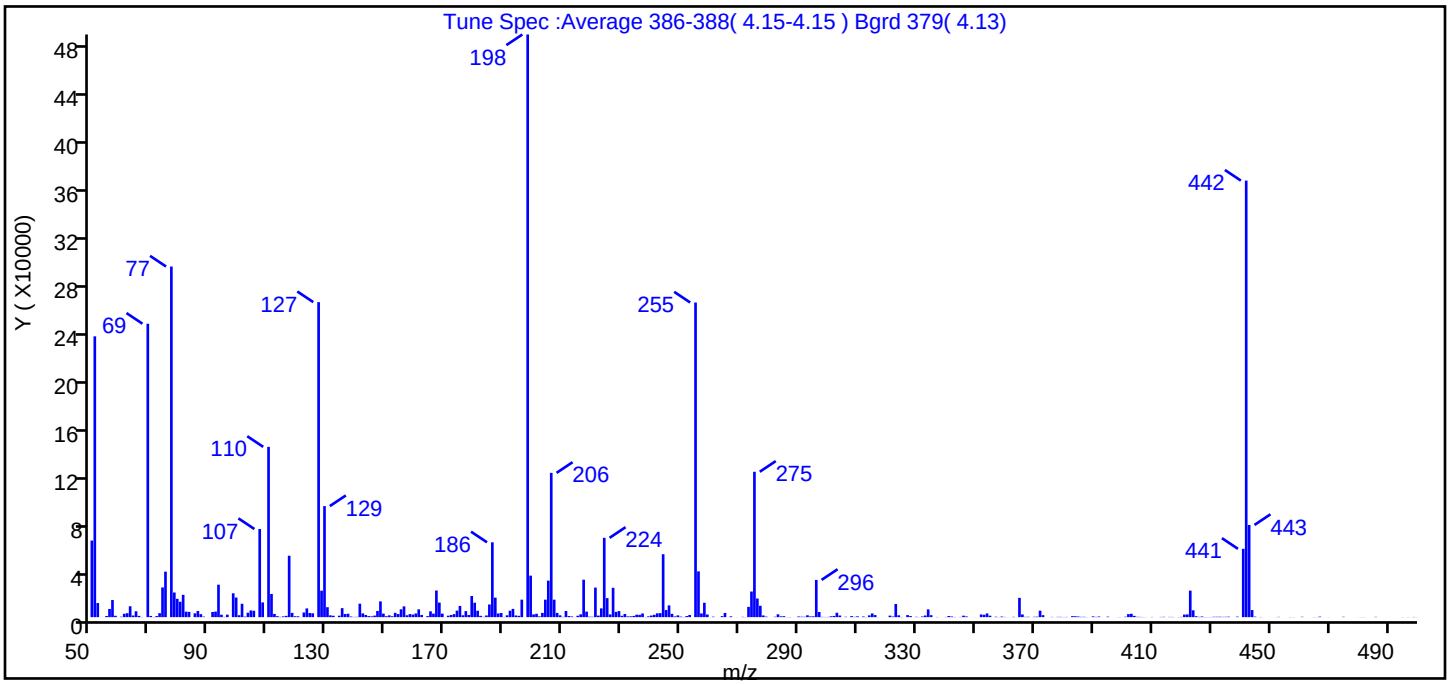
MS-DFTPP_00047 Amount Added: 0.50 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D
Injection Date: 29-Oct-2018 15:45:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Tune Method: DFTPP Method 8270

39 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	48.2
68	<2% of mass 69	0.0 (0.0)
69	Present	50.4
70	<2% of mass 69	0.2 (0.4)
127	40-60% of mass 198	54.1
197	<1% of mass 198	0.0
199	5-9% of mass 198	7.1
275	10-30% of mass 198	25.0
365	>1% of mass 198	3.3
441	Present but less than mass 443	11.7 (74.1)
442	>40% of mass 198	74.9
443	17-23% of mass 442	15.8 (21.1)

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 29-Oct-2018 15:45:30
Spectrum: Tune Spec :Average 386-388(4.15-4.15) Bgrd 379(4.13)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 365

m/z	Y	m/z	Y	m/z	Y	m/z	Y
50.00	63336	154.00	2550	248.00	602	361.00	56
51.00	232192	155.00	6473	249.00	1470	363.00	261
52.00	11685	156.00	8905	250.00	434	364.00	35
55.00	958	157.00	1569	251.00	132	365.00	15938
56.00	6769	158.00	2527	252.00	894	366.00	2232
57.00	14139	159.00	2126	253.00	1778	367.00	247
58.00	1137	160.00	3009	255.00	260160	368.00	304
60.00	368	161.00	6442	256.00	37832	370.00	306
61.00	2801	162.00	1769	257.00	3075	371.00	395
62.00	3263	164.00	844	258.00	11876	372.00	5362
63.00	9000	165.00	4819	259.00	2194	373.00	1635
64.00	1342	166.00	2896	260.00	48	376.00	191
65.00	4853	167.00	22016	261.00	391	378.00	214
66.00	1052	168.00	12056	264.00	814	379.00	239
67.00	129	169.00	2910	265.00	3479	380.00	132
69.00	242624	170.00	34	266.00	39	381.00	189
70.00	1003	171.00	1194	267.00	661	383.00	840
71.00	112	172.00	1796	269.00	45	384.00	752
72.00	875	173.00	2498	271.00	231	385.00	521
73.00	3276	174.00	5371	272.00	92	386.00	245
74.00	24576	175.00	9260	273.00	8499	387.00	272
75.00	37608	176.00	1547	274.00	21184	388.00	103
77.00	289920	177.00	4987	275.00	120208	390.00	629
78.00	20376	178.00	1798	276.00	15389	391.00	209
79.00	15127	179.00	17472	277.00	9398	392.00	532
80.00	12746	180.00	11923	278.00	1402	393.00	3
81.00	18456	181.00	5305	279.00	443	395.00	432
82.00	4553	182.00	1093	282.00	343	396.00	9
83.00	4352	183.00	244	283.00	2338	398.00	19
85.00	3173	184.00	1380	284.00	677	399.00	123
86.00	5067	185.00	10470	285.00	808	401.00	360
87.00	2466	186.00	61872	286.00	75	402.00	2491
88.00	436	187.00	16130	287.00	135	403.00	2782

Report Date: 29-Oct-2018 21:58:21 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 29-Oct-2018 15:45:30
Spectrum: Tune Spec :Average 386-388(4.15-4.15) Bgrd 379(4.13)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 365

m/z	Y	m/z	Y	m/z	Y	m/z	Y
90.00	43	188.00	3025	288.00	26	404.00	1056
91.00	4254	189.00	3425	290.00	539	405.00	279
92.00	4594	190.00	153	291.00	354	406.00	204
93.00	26848	191.00	1512	292.00	320	407.00	125
94.00	1991	192.00	5323	293.00	1537	408.00	69
95.00	203	193.00	6843	294.00	607	410.00	160
96.00	2057	194.00	1386	295.00	674	413.00	169
98.00	19736	195.00	1082	296.00	30800	414.00	274
99.00	16224	196.00	14476	297.00	4266	416.00	195
100.00	1593	198.00	481792	298.00	223	417.00	189
101.00	11069	199.00	34320	299.00	154	419.00	100
102.00	466	200.00	2272	300.00	202	420.00	239
103.00	3671	201.00	2780	301.00	701	421.00	2125
104.00	5535	202.00	645	302.00	984	422.00	2237
105.00	5269	203.00	3511	303.00	3630	423.00	21944
107.00	72872	204.00	14443	304.00	1342	424.00	5644
108.00	12162	205.00	30208	305.00	12	425.00	767
110.00	140800	206.00	119304	306.00	329	426.00	238
111.00	19192	207.00	14443	308.00	855	427.00	542
112.00	2680	208.00	3478	309.00	249	428.00	142
113.00	815	209.00	1498	310.00	681	429.00	101
114.00	234	210.00	222	312.00	534	430.00	141
115.00	621	211.00	5081	313.00	121	431.00	304
116.00	1067	212.00	888	314.00	1459	432.00	302
117.00	50800	213.00	570	315.00	3073	433.00	360
118.00	3505	214.00	59	316.00	1702	434.00	237
119.00	746	215.00	1138	317.00	85	435.00	269
120.00	718	216.00	2314	319.00	2	436.00	398
121.00	46	217.00	30952	320.00	18	438.00	10
122.00	3857	218.00	4575	321.00	1237	439.00	437
123.00	7219	219.00	396	322.00	527	441.00	56496
124.00	3426	220.00	309	323.00	10900	442.00	360960
125.00	3187	221.00	24440	324.00	1498	443.00	76232
127.00	260480	222.00	1279	325.00	167	444.00	5850

Report Date: 29-Oct-2018 21:58:21 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 29-Oct-2018 15:45:30
Spectrum: Tune Spec :Average 386-388(4.15-4.15) Bgrd 379(4.13)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 365

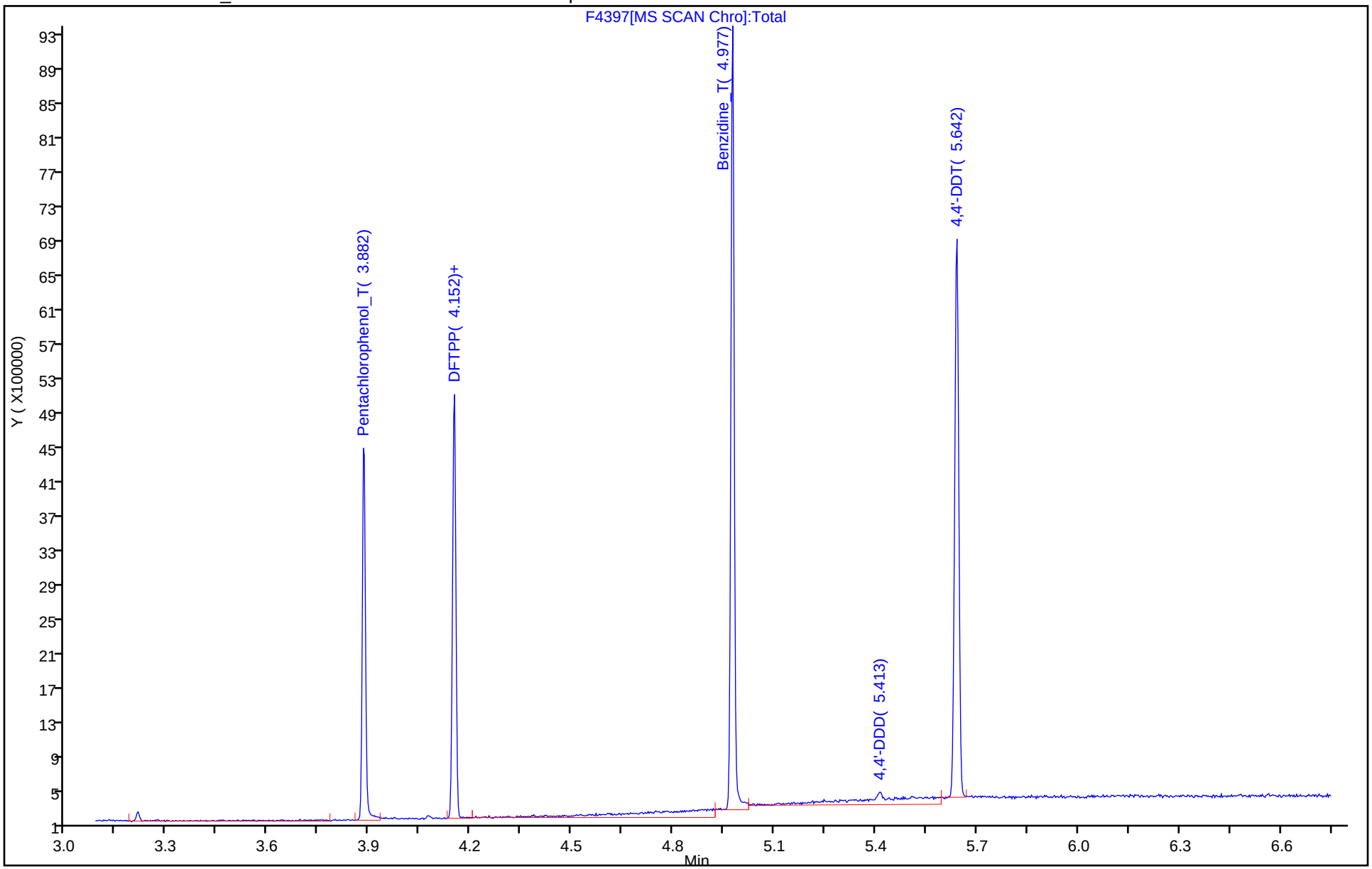
m/z	Y	m/z	Y	m/z	Y	m/z	Y
128.00	21880	223.00	7257	327.00	1721	445.00	418
129.00	91816	224.00	65576	328.00	880	447.00	147
130.00	8210	225.00	15720	330.00	282	452.00	47
131.00	1494	226.00	2279	331.00	73	453.00	219
132.00	1143	227.00	24248	332.00	557	457.00	121
134.00	1199	228.00	4334	333.00	1357	458.00	72
135.00	7460	229.00	5023	334.00	6428	461.00	292
136.00	2605	230.00	1135	335.00	1618	465.00	104
137.00	2830	231.00	2630	337.00	156	466.00	70
138.00	520	232.00	623	340.00	146	467.00	427
139.00	177	233.00	674	341.00	938	470.00	66
140.00	270	234.00	1012	342.00	546	472.00	7
141.00	11129	235.00	2021	343.00	146	475.00	292
142.00	3117	236.00	1904	345.00	180	480.00	43
143.00	1824	237.00	3059	346.00	1216	481.00	71
144.00	866	238.00	144	347.00	597	482.00	108
145.00	665	239.00	643	350.00	49	486.00	235
146.00	1273	240.00	1335	352.00	2214	490.00	4
147.00	5122	241.00	1930	353.00	1965	495.00	102
148.00	13021	242.00	3169	354.00	3036	497.00	98
149.00	2917	243.00	3275	355.00	1204	499.00	167
150.00	772	244.00	52048	357.00	361	500.00	51
151.00	1494	245.00	5880	358.00	77		
152.00	725	246.00	9721	359.00	504		
153.00	3545	247.00	2746	360.00	171		

Report Date: 29-Oct-2018 21:58:21 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D

Injection Date:	29-Oct-2018 15:45:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		

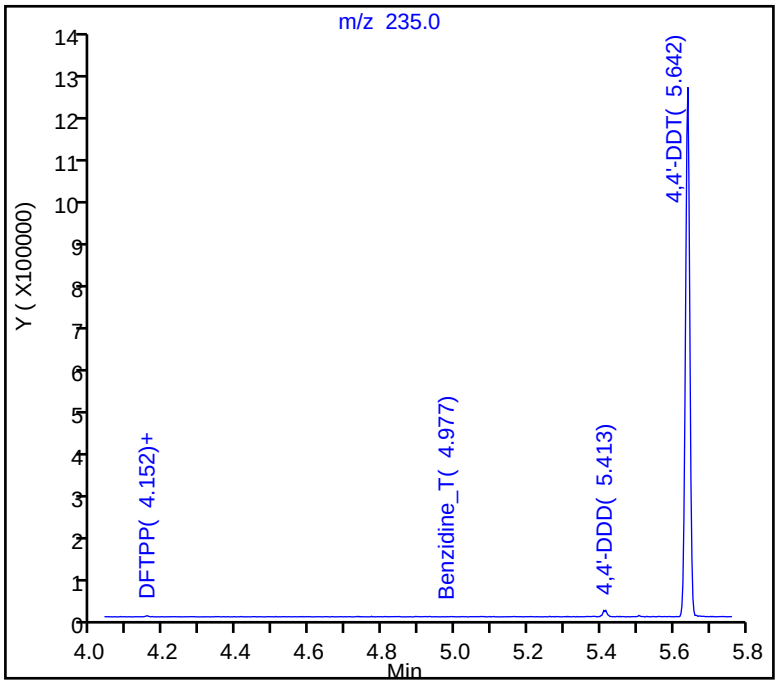


Breakdown Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D
Injection Date: 29-Oct-2018 15:45:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

43 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

43 4,4'-DDT, Area = 1044699
41 4,4'-DDE, Area = 7831
42 4,4'-DDD, Area = 12474

%Breakdown: 1.91%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica Denver

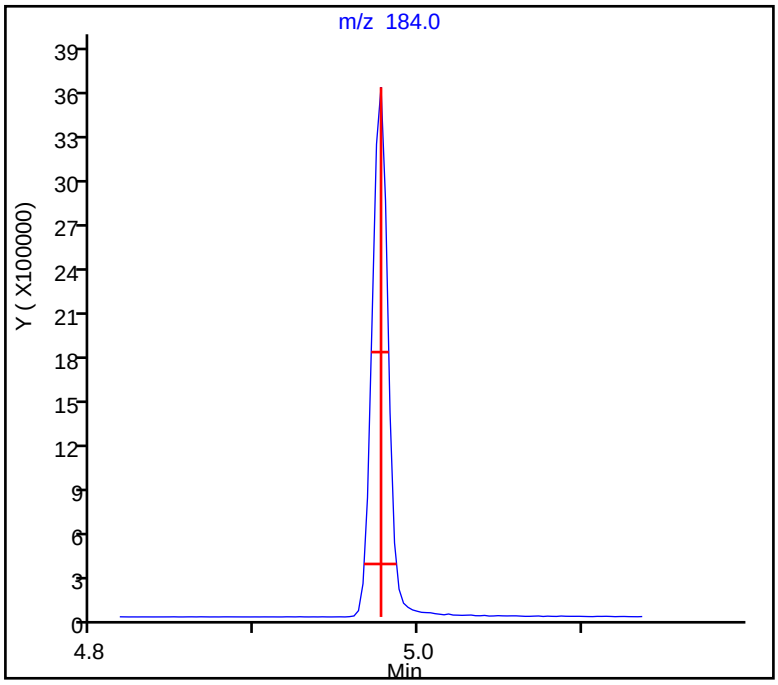
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D
Injection Date: 29-Oct-2018 15:45:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

40 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.010 (min.)
Front Width = 0.010 (min.)

Tailing Factor = 0.9, Max. Tailing < 2.00
Passed



Peak Tailing Report

TestAmerica Denver

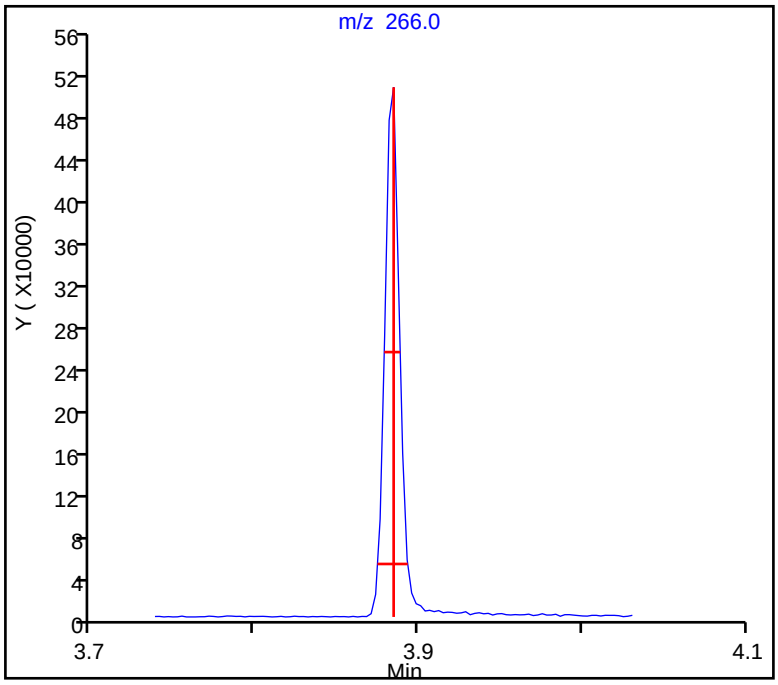
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4397.D
Injection Date: 29-Oct-2018 15:45:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

38 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.009 (min.)
Front Width = 0.010 (min.)

Tailing Factor = 0.9, Max. Tailing < 2.00
Passed



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4408.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 29-Oct-2018 20:56:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 30-Oct-2018 19:06:04 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: wickhamm Date: 29-Oct-2018 21:12:36

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
38 Pentachlorophenol_T	266	3.868	3.868	0.000	77	483118	NR	NR	
39 DFTPP									
40 Benzidine_T	184	4.949	4.949	0.000	96	3452188	NR	NR	
41 4,4'-DDE	246	4.133	4.133	0.000	35	11045	NR	NR	a
42 4,4'-DDD	235	5.377	5.377	0.000	63	17166	NR	NR	a
43 4,4'-DDT	235	5.603	5.603	0.000	96	1488185	NR	NR	a

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
a - User Assigned ID

Reagents:

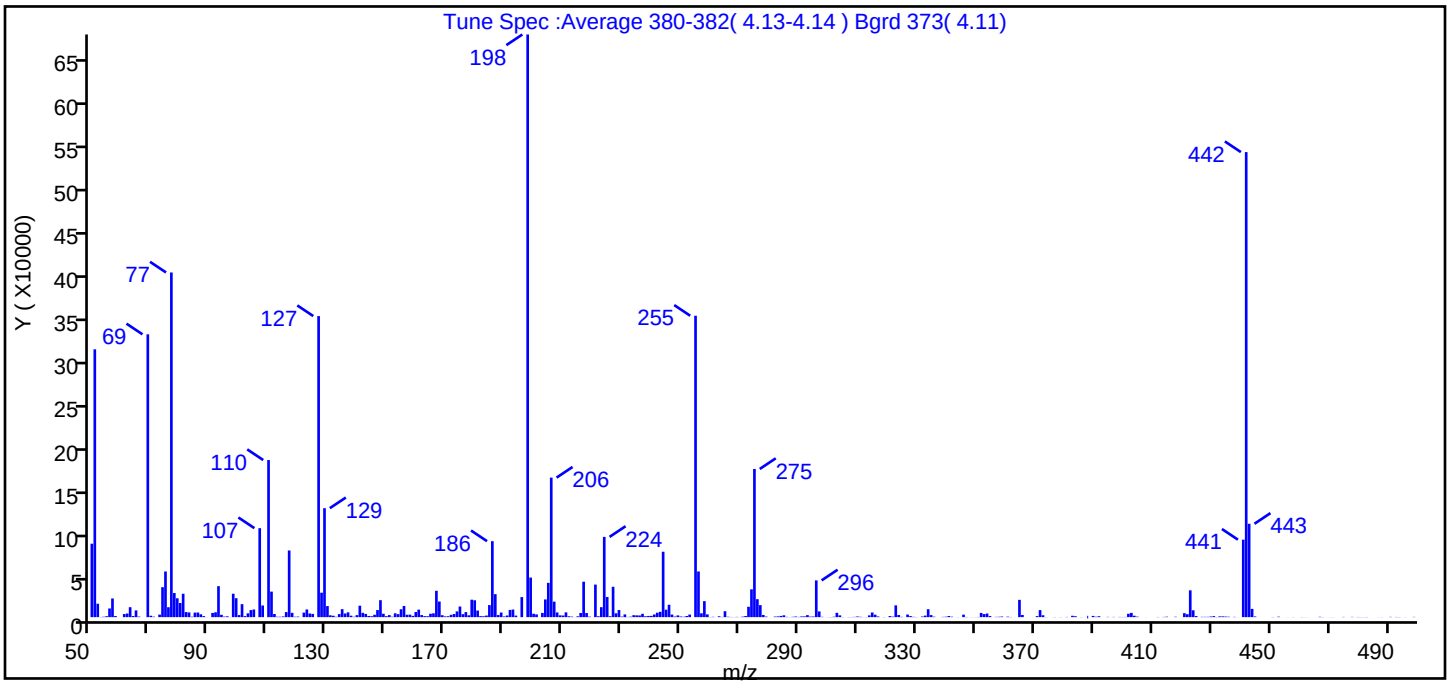
MS-DFTPP_00047 Amount Added: 0.50 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4408.D
Injection Date: 29-Oct-2018 20:56:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Tune Method: DFTPP Method 8270

39 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	46.0
68	<2% of mass 69	0.0 (0.0)
69	Present	48.5
70	<2% of mass 69	0.2 (0.5)
127	40-60% of mass 198	51.7
197	<1% of mass 198	0.0
199	5-9% of mass 198	6.8
275	10-30% of mass 198	25.4
365	>1% of mass 198	3.0
441	Present but less than mass 443	13.3 (83.0)
442	>40% of mass 198	79.8
443	17-23% of mass 442	16.0 (20.1)

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4408.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 29-Oct-2018 20:56:30
Spectrum: Tune Spec :Average 380-382(4.13-4.14) Bgrd 373(4.11)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 366

m/z	Y	m/z	Y	m/z	Y	m/z	Y
50.00	84720	152.00	501	247.00	2974	352.00	4828
51.00	308992	153.00	4425	248.00	708	353.00	3529
52.00	15477	154.00	3432	249.00	2018	354.00	4175
53.00	143	155.00	9113	250.00	717	355.00	1253
54.00	468	156.00	12878	251.00	482	357.00	305
55.00	1073	157.00	2770	252.00	1343	358.00	438
56.00	10003	158.00	2904	253.00	2965	359.00	705
57.00	21568	159.00	1489	255.00	347712	360.00	34
58.00	1278	160.00	5875	256.00	52688	361.00	553
61.00	3586	161.00	8651	257.00	4433	362.00	221
62.00	4183	162.00	2391	258.00	18448	365.00	19952
63.00	11474	163.00	1161	259.00	3187	366.00	2524
64.00	1280	164.00	1052	260.00	214	371.00	1189
65.00	7766	165.00	3922	261.00	352	372.00	8137
66.00	654	166.00	4402	263.00	988	373.00	2175
69.00	326272	167.00	30400	264.00	252	374.00	118
70.00	1608	168.00	18016	265.00	6846	377.00	164
71.00	562	169.00	2189	266.00	453	379.00	130
73.00	2924	170.00	865	267.00	227	381.00	238
74.00	34560	171.00	1049	268.00	125	383.00	1574
75.00	52664	172.00	2671	269.00	310	384.00	1080
76.00	11448	173.00	3595	270.00	84	386.00	140
77.00	397632	174.00	6613	271.00	586	388.00	2
78.00	27808	175.00	12255	272.00	1298	390.00	1412
79.00	21768	176.00	3448	273.00	11970	391.00	484
80.00	16295	177.00	5824	274.00	32088	392.00	1079
81.00	27008	178.00	2142	275.00	170944	395.00	305
82.00	5834	179.00	20152	276.00	20720	396.00	17
83.00	5430	180.00	19472	277.00	13858	397.00	255
84.00	514	181.00	7605	278.00	2523	399.00	242
85.00	5224	182.00	1171	279.00	624	400.00	201
86.00	5342	183.00	1038	282.00	658	401.00	255
87.00	3277	184.00	1832	283.00	862	402.00	3921

Report Date: 30-Oct-2018 19:06:06 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4408.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 29-Oct-2018 20:56:30
Spectrum: Tune Spec :Average 380-382(4.13-4.14) Bgrd 373(4.11)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 366

m/z	Y	m/z	Y	m/z	Y	m/z	Y
88.00	1189	185.00	13898	284.00	1426	403.00	4929
89.00	89	186.00	87648	285.00	2125	404.00	1642
91.00	4832	187.00	26512	286.00	334	405.00	584
92.00	5613	188.00	2426	287.00	116	408.00	66
93.00	35752	189.00	5338	288.00	395	412.00	201
94.00	2716	190.00	758	289.00	734	414.00	259
95.00	610	191.00	1869	290.00	282	415.00	534
96.00	946	192.00	8333	291.00	839	418.00	456
97.00	96	193.00	8758	292.00	902	421.00	4585
98.00	27032	194.00	1773	293.00	2337	422.00	3415
99.00	21856	195.00	4	294.00	655	423.00	30936
100.00	2356	196.00	23128	295.00	719	424.00	7921
101.00	14994	198.00	672192	296.00	42392	425.00	1280
102.00	1199	199.00	45672	297.00	6600	427.00	344
103.00	4393	200.00	3918	298.00	373	428.00	353
104.00	8148	201.00	3160	299.00	28	429.00	371
105.00	8821	203.00	4848	300.00	129	430.00	723
107.00	102664	204.00	20416	301.00	162	431.00	1167
108.00	13430	205.00	39544	302.00	494	432.00	159
110.00	181248	206.00	160960	303.00	4983	433.00	876
111.00	29440	207.00	17872	304.00	2068	434.00	873
112.00	3627	208.00	5407	305.00	208	435.00	687
113.00	472	209.00	2052	307.00	176	436.00	494
114.00	436	210.00	1900	308.00	184	438.00	314
115.00	801	211.00	5523	309.00	311	439.00	58
116.00	5839	212.00	984	310.00	761	441.00	89384
117.00	76920	213.00	605	311.00	393	442.00	536512
118.00	4969	214.00	71	312.00	91	443.00	107728
119.00	481	215.00	925	313.00	152	444.00	9542
120.00	623	216.00	4803	314.00	2024	445.00	773
122.00	5236	217.00	40896	315.00	5357	451.00	183
123.00	8845	218.00	4745	316.00	2851	453.00	531
124.00	4224	219.00	575	317.00	781	454.00	11
125.00	3753	221.00	37568	319.00	179	456.00	81

Report Date: 30-Oct-2018 19:06:06 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4408.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 29-Oct-2018 20:56:30
Spectrum: Tune Spec :Average 380-382(4.13-4.14) Bgrd 373(4.11)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 366

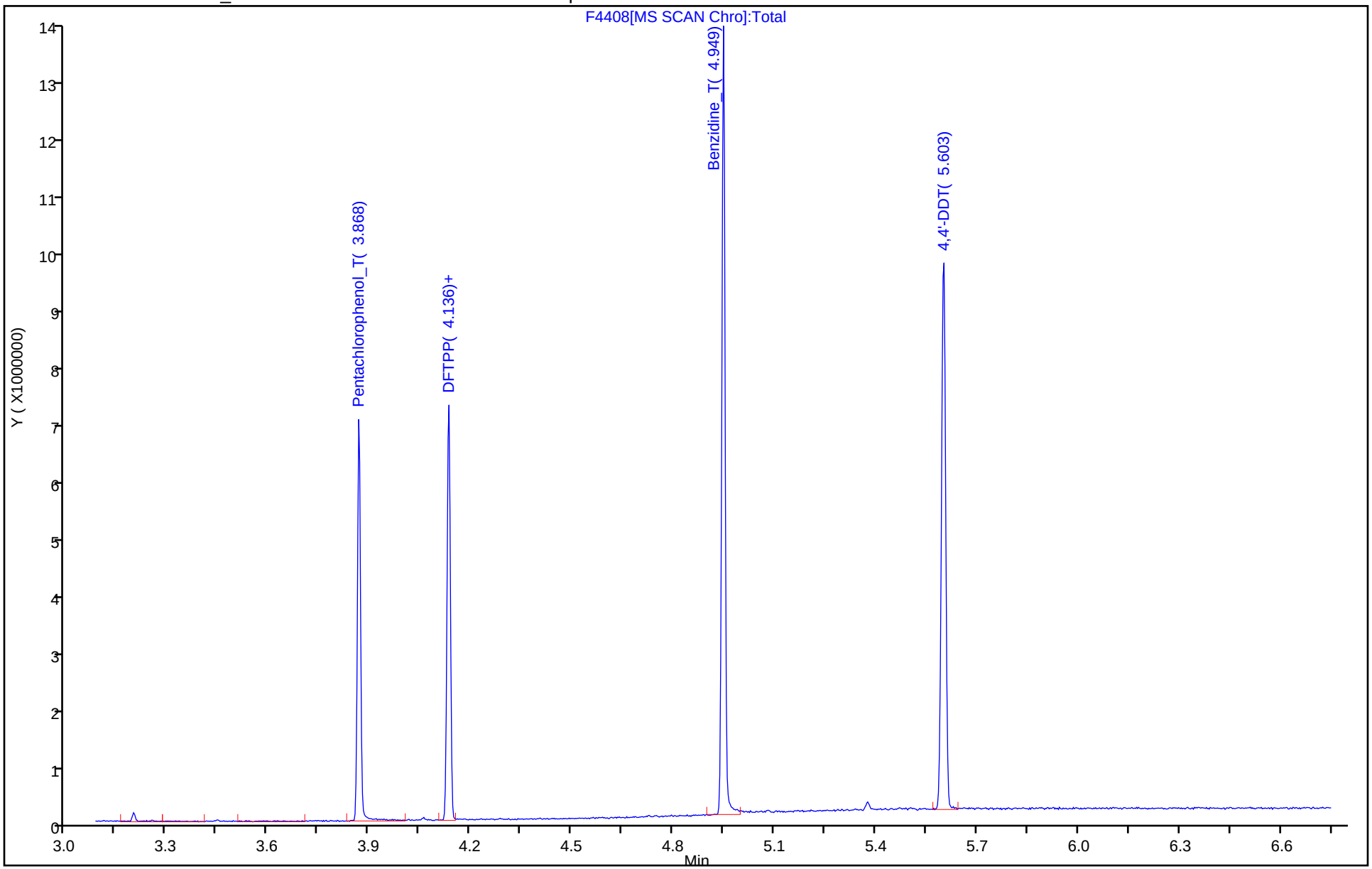
m/z	Y	m/z	Y	m/z	Y	m/z	Y
127.00	347328	222.00	1033	321.00	1245	458.00	125
128.00	28192	223.00	11488	322.00	573	461.00	126
129.00	125712	224.00	92584	323.00	13594	462.00	74
130.00	12764	225.00	23272	324.00	2445	463.00	61
131.00	2133	226.00	1040	325.00	320	466.00	19
132.00	1609	227.00	35024	327.00	3020	467.00	395
133.00	423	228.00	4465	328.00	1225	468.00	158
134.00	3512	229.00	8233	329.00	363	470.00	43
135.00	9212	230.00	628	330.00	151	471.00	109
136.00	4205	231.00	3165	332.00	725	472.00	52
137.00	5548	232.00	250	333.00	1780	475.00	250
138.00	1673	233.00	555	334.00	9146	478.00	284
139.00	413	234.00	2246	335.00	2372	480.00	218
140.00	2283	235.00	2076	336.00	526	481.00	127
141.00	13205	236.00	1972	339.00	309	482.00	145
142.00	4985	237.00	3858	340.00	485	483.00	180
143.00	3705	238.00	1042	341.00	1292	487.00	59
144.00	1362	239.00	1383	342.00	516	488.00	120
145.00	1078	240.00	1497	344.00	113	491.00	300
146.00	2777	241.00	3065	346.00	2861	493.00	231
147.00	8176	242.00	5120	347.00	250	494.00	160
148.00	19552	243.00	6153	348.00	47	496.00	109
149.00	3920	244.00	75456	349.00	95	499.00	284
150.00	1128	245.00	8578	350.00	96		
151.00	2376	246.00	14279	351.00	210		

Report Date: 30-Oct-2018 19:06:06 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4408.D

Injection Date:	29-Oct-2018 20:56:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		

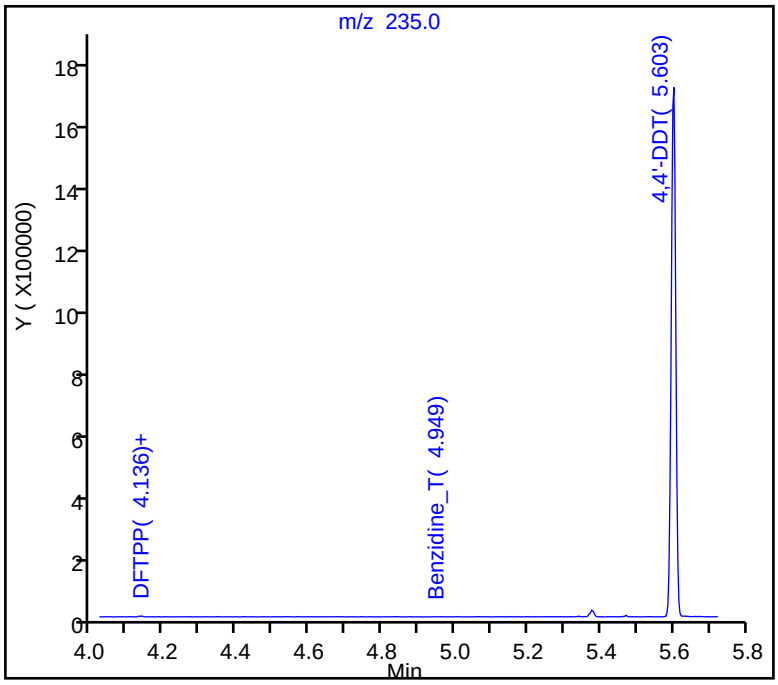


Breakdown Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4408.D
Injection Date: 29-Oct-2018 20:56:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

43 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

43 4,4'-DDT, Area = 1488185
41 4,4'-DDE, Area = 11045
42 4,4'-DDD, Area = 17166

%Breakdown: 1.86%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica Denver

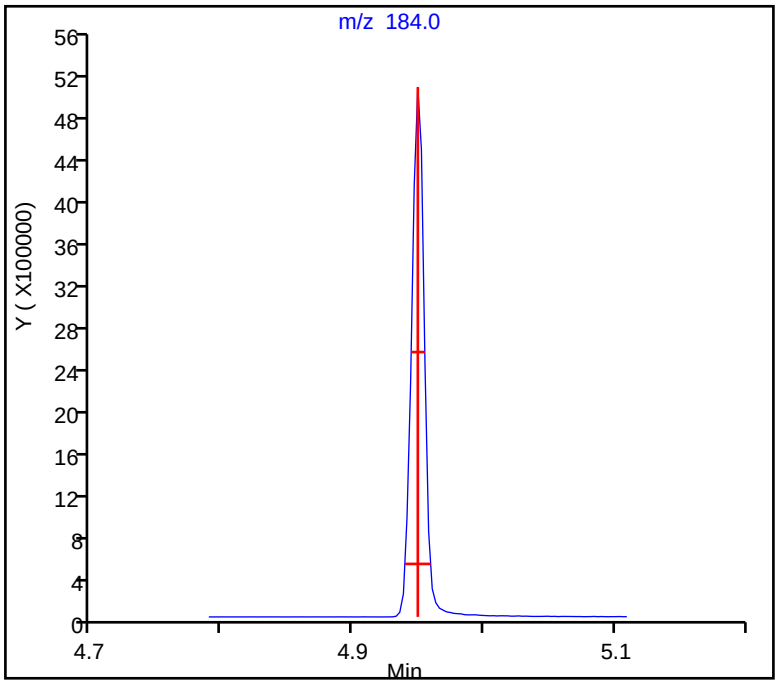
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4408.D
Injection Date: 29-Oct-2018 20:56:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

40 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.010 (min.)
Front Width = 0.010 (min.)

Tailing Factor = 1.0, Max. Tailing < 2.00
Passed



Peak Tailing Report

TestAmerica Denver

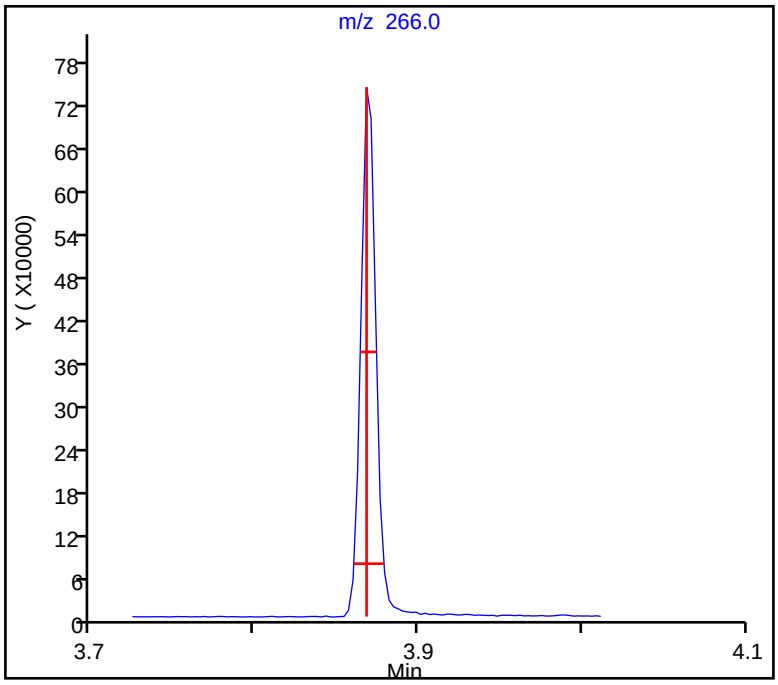
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4408.D
Injection Date: 29-Oct-2018 20:56:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

38 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.011 (min.)
Front Width = 0.008 (min.)

Tailing Factor = 1.4, Max. Tailing < 2.00
Passed



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 01-Nov-2018 18:15:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:48 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 01-Nov-2018 18:54:56

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
38 Pentachlorophenol_T	266	3.879	3.879	0.000	75	357815	NR	NR	
39 DFTPP									
40 Benzidine_T	184	4.963	4.963	0.000	96	3121217	NR	NR	
41 4,4'-DDE	246	4.147	4.147	0.000	35	7438	NR	NR	
42 4,4'-DDD	235	5.396	5.396	0.000	79	16236	NR	NR	a
43 4,4'-DDT	235	5.620	5.620	0.000	95	1290022	NR	NR	a

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
a - User Assigned ID

Reagents:

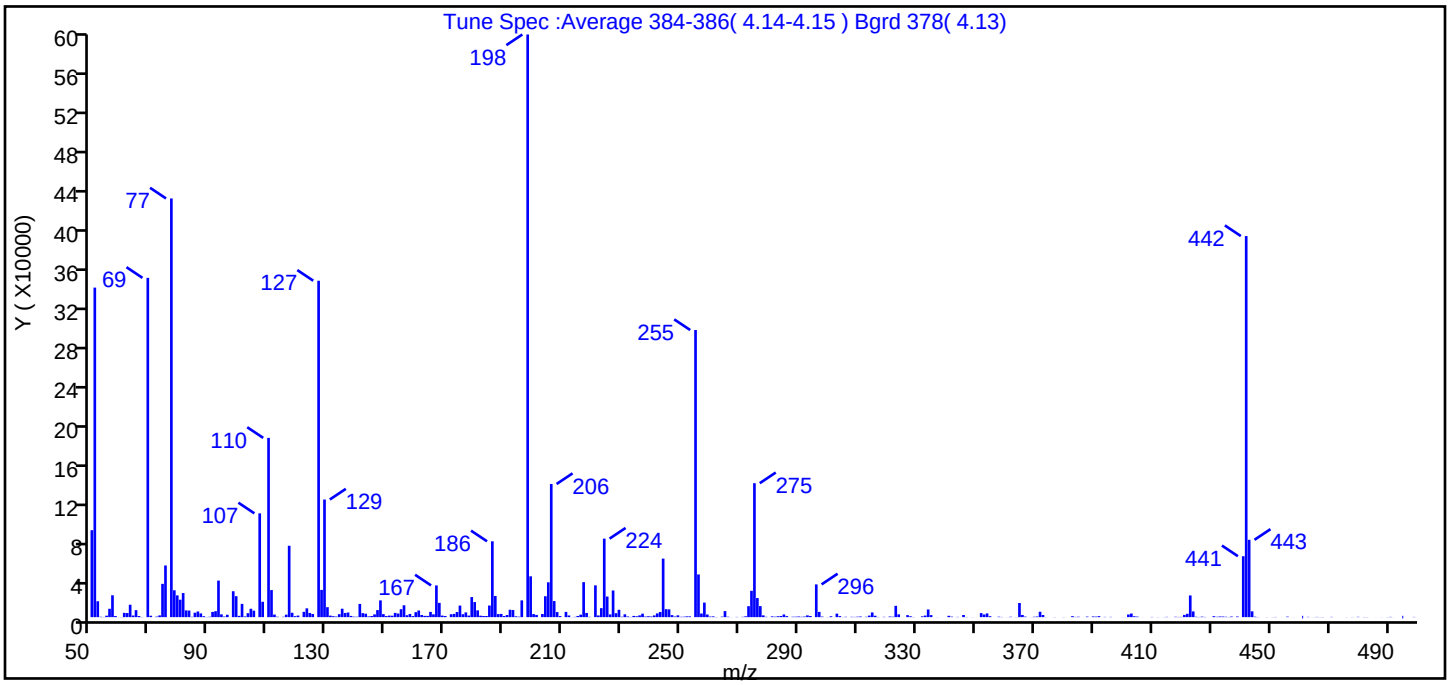
MS-DFTPP_00047 Amount Added: 0.50 Units: uL

MS Tune Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D
Injection Date: 01-Nov-2018 18:15:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Tune Method: DFTPP Method 8270

39 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	56.6
68	<2% of mass 69	0.0 (0.0)
69	Present	58.2
70	<2% of mass 69	0.2 (0.4)
127	40-60% of mass 198	57.7
197	<1% of mass 198	0.0
199	5-9% of mass 198	7.0
275	10-30% of mass 198	23.0
365	>1% of mass 198	2.4
441	Present but less than mass 443	10.5 (78.8)
442	>40% of mass 198	65.4
443	17-23% of mass 442	13.3 (20.3)

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 01-Nov-2018 18:15:30
Spectrum: Tune Spec :Average 384-386(4.14-4.15) Bgrd 378(4.13)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 364

m/z	Y	m/z	Y	m/z	Y	m/z	Y
50.00	88928	148.00	17144	244.00	59880	358.00	457
51.00	337088	149.00	3076	245.00	8123	359.00	199
52.00	16255	150.00	1108	246.00	7967	361.00	87
53.00	363	151.00	1591	247.00	2070	362.00	388
54.00	187	152.00	1468	248.00	649	364.00	134
55.00	1494	153.00	4343	249.00	1860	365.00	14467
56.00	8561	154.00	3678	250.00	348	366.00	2245
57.00	22352	155.00	8100	251.00	455	367.00	523
58.00	1122	156.00	12128	252.00	780	369.00	66
59.00	51	157.00	1980	253.00	789	370.00	401
60.00	135	158.00	3255	255.00	293696	371.00	622
61.00	4389	159.00	1062	256.00	43680	372.00	5523
62.00	4196	160.00	5077	257.00	3720	373.00	2187
63.00	12713	161.00	6789	258.00	14874	374.00	105
64.00	1653	162.00	2215	259.00	2695	377.00	138
65.00	7154	163.00	1326	260.00	594	380.00	124
66.00	1139	164.00	1295	261.00	777	383.00	989
67.00	166	165.00	5362	262.00	174	384.00	237
69.00	347072	166.00	2882	264.00	531	385.00	437
70.00	1444	167.00	32448	265.00	6179	388.00	551
71.00	29	168.00	14604	266.00	448	390.00	693
72.00	560	169.00	1587	267.00	80	391.00	571
73.00	1773	170.00	1191	269.00	219	392.00	1029
74.00	34056	172.00	2970	271.00	301	394.00	252
75.00	52872	173.00	3320	272.00	846	396.00	263
77.00	428288	174.00	5212	273.00	11206	398.00	4
78.00	27480	175.00	11835	274.00	26944	400.00	71
79.00	22240	176.00	2966	275.00	137024	401.00	78
80.00	17824	177.00	4852	276.00	19520	402.00	2747
81.00	24656	178.00	1609	277.00	11281	403.00	3659
82.00	6902	179.00	20528	278.00	1805	404.00	867
83.00	6730	180.00	15417	279.00	325	405.00	549
84.00	348	181.00	6937	281.00	780	406.00	26

Report Date: 02-Nov-2018 17:19:49 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 01-Nov-2018 18:15:30
Spectrum: Tune Spec :Average 384-386(4.14-4.15) Bgrd 378(4.13)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 364

m/z	Y	m/z	Y	m/z	Y	m/z	Y
85.00	4512	182.00	1498	282.00	481	407.00	37
86.00	5787	183.00	1175	283.00	921	410.00	219
87.00	3818	184.00	1180	284.00	1161	412.00	125
88.00	936	185.00	11897	285.00	2731	414.00	92
89.00	179	186.00	77576	286.00	1059	415.00	286
90.00	400	187.00	21640	288.00	413	416.00	49
91.00	5311	188.00	3114	289.00	460	418.00	372
92.00	6082	189.00	3315	290.00	675	419.00	229
93.00	37384	190.00	1136	291.00	380	420.00	268
94.00	2877	191.00	2165	292.00	625	421.00	2294
95.00	598	192.00	7561	293.00	1825	422.00	3425
96.00	2468	193.00	7298	294.00	1162	423.00	22200
98.00	26504	194.00	843	296.00	33504	424.00	5868
99.00	21432	195.00	481	297.00	5380	425.00	392
100.00	1330	196.00	17152	298.00	570	426.00	190
101.00	13586	198.00	596032	300.00	106	427.00	505
102.00	731	199.00	41752	301.00	913	428.00	208
103.00	4021	200.00	3142	302.00	46	431.00	961
104.00	8564	201.00	2289	303.00	3584	432.00	354
105.00	6619	203.00	3248	304.00	1073	433.00	657
107.00	106176	204.00	21392	305.00	96	434.00	621
108.00	15722	205.00	35624	306.00	362	435.00	422
110.00	183360	206.00	136192	307.00	11	436.00	187
111.00	27696	207.00	16456	308.00	330	437.00	614
112.00	2644	208.00	5182	309.00	245	439.00	651
113.00	432	209.00	1088	310.00	449	441.00	62328
115.00	364	211.00	5374	311.00	651	442.00	389824
116.00	2510	212.00	1711	313.00	371	443.00	79104
117.00	73048	213.00	76	314.00	1592	444.00	5934
118.00	4463	214.00	257	315.00	4816	445.00	458
119.00	990	215.00	1211	316.00	1427	446.00	143
120.00	1614	216.00	2513	317.00	201	449.00	110
121.00	21	217.00	35800	319.00	302	451.00	111
122.00	5424	218.00	4272	320.00	30	452.00	200

Report Date: 02-Nov-2018 17:19:49 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D\SMSF_8270SIMX.rslt\spectra.d
Injection Date: 01-Nov-2018 18:15:30
Spectrum: Tune Spec :Average 384-386(4.14-4.15) Bgrd 378(4.13)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 364

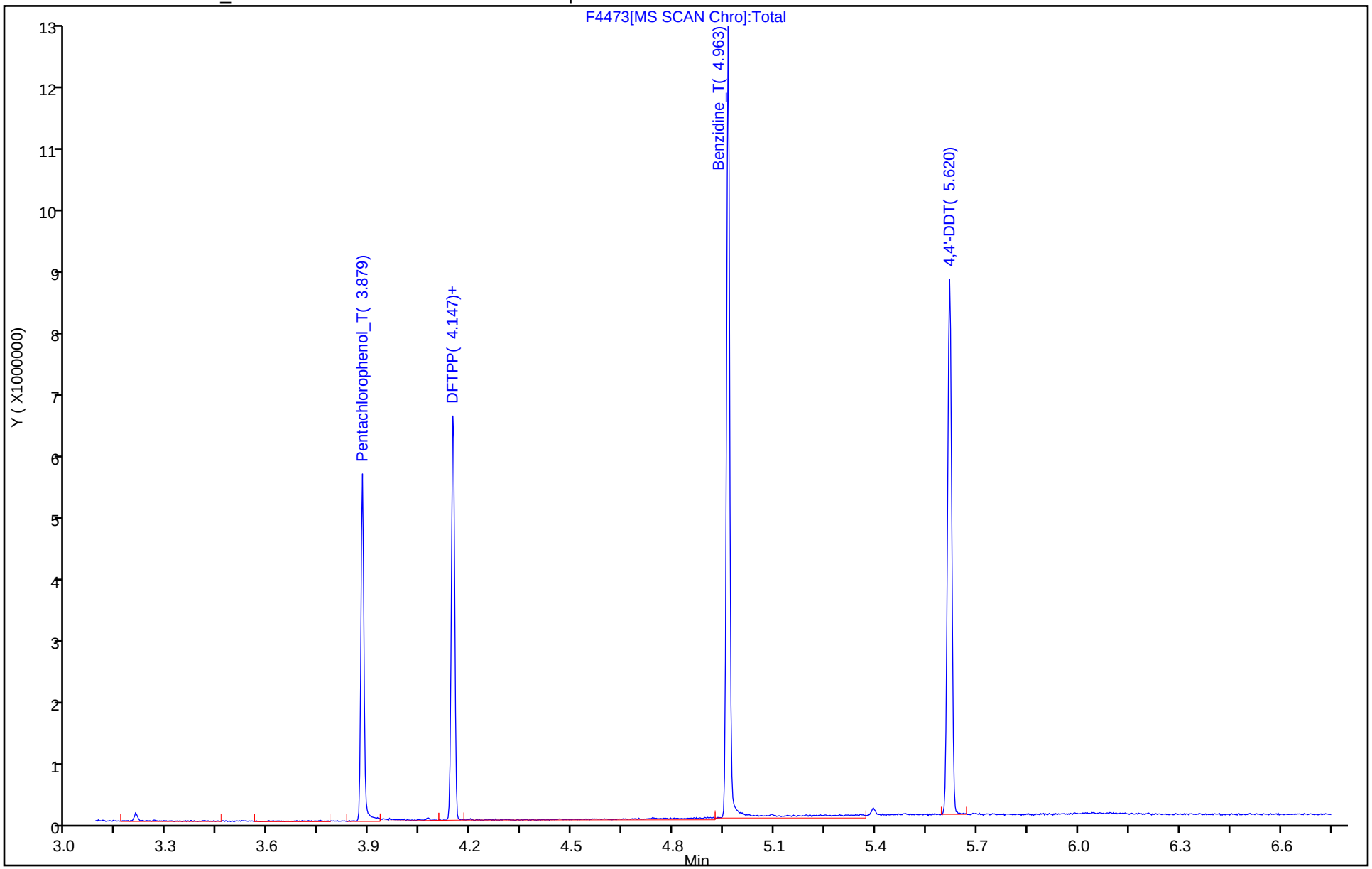
m/z	Y	m/z	Y	m/z	Y	m/z	Y
123.00	9001	219.00	283	321.00	630	456.00	501
124.00	4275	221.00	32528	322.00	451	458.00	72
125.00	3241	222.00	1733	323.00	11560	461.00	2
127.00	344128	223.00	9189	324.00	2839	463.00	279
128.00	27848	224.00	80320	327.00	2052	464.00	31
129.00	120328	225.00	21072	328.00	869	465.00	78
130.00	10171	226.00	2786	329.00	184	466.00	239
131.00	1549	227.00	27288	332.00	826	467.00	111
132.00	947	228.00	4028	333.00	1625	468.00	146
133.00	601	229.00	7535	334.00	7842	470.00	30
134.00	3042	230.00	439	335.00	2073	471.00	267
135.00	8624	231.00	2890	337.00	85	473.00	19
136.00	4298	232.00	682	341.00	1377	476.00	92
137.00	4730	233.00	194	342.00	499	478.00	134
138.00	1262	234.00	1268	344.00	245	480.00	319
139.00	484	235.00	892	346.00	2188	482.00	144
140.00	407	236.00	1810	347.00	208	483.00	139
141.00	13530	237.00	3533	348.00	11	486.00	36
142.00	4096	238.00	604	349.00	86	488.00	77
143.00	3497	239.00	922	350.00	21	490.00	127
144.00	715	240.00	661	352.00	4109	491.00	257
145.00	1156	241.00	1767	353.00	2733	492.00	45
146.00	2810	242.00	3839	354.00	3800	495.00	2
147.00	7225	243.00	5260	355.00	973	499.00	237

Report Date: 02-Nov-2018 17:19:49 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D

Injection Date:	01-Nov-2018 18:15:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		

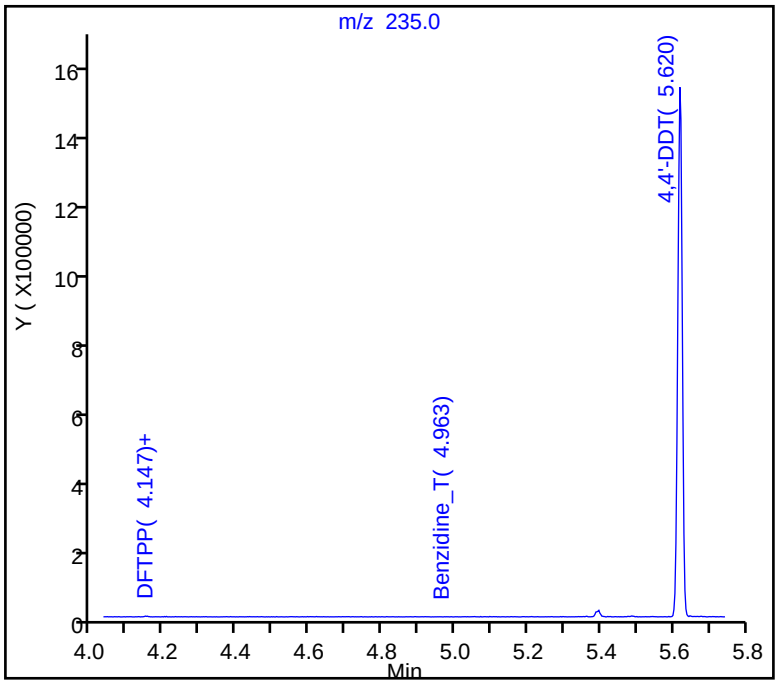


Breakdown Report

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D
Injection Date: 01-Nov-2018 18:15:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

43 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

43 4,4'-DDT, Area = 1290022
41 4,4'-DDE, Area = 7438
42 4,4'-DDD, Area = 16236

%Breakdown: 1.80%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica Denver

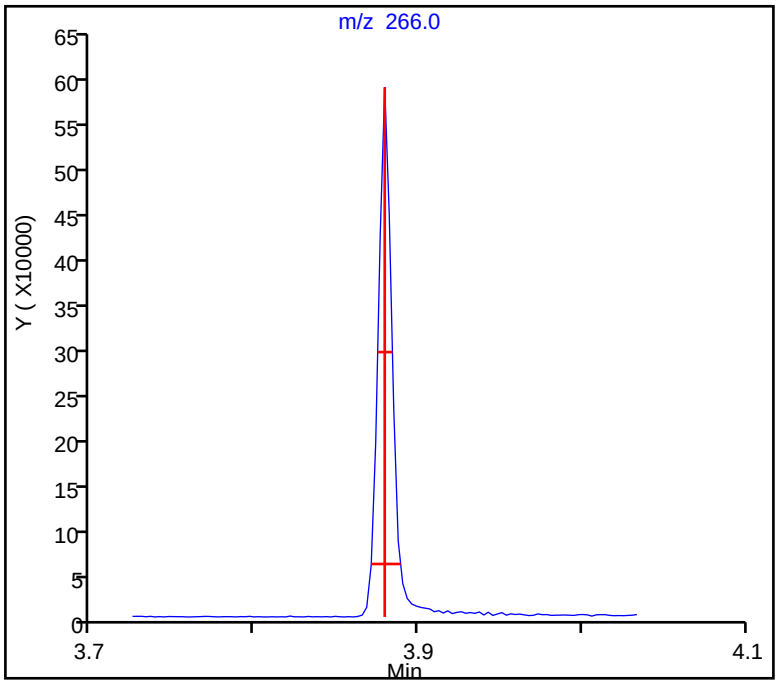
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D
Injection Date: 01-Nov-2018 18:15:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

38 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.010 (min.)
Front Width = 0.008 (min.)

Tailing Factor = 1.2, Max. Tailing < 2.00
Passed



Peak Tailing Report

TestAmerica Denver

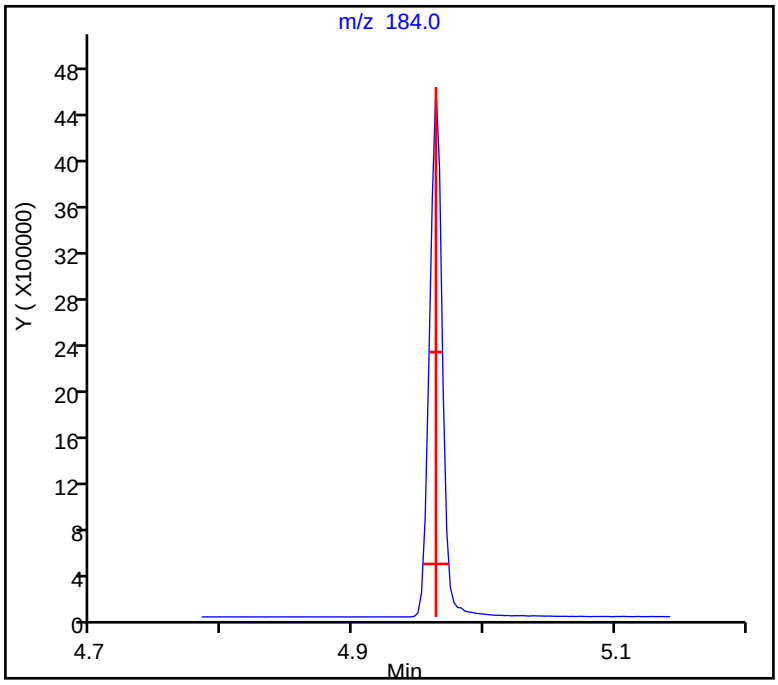
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4473.D
Injection Date: 01-Nov-2018 18:15:30 Instrument ID: SMS_F
Lims ID: DFTPP
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM

40 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.010 (min.)
Front Width = 0.010 (min.)

Tailing Factor = 1.0, Max. Tailing < 2.00
Passed



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-434941/1-A

Matrix: Water | Lab File ID: F4475.D

Analysis Method: 8270D SIM | Date Collected:

Extract. Method: 3510C | Date Extracted: 10/25/2018 12:34

Sample wt/vol: 250(mL) | Date Analyzed: 11/01/2018 19:05

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435950 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	0.012	U	0.10	0.012	0.0059
91-57-6	2-Methylnaphthalene	0.012	U	0.10	0.012	0.0060
83-32-9	Acenaphthene	0.040	U M	0.10	0.040	0.0042
208-96-8	Acenaphthylene	0.040	U	0.10	0.040	0.0051
120-12-7	Anthracene	0.040	U	0.10	0.040	0.0056
56-55-3	Benzo[a]anthracene	0.012	U	0.10	0.012	0.0042
50-32-8	Benzo[a]pyrene	0.012	U M	0.10	0.012	0.0069
205-99-2	Benzo[b]fluoranthene	0.012	U	0.10	0.012	0.0031
191-24-2	Benzo[g,h,i]perylene	0.012	U	0.10	0.012	0.0062
207-08-9	Benzo[k]fluoranthene	0.012	U M	0.10	0.012	0.0063
218-01-9	Chrysene	0.012	U	0.10	0.012	0.0033
53-70-3	Dibenz(a,h)anthracene	0.012	U	0.10	0.012	0.0041
206-44-0	Fluoranthene	0.012	U	0.10	0.012	0.0048
86-73-7	Fluorene	0.040	U	0.10	0.040	0.0055
193-39-5	Indeno[1,2,3-cd]pyrene	0.040	U	0.10	0.040	0.0045
91-20-3	Naphthalene	0.012	U	0.10	0.012	0.0080
85-01-8	Phenanthrene	0.020	U	0.10	0.020	0.0093
129-00-0	Pyrene	0.020	U	0.10	0.020	0.0061

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	76		53-106
4165-60-0	Nitrobenzene-d5	87		55-111
1718-51-0	Terphenyl-d14	83		58-132

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4475.D
Lims ID: MB 280-434941/1-A
Client ID:
Sample Type: MB
Inject. Date: 01-Nov-2018 19:05:30 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: mb280-434941_1-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:52 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 02-Nov-2018 17:03:23

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.721	-0.008	80	25394	600.0	600.0	
* 2 Phenanthrene-d10	188	9.214	9.215	-0.001	97	55628	600.0	600.0	
* 3 Chrysene-d12	240	13.376	13.376	0.000	91	49492	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	100	11454	500.0	432.5	
$ 5 2-Fluorobiphenyl	172	7.026	7.026	0.000	99	24322	500.0	377.6	
$ 6 Terphenyl-d14	244	11.211	11.212	-0.001	99	33988	500.0	413.6	
8 1,4-Dioxane	88		1.692					ND	
9 N-Nitrosodimethylamine	74	2.537	2.531	0.006	8	359		18.4	
10 Naphthalene	128		5.985					ND	
11 2-Methylnaphthalene	142		6.663					ND	
12 1-Methylnaphthalene	142		6.769					ND	
13 Dimethyl phthalate	163		7.419					ND	
14 Acenaphthylene	152		7.575					ND	
15 Acenaphthene	153		7.747					ND	U
16 Dibenzofuran	168		7.915					ND	
17 Diethyl phthalate	149		8.119					ND	U
18 Fluorene	166		8.264					ND	
19 N-Nitrosodiphenylamine	169		8.361					ND	
20 Phenanthrene	178		9.232					ND	
21 Anthracene	178		9.284					ND	
22 Di-n-butyl phthalate	149		9.785					ND	U
23 Fluoranthene	202		10.641					ND	
24 Pyrene	202		10.987					ND	
25 Butyl benzyl phthalate	149		10.987					ND	
26 Benzo[a]anthracene	228		13.349					ND	
27 Chrysene	228		13.439					ND	
28 Bis(2-ethylhexyl) phthalat	149		12.115					ND	
29 Di-n-octyl phthalate	149		15.319					ND	U
30 Benzo[b]fluoranthene	252		16.264					ND	
31 Benzo[k]fluoranthene	252		16.342					ND	U
32 Benzo[a]pyrene	252		17.204					ND	U
33 Indeno[1,2,3-cd]pyrene	276		20.520					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
34 Dibenz(a,h)anthracene	278		20.612					ND	
35 Benzo[g,h,i]perylene	276		21.264					ND	
$ 53 2-methylnaphthalene-d10	152	6.632	6.633	-0.001	99	16432	500.0	373.0	
$ 54 Fluoranthene-d10	212	10.615	10.615	0.000	100	39444	500.0	424.3	
38 Pentachlorophenol_T	266		3.879					ND	
40 Benzidine_T	184		4.963					ND	
41 4,4'-DDE	246		4.147					ND	
42 4,4'-DDD	235		5.396					ND	
43 4,4'-DDT	235		5.620					ND	
S 44 TPAH	1		0.000					ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

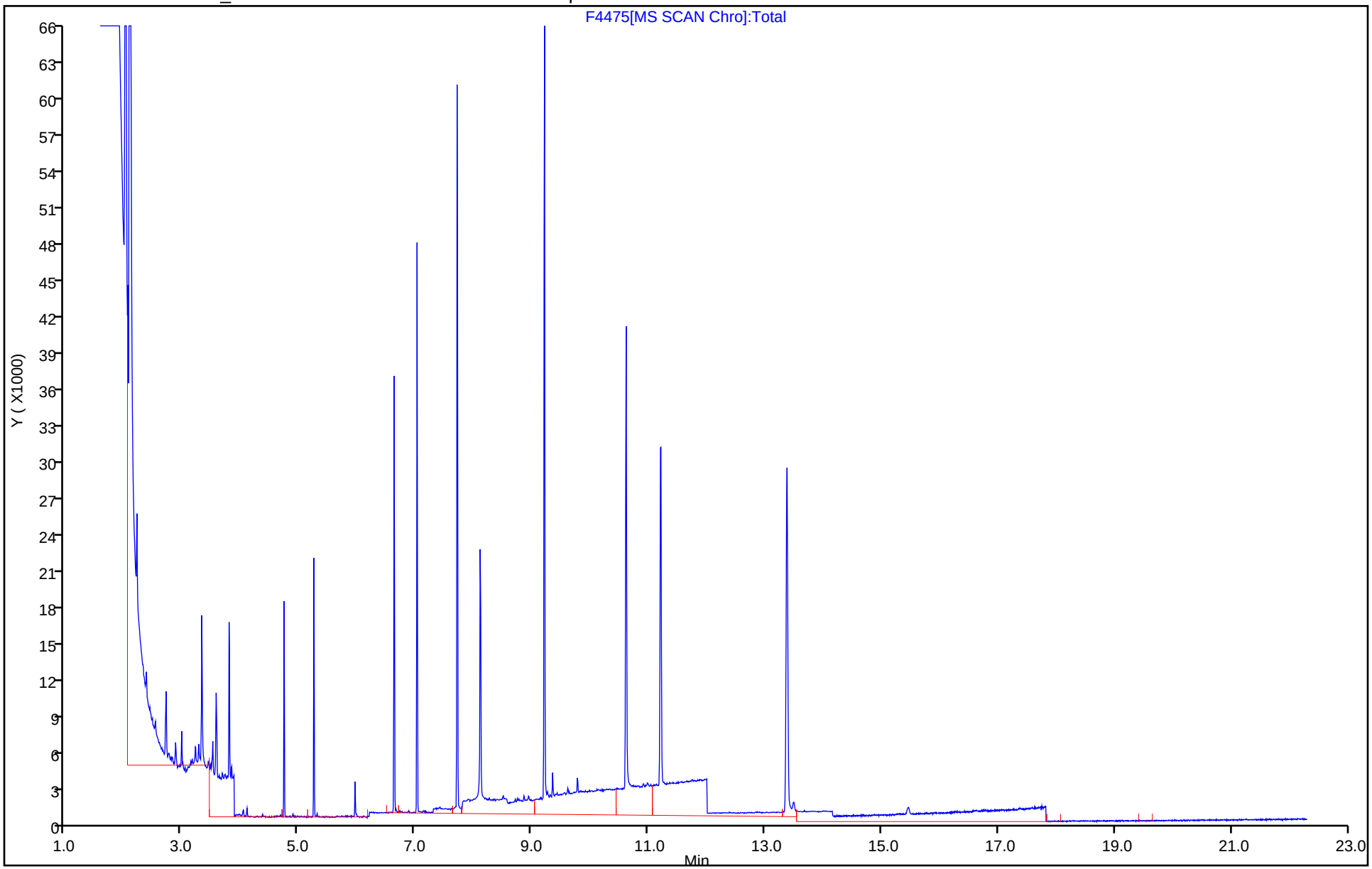
MS-SIM IS_00033 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 02-Nov-2018 17:19:56 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4475.D

Injection Date:	01-Nov-2018 19:05:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	MB 280-434941/1-A			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4475.D
Lims ID: MB 280-434941/1-A
Client ID:
Sample Type: MB
Inject. Date: 01-Nov-2018 19:05:30 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: mb280-434941_1-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 02-Nov-2018 17:19:52 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK011

First Level Reviewer: wickhamm Date: 02-Nov-2018 17:03:23

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Nitrobenzene-d5	500.0	432.5	86.51
$ 5 2-Fluorobiphenyl	500.0	377.6	75.53
$ 6 Terphenyl-d14	500.0	413.6	82.72
$ 53 2-methylnaphthalene-d10	500.0	373.0	74.60
$ 54 Fluoranthene-d10	500.0	424.3	84.86

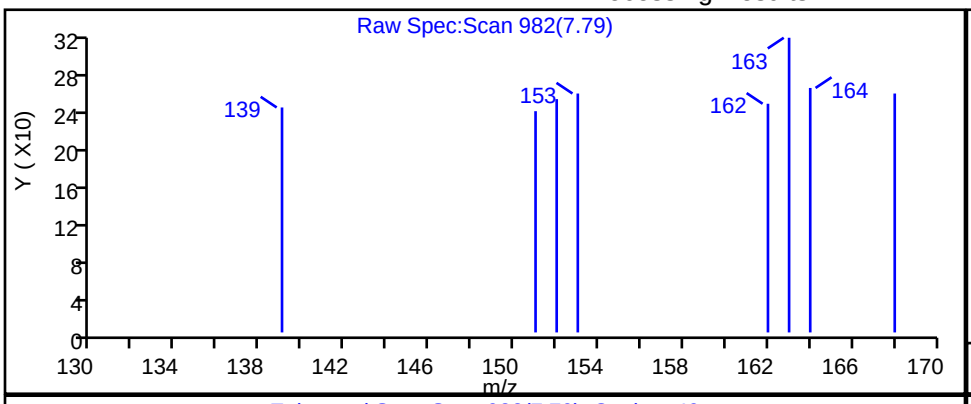
User Disabled Compound Report

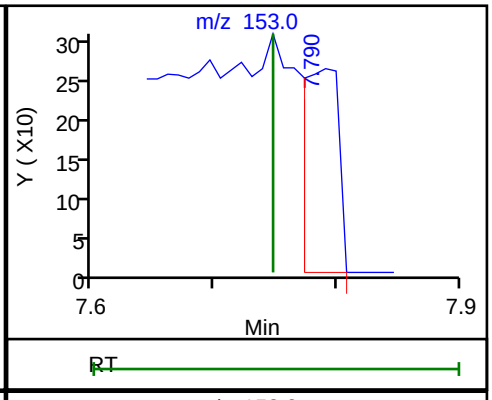
TestAmerica Denver

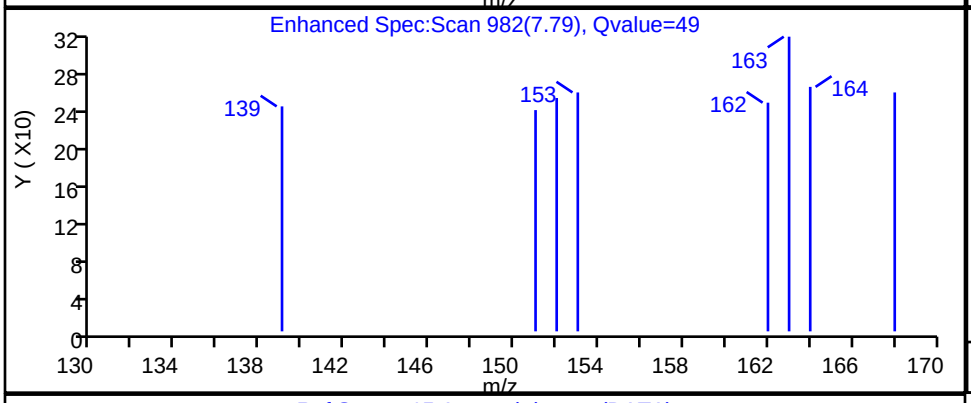
Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4475.D				
Injection Date:	01-Nov-2018 19:05:30	Instrument ID:	SMS_F		
Lims ID:	MB 280-434941/1-A				
Client ID:					
Operator ID:	WICKHAMM	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

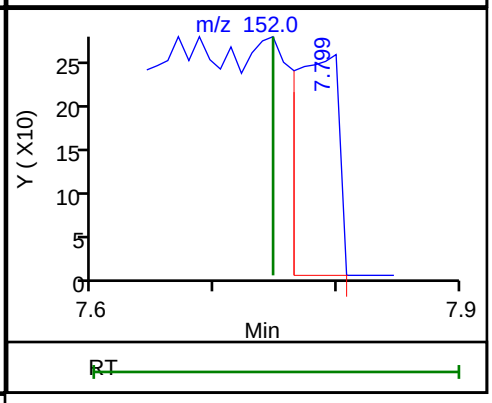
15 Acenaphthene, CAS: 83-32-9

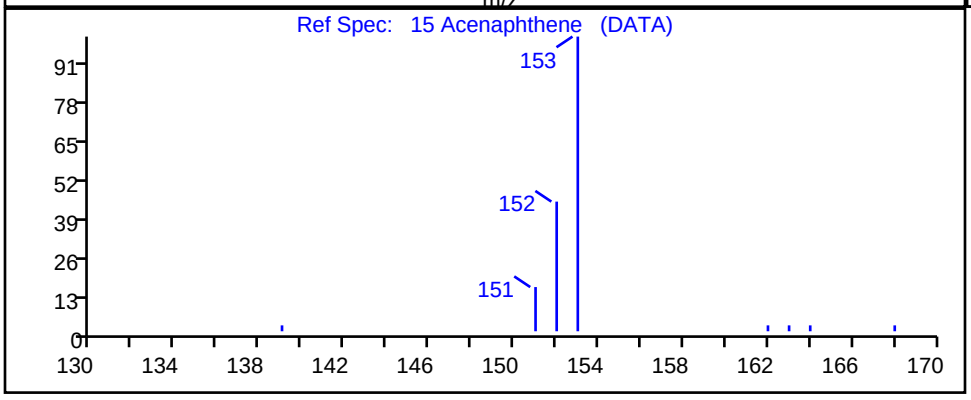
Processing Results











RT	Mass	Response	Amount
7.79	153.00	521	9.355251
7.80	152.00	644	

Reviewer: wickhamm, 02-Nov-2018 17:01:55

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

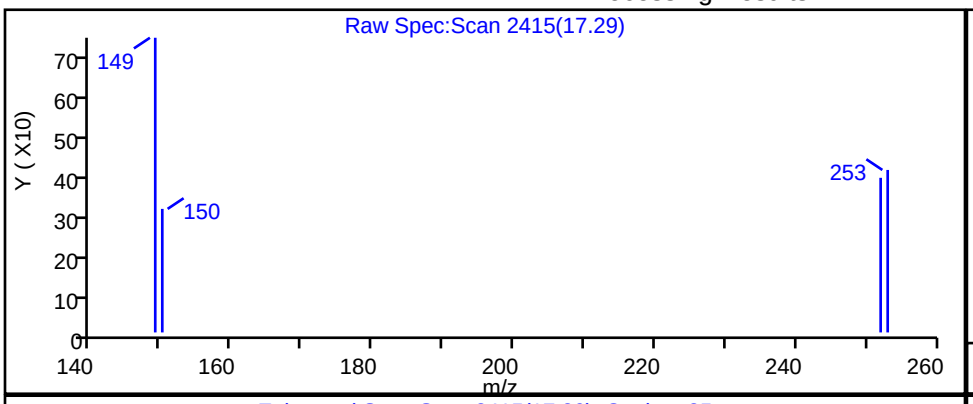
User Disabled Compound Report

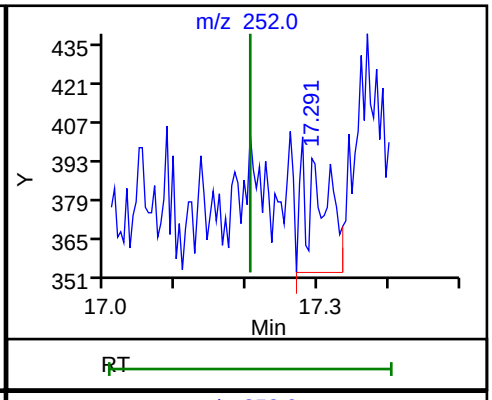
TestAmerica Denver

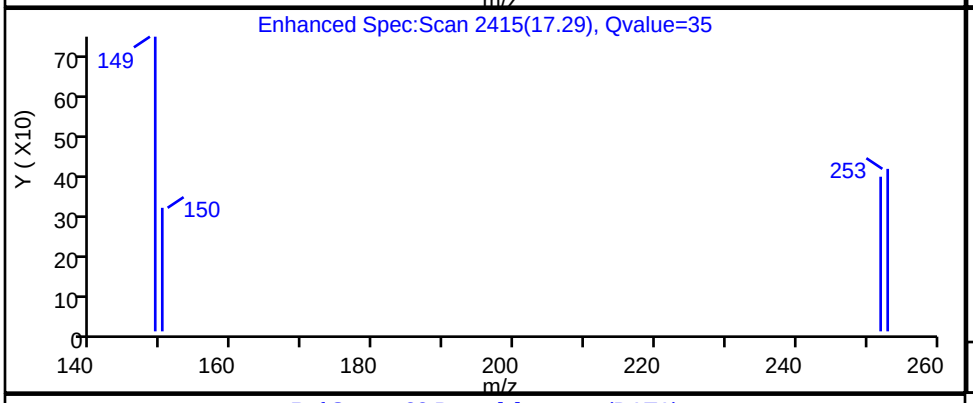
Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4475.D				
Injection Date:	01-Nov-2018 19:05:30	Instrument ID:	SMS_F		
Lims ID:	MB 280-434941/1-A				
Client ID:					
Operator ID:	WICKHAMM	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

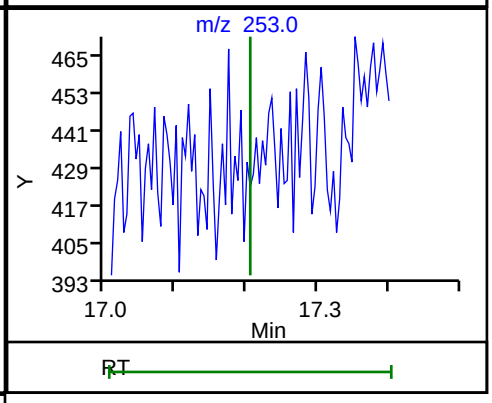
32 Benzo[a]pyrene, CAS: 50-32-8

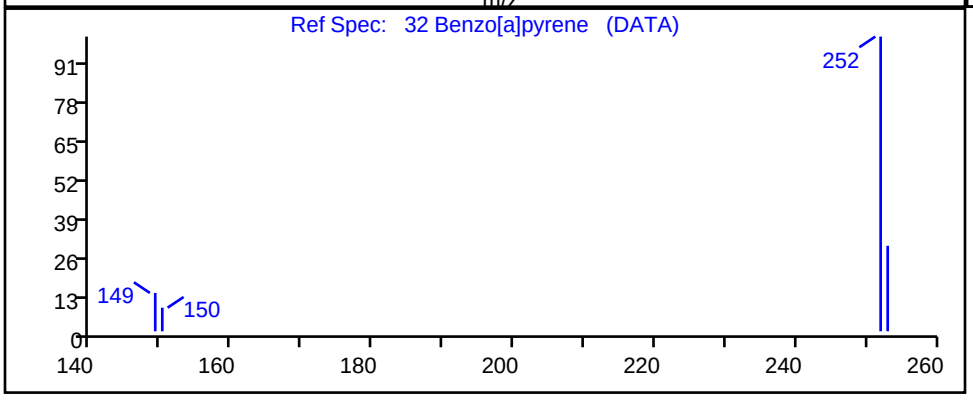
Processing Results











RT	Mass	Response	Amount
17.29	252.00	104	1.323180
17.20	253.00	0	

Reviewer: wickhamm, 02-Nov-2018 17:02:14

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

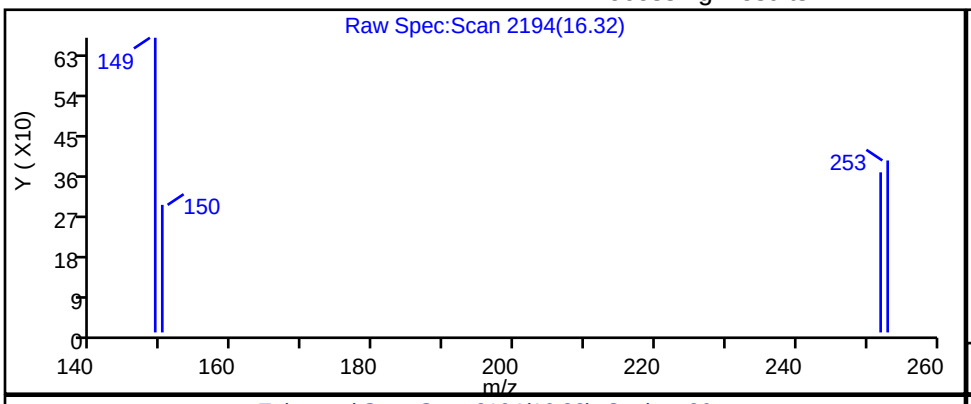
User Disabled Compound Report

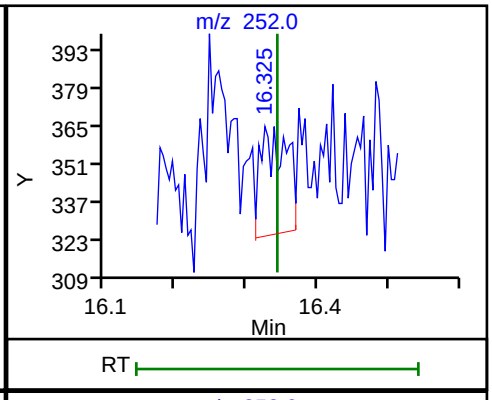
TestAmerica Denver

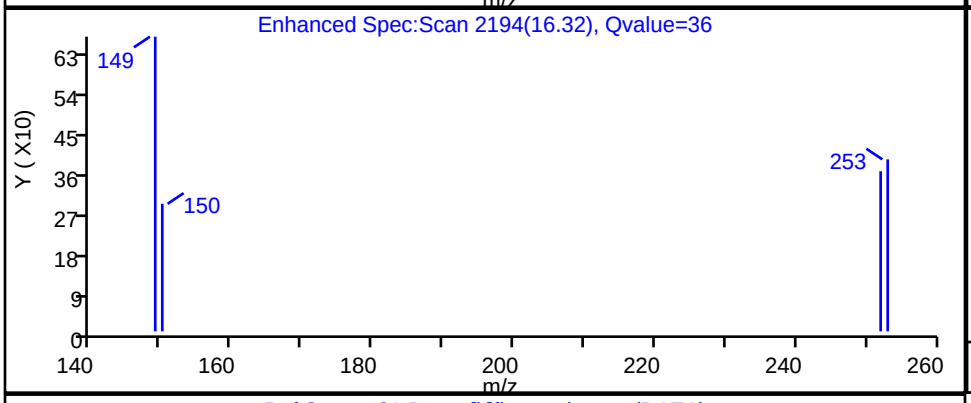
Data File:	\\ChromNA\Denver\ChromData\SMS_F\20181101-75734.b\F4475.D				
Injection Date:	01-Nov-2018 19:05:30	Instrument ID:	SMS_F		
Lims ID:	MB 280-434941/1-A				
Client ID:					
Operator ID:	WICKHAMM	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		
Column:		Detector	MS SCAN		

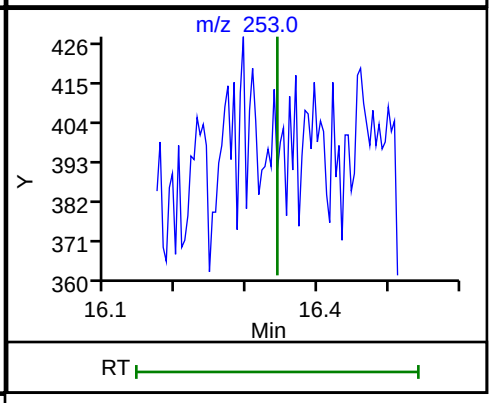
31 Benzo[k]fluoranthene, CAS: 207-08-9

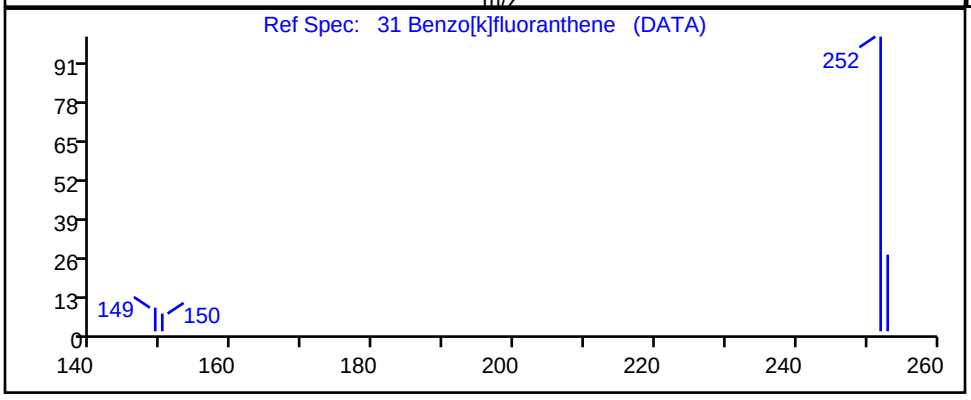
Processing Results











RT	Mass	Response	Amount
16.32	252.00	105	1.073857
16.34	253.00	0	

Reviewer: wickhamm, 02-Nov-2018 17:02:13

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-434941/2-A

Matrix: Water | Lab File ID: F4427.D

Analysis Method: 8270D SIM | Date Collected:

Extract. Method: 3510C | Date Extracted: 10/25/2018 12:34

Sample wt/vol: 250(mL) | Date Analyzed: 10/30/2018 06:00

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435422 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	0.724		0.10	0.012	0.0059
91-57-6	2-Methylnaphthalene	0.705		0.10	0.012	0.0060
83-32-9	Acenaphthene	0.699		0.10	0.040	0.0042
208-96-8	Acenaphthylene	0.613		0.10	0.040	0.0051
120-12-7	Anthracene	0.624		0.10	0.040	0.0056
56-55-3	Benzo[a]anthracene	0.648		0.10	0.012	0.0042
50-32-8	Benzo[a]pyrene	0.559		0.10	0.012	0.0069
205-99-2	Benzo[b]fluoranthene	0.650		0.10	0.012	0.0031
191-24-2	Benzo[g,h,i]perylene	0.603		0.10	0.012	0.0062
207-08-9	Benzo[k]fluoranthene	0.680		0.10	0.012	0.0063
218-01-9	Chrysene	0.816		0.10	0.012	0.0033
53-70-3	Dibenz(a,h)anthracene	0.502		0.10	0.012	0.0041
206-44-0	Fluoranthene	0.711		0.10	0.012	0.0048
86-73-7	Fluorene	0.702		0.10	0.040	0.0055
193-39-5	Indeno[1,2,3-cd]pyrene	0.524		0.10	0.040	0.0045
91-20-3	Naphthalene	0.716		0.10	0.012	0.0080
85-01-8	Phenanthrene	0.730		0.10	0.020	0.0093
129-00-0	Pyrene	0.691		0.10	0.020	0.0061

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	75		53-106
4165-60-0	Nitrobenzene-d5	73		55-111
1718-51-0	Terphenyl-d14	79		58-132

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4427.D
Lims ID: LCS 280-434941/2-A
Client ID:
Sample Type: LCS
Inject. Date: 30-Oct-2018 06:00:30 ALS Bottle#: 20 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: lcs280-434941_2-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 30-Oct-2018 19:06:12 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: wickhamm Date: 30-Oct-2018 19:03:20

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	95	25602	600.0	600.0	
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	97	56341	600.0	600.0	
* 3 Chrysene-d12	240	13.358	13.358	0.000	92	50850	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	97	9704	500.0	363.5	
$ 5 2-Fluorobiphenyl	172	7.019	7.019	0.000	100	24238	500.0	373.3	
$ 6 Terphenyl-d14	244	11.194	11.194	0.000	99	32687	500.0	392.7	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.557	2.550	0.007	36	2492	225.0	126.6	
10 Naphthalene	128	5.980	5.980	0.000	100	15352	225.0	179.1	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	97	10235	225.0	176.2	
12 1-Methylnaphthalene	142	6.761	6.761	0.000	96	9482	225.0	181.0	
13 Dimethyl phthalate	163	7.410	7.410	0.000	1	8678	225.0	172.9	
14 Acenaphthylene	152	7.566	7.566	0.000	99	10136	225.0	153.2	
15 Acenaphthene	153	7.739	7.739	0.000	98	9811	225.0	174.7	
16 Dibenzofuran	168	7.915	7.914	0.001	91	15377	225.0	181.5	
17 Diethyl phthalate	149	8.109	8.109	0.000	99	7940	225.0	162.4	
18 Fluorene	166	8.255	8.254	0.001	97	11494	225.0	175.4	
19 N-Nitrosodiphenylamine	169	8.361	8.361	0.000	92	6550	225.0	156.3	
20 Phenanthrene	178	9.223	9.223	0.000	100	20840	225.0	182.6	
21 Anthracene	178	9.275	9.275	0.000	1	13382	225.0	156.1	
22 Di-n-butyl phthalate	149	9.768	9.776	-0.008	1	9619	225.0	192.2	
23 Fluoranthene	202	10.624	10.632	-0.008	97	21562	225.0	177.8	
24 Pyrene	202	10.970	10.969	0.001	98	21117	225.0	172.8	
25 Butyl benzyl phthalate	149		10.969				ND	ND	
26 Benzo[a]anthracene	228	13.331	13.340	-0.009	63	13975	225.0	162.0	
27 Chrysene	228	13.421	13.421	0.000	97	21689	225.0	204.1	
28 Bis(2-ethylhexyl) phthalat	149	12.097	12.097	0.000	1	2801	225.0	137.3	
29 Di-n-octyl phthalate	149	15.297	15.301	-0.004	1	3688	225.0	139.5	
30 Benzo[b]fluoranthene	252	16.238	16.246	-0.008	100	16629	225.0	162.5	
31 Benzo[k]fluoranthene	252	16.316	16.325	-0.009	99	17083	225.0	170.0	
32 Benzo[a]pyrene	252	17.178	17.186	-0.008	97	11287	225.0	139.8	
33 Indeno[1,2,3-cd]pyrene	276	20.489	20.498	-0.009	95	13557	225.0	131.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
34 Dibenz(a,h)anthracene	278	20.581	20.585	-0.004	87	13502	225.0	125.5	
35 Benzo[g,h,i]perylene	276	21.233	21.242	-0.009	96	19750	225.0	150.7	
$ 53 2-methylnaphthalene-d10	152	6.633	6.632	0.001	89	16394	500.0	369.1	
$ 54 Fluoranthene-d10	212	10.598	10.606	-0.008	98	36445	500.0	387.1	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

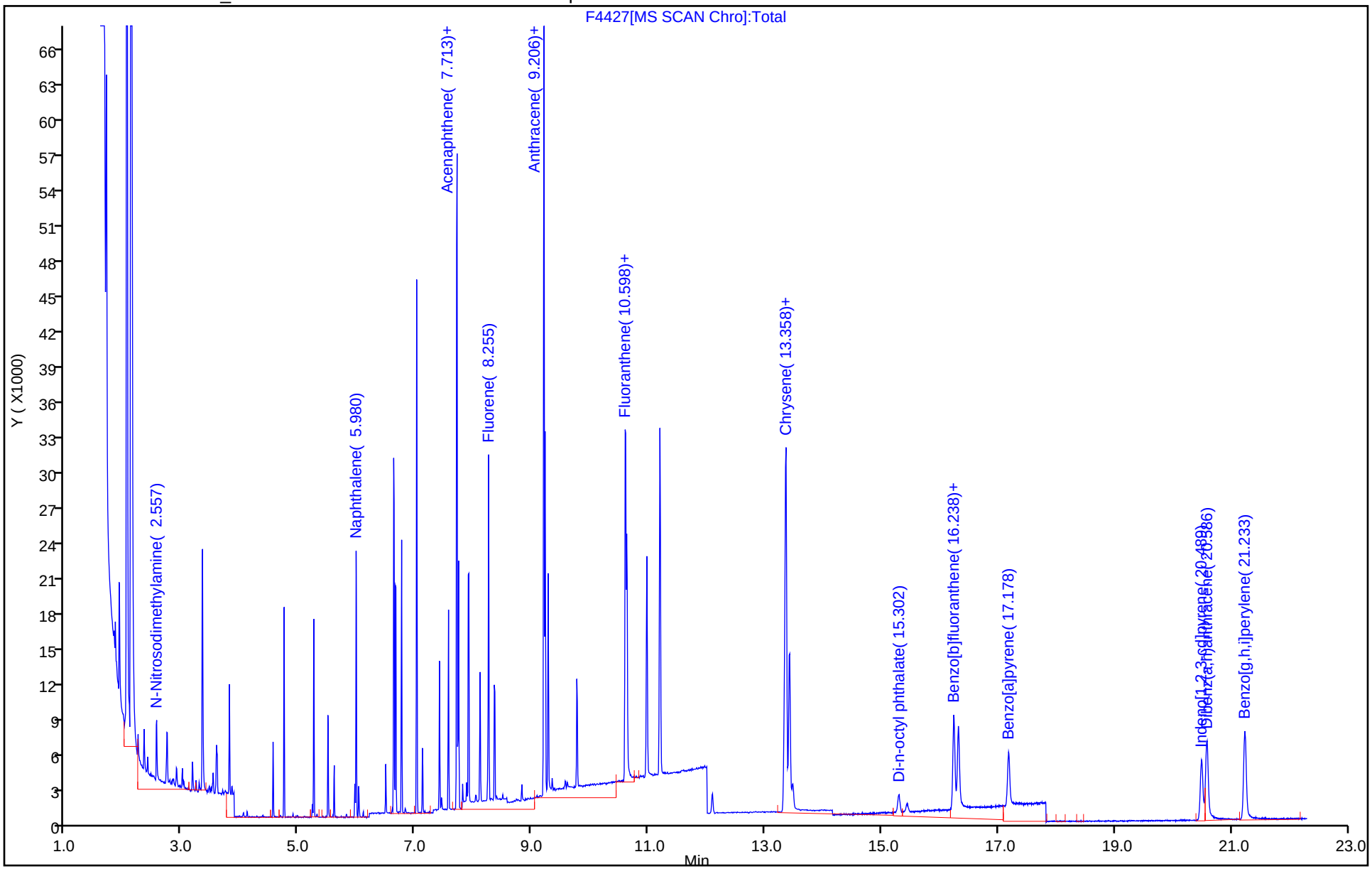
MS-SIM IS_00033 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 30-Oct-2018 19:07:14 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4427.D

Injection Date:	30-Oct-2018 06:00:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	LCS 280-434941/2-A			Worklist Smp#:	21
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4427.D
Lims ID: LCS 280-434941/2-A
Client ID:
Sample Type: LCS
Inject. Date: 30-Oct-2018 06:00:30 ALS Bottle#: 20 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: lcs280-434941_2-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 30-Oct-2018 19:06:12 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: wickhamm Date: 30-Oct-2018 19:03:20

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Nitrobenzene-d5	500.0	363.5	72.70
$ 5 2-Fluorobiphenyl	500.0	373.3	74.66
$ 6 Terphenyl-d14	500.0	392.7	78.55
$ 53 2-methylnaphthalene-d10	500.0	369.1	73.83
$ 54 Fluoranthene-d10	500.0	387.1	77.42

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-434941/3-A

Matrix: Water | Lab File ID: F4428.D

Analysis Method: 8270D SIM | Date Collected:

Extract. Method: 3510C | Date Extracted: 10/25/2018 12:34

Sample wt/vol: 250(mL) | Date Analyzed: 10/30/2018 06:29

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435422 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
90-12-0	1-Methylnaphthalene	0.606		0.10	0.012	0.0059
91-57-6	2-Methylnaphthalene	0.574		0.10	0.012	0.0060
83-32-9	Acenaphthene	0.578		0.10	0.040	0.0042
208-96-8	Acenaphthylene	0.507		0.10	0.040	0.0051
120-12-7	Anthracene	0.537		0.10	0.040	0.0056
56-55-3	Benzo[a]anthracene	0.558		0.10	0.012	0.0042
50-32-8	Benzo[a]pyrene	0.477		0.10	0.012	0.0069
205-99-2	Benzo[b]fluoranthene	0.557		0.10	0.012	0.0031
191-24-2	Benzo[g,h,i]perylene	0.529		0.10	0.012	0.0062
207-08-9	Benzo[k]fluoranthene	0.587		0.10	0.012	0.0063
218-01-9	Chrysene	0.717		0.10	0.012	0.0033
53-70-3	Dibenz(a,h)anthracene	0.464		0.10	0.012	0.0041
206-44-0	Fluoranthene	0.606		0.10	0.012	0.0048
86-73-7	Fluorene	0.578		0.10	0.040	0.0055
193-39-5	Indeno[1,2,3-cd]pyrene	0.452		0.10	0.040	0.0045
91-20-3	Naphthalene	0.586		0.10	0.012	0.0080
85-01-8	Phenanthrene	0.626		0.10	0.020	0.0093
129-00-0	Pyrene	0.588		0.10	0.020	0.0061

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	71		53-106
4165-60-0	Nitrobenzene-d5	64		55-111
1718-51-0	Terphenyl-d14	76		58-132

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4428.D
Lims ID: LCSD 280-434941/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 30-Oct-2018 06:29:30 ALS Bottle#: 21 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: lcsd280-434941_3-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 30-Oct-2018 19:06:12 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: wickhamm Date: 30-Oct-2018 19:04:12

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 Acenaphthene-d10	164	7.713	7.713	0.000	96	26162	600.0	600.0	M
* 2 Phenanthrene-d10	188	9.206	9.206	0.000	97	57360	600.0	600.0	
* 3 Chrysene-d12	240	13.358	13.358	0.000	92	51280	600.0	600.0	
$ 4 Nitrobenzene-d5	82	5.256	5.256	0.000	98	8675	500.0	318.0	
$ 5 2-Fluorobiphenyl	172	7.019	7.019	0.000	100	23684	500.0	356.9	
$ 6 Terphenyl-d14	244	11.194	11.194	0.000	99	32169	500.0	379.7	
8 1,4-Dioxane	88		1.692				ND	ND	
9 N-Nitrosodimethylamine	74	2.557	2.550	0.007	32	2124	225.0	105.6	
10 Naphthalene	128	5.980	5.980	0.000	100	12829	225.0	146.4	
11 2-Methylnaphthalene	142	6.663	6.663	0.000	96	8515	225.0	143.5	
12 1-Methylnaphthalene	142	6.761	6.761	0.000	96	8103	225.0	151.4	
13 Dimethyl phthalate	163	7.410	7.410	0.000	1	7271	225.0	141.8	
14 Acenaphthylene	152	7.566	7.566	0.000	99	8569	225.0	126.8	
15 Acenaphthene	153	7.738	7.739	-0.001	98	8292	225.0	144.5	
16 Dibenzofuran	168	7.914	7.914	0.000	92	12916	225.0	149.2	
17 Diethyl phthalate	149	8.109	8.109	0.000	99	6986	225.0	139.8	
18 Fluorene	166	8.254	8.254	0.000	96	9678	225.0	144.5	
19 N-Nitrosodiphenylamine	169	8.351	8.361	-0.010	96	5582	225.0	130.8	
20 Phenanthrene	178	9.223	9.223	0.000	100	18196	225.0	156.6	
21 Anthracene	178	9.275	9.275	0.000	1	11728	225.0	134.4	
22 Di-n-butyl phthalate	149	9.768	9.776	-0.008	1	8412	225.0	165.8	
23 Fluoranthene	202	10.623	10.632	-0.009	98	18712	225.0	151.5	
24 Pyrene	202	10.969	10.969	0.000	98	18285	225.0	146.9	
25 Butyl benzyl phthalate	149		10.969				ND	ND	
26 Benzo[a]anthracene	228	13.331	13.340	-0.009	70	12146	225.0	139.6	
27 Chrysene	228	13.412	13.421	-0.009	97	19202	225.0	179.1	
28 Bis(2-ethylhexyl) phthalat	149	12.088	12.097	-0.009	1	2489	225.0	119.9	
29 Di-n-octyl phthalate	149	15.293	15.301	-0.008	1	3082	225.0	119.0	
30 Benzo[b]fluoranthene	252	16.237	16.246	-0.009	99	14377	225.0	139.3	
31 Benzo[k]fluoranthene	252	16.316	16.325	-0.009	98	14865	225.0	146.7	
32 Benzo[a]pyrene	252	17.178	17.186	-0.008	96	9713	225.0	119.3	
33 Indeno[1,2,3-cd]pyrene	276	20.493	20.498	-0.005	96	11786	225.0	112.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
34 Dibenz(a,h)anthracene	278	20.577	20.585	-0.008	88	12594	225.0	116.1	
35 Benzo[g,h,i]perylene	276	21.233	21.242	-0.009	97	17494	225.0	132.4	
$ 53 2-methylnaphthalene-d10	152	6.632	6.632	0.000	89	15510	500.0	341.7	
$ 54 Fluoranthene-d10	212	10.597	10.606	-0.009	98	34314	500.0	358.0	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

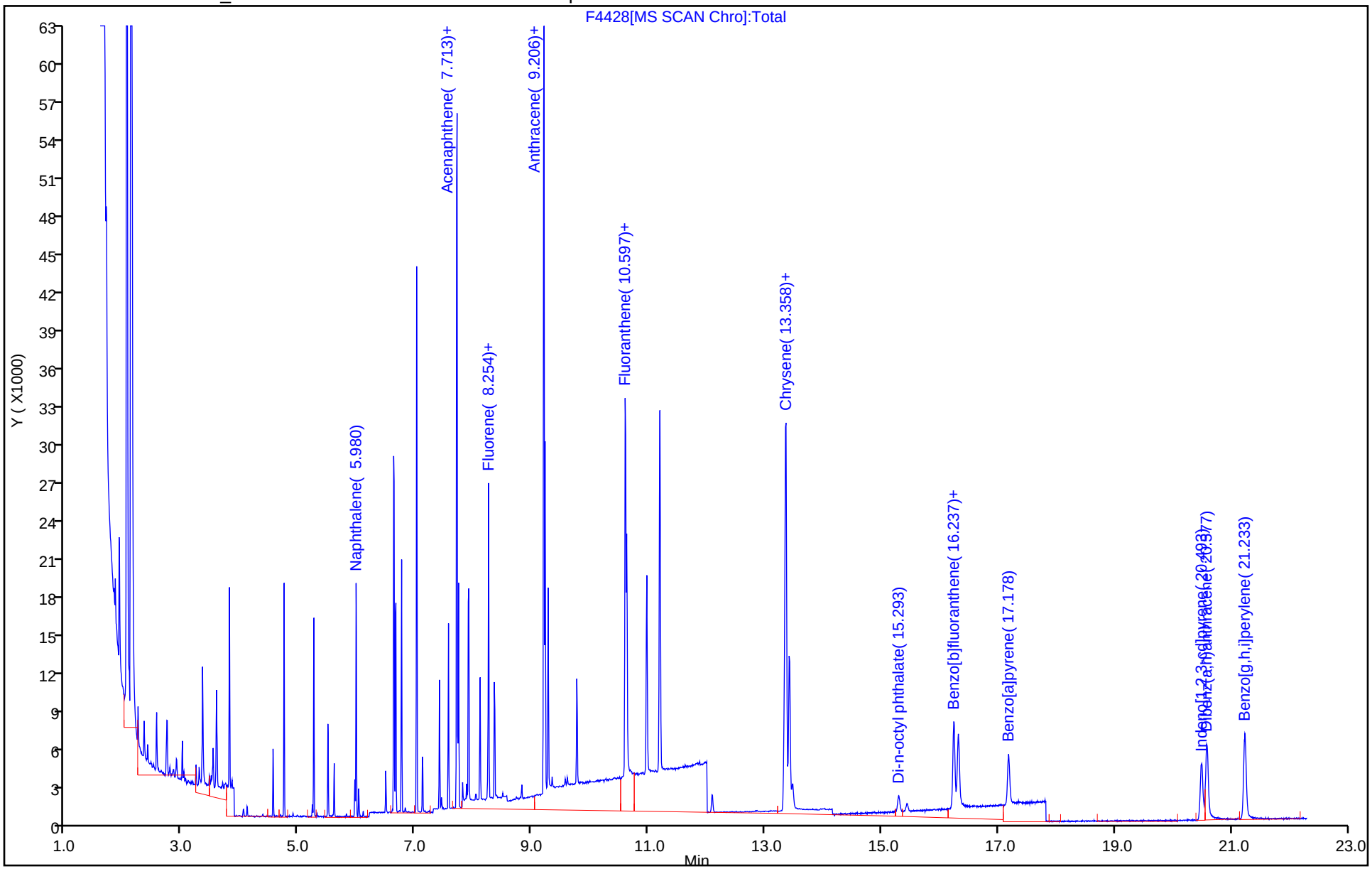
MS-SIM IS_00033 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 30-Oct-2018 19:07:17 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4428.D

Injection Date:	30-Oct-2018 06:29:30	Instrument ID:	SMS_F	Operator ID:	WICKHAMM
Lims ID:	LCSD 280-434941/3-A			Worklist Smp#:	22
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	SMSF_8270SIMX	Limit Group:	MSSV - 8270C-SIM		



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4428.D
Lims ID: LCSD 280-434941/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 30-Oct-2018 06:29:30 ALS Bottle#: 21 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: lcsd280-434941_3-a
Operator ID: WICKHAMM Instrument ID: SMS_F

Method: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\SMSF_8270SIMX.m
Limit Group: MSSV - 8270C-SIM
Last Update: 30-Oct-2018 19:06:12 Calib Date: 29-Oct-2018 20:00:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75596.b\F4406.D

Column 1 : Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: wickhamm Date: 30-Oct-2018 19:04:12

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Nitrobenzene-d5	500.0	318.0	63.60
$ 5 2-Fluorobiphenyl	500.0	356.9	71.39
$ 6 Terphenyl-d14	500.0	379.7	75.93
$ 53 2-methylnaphthalene-d10	500.0	341.7	68.35
$ 54 Fluoranthene-d10	500.0	358.0	71.59

Manual Integration/User Assign Peak Report

TestAmerica Denver

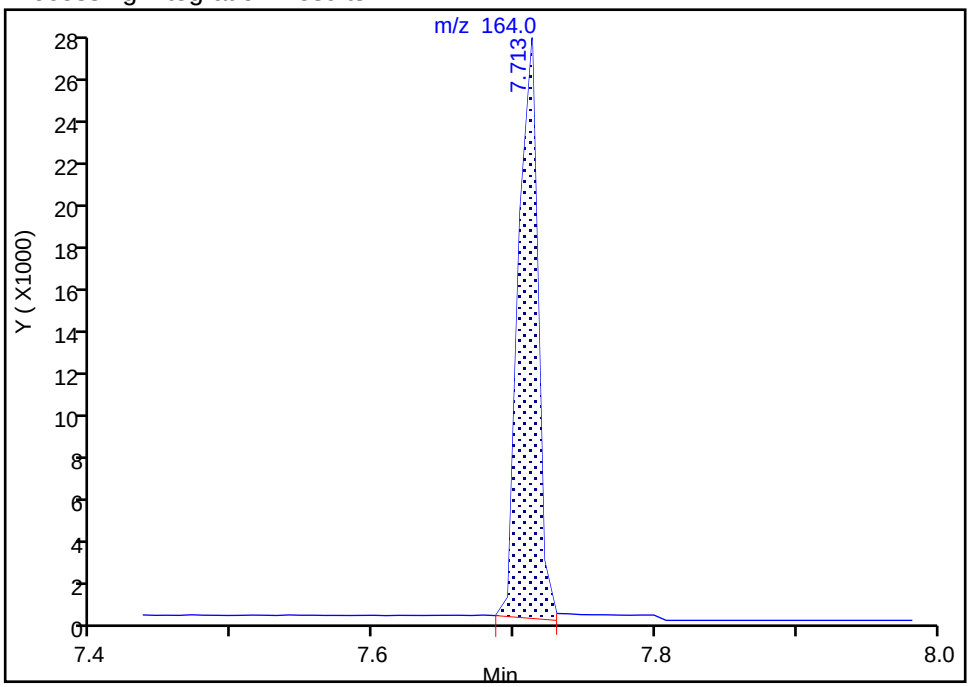
Data File: \\ChromNA\Denver\ChromData\SMS_F\20181029-75602.b\F4428.D
Injection Date: 30-Oct-2018 06:29:30 Instrument ID: SMS_F
Lims ID: LCSD 280-434941/3-A
Client ID:
Operator ID: WICKHAMM ALS Bottle#: 21 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSF_8270SIMX Limit Group: MSSV - 8270C-SIM
Column: Detector MS SCAN

* 1 Acenaphthene-d10, CAS: 15067-26-2

Signal: 1

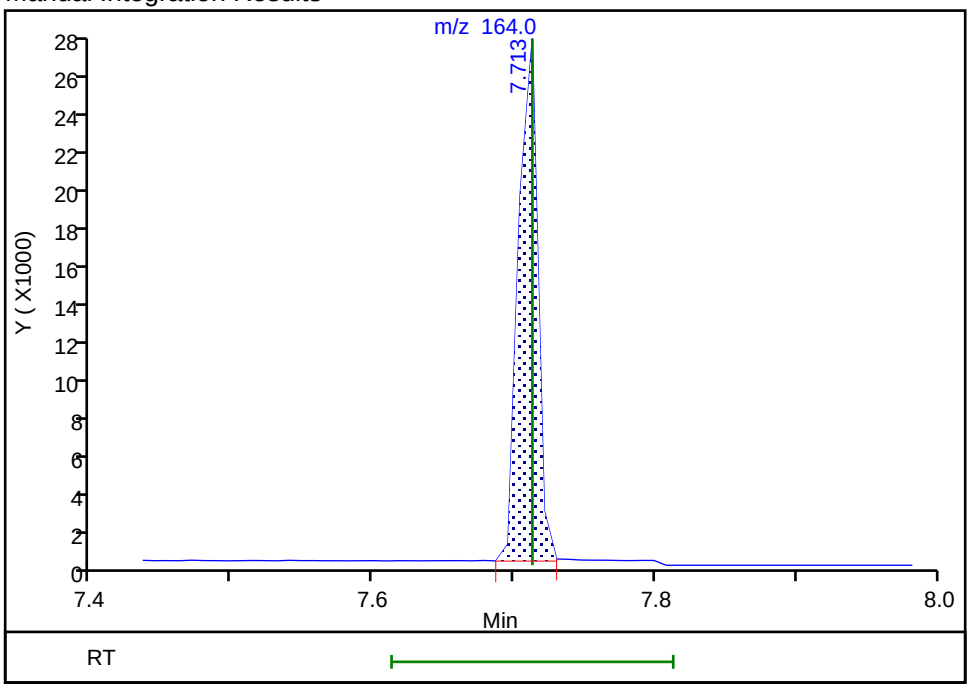
Processing Integration Results

RT: 7.71
Area: 26490
Amount: 600.0000
Amount Units: ng/ml



Manual Integration Results

RT: 7.71
Area: 26162
Amount: 600.0000
Amount Units: ng/ml



Reviewer: wickhamm, 30-Oct-2018 19:03:46
Audit Action: Assigned New Baseline Audit Reason: Baseline

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SMS_F Start Date: 10/29/2018 15:45

Analysis Batch Number: 435404 End Date: 10/29/2018 20:30

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-435404/2		10/29/2018 15:45	1	F4397.D	Rxi-5Sil MS 0.25(mm)
ICIS 280-435404/3		10/29/2018 16:02	1	F4398.D	Rxi-5Sil MS 0.25(mm)
STD0001 280-435404/4 IC		10/29/2018 16:32	1	F4399.D	Rxi-5Sil MS 0.25(mm)
STD0002 280-435404/5 IC		10/29/2018 17:02	1	F4400.D	Rxi-5Sil MS 0.25(mm)
STD0500 280-435404/6 IC		10/29/2018 17:32	1	F4401.D	Rxi-5Sil MS 0.25(mm)
STD0100 280-435404/7 IC		10/29/2018 18:01	1	F4402.D	Rxi-5Sil MS 0.25(mm)
STD0300 280-435404/8 IC		10/29/2018 18:31	1	F4403.D	Rxi-5Sil MS 0.25(mm)
STD1200 280-435404/9 IC		10/29/2018 19:01	1	F4404.D	Rxi-5Sil MS 0.25(mm)
STD2500 280-435404/10 IC		10/29/2018 19:31	1	F4405.D	Rxi-5Sil MS 0.25(mm)
STD5000 280-435404/11 IC		10/29/2018 20:00	1	F4406.D	Rxi-5Sil MS 0.25(mm)
ICV 280-435404/12		10/29/2018 20:30	1	F4407.D	Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SMS_F Start Date: 10/29/2018 20:56

Analysis Batch Number: 435422 End Date: 10/30/2018 07:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-435422/2		10/29/2018 20:56	1	F4408.D	Rxi-5Sil MS 0.25(mm)
CCV 280-435422/3		10/29/2018 21:09	1	F4409.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 21:39	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 22:09	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 22:39	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 23:08	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/29/2018 23:38	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/30/2018 00:07	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/30/2018 00:37	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/30/2018 01:06	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/30/2018 01:35	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/30/2018 02:05	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/30/2018 02:34	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/30/2018 03:04	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/30/2018 03:33	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/30/2018 04:02	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/30/2018 04:32	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/30/2018 05:01	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/30/2018 05:30	1		Rxi-5Sil MS 0.25(mm)
LCS 280-434941/2-A		10/30/2018 06:00	1	F4427.D	Rxi-5Sil MS 0.25(mm)
LCSD 280-434941/3-A		10/30/2018 06:29	1	F4428.D	Rxi-5Sil MS 0.25(mm)
280-115950-4		10/30/2018 06:58	1	F4429.D	Rxi-5Sil MS 0.25(mm)
280-115950-5		10/30/2018 07:27	1	F4430.D	Rxi-5Sil MS 0.25(mm)
CCVC 280-435422/25		10/30/2018 07:57	1	F4431.D	Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SMS_F Start Date: 11/01/2018 18:15

Analysis Batch Number: 435950 End Date: 11/02/2018 05:24

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-435950/2		11/01/2018 18:15	1	F4473.D	Rxi-5Sil MS 0.25(mm)
CCV 280-435950/3		11/01/2018 18:29	1	F4474.D	Rxi-5Sil MS 0.25(mm)
MB 280-434941/1-A		11/01/2018 19:05	1	F4475.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/01/2018 19:34	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/01/2018 20:04	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/01/2018 20:33	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/01/2018 21:03	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/01/2018 21:32	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/01/2018 22:02	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/01/2018 22:31	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/01/2018 23:01	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/01/2018 23:30	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 00:00	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 00:29	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 00:59	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 01:28	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 01:58	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 02:27	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 02:57	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 03:26	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 03:55	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 04:25	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/02/2018 04:54	1		Rxi-5Sil MS 0.25(mm)
CCVC 280-435950/25		11/02/2018 05:24	1	F4496.D	Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 434941 Batch Start Date: 10/25/18 12:34 Batch Analyst: Stewart, Klaudia J

Batch Method: 3510C Batch End Date: 10/25/18 19:35

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	8270BO-SIMLCS 00031
MB 280-434941/1		3510C, 8270D SIM				250 mL	1 mL	7 SU	
LCS 280-434941/2		3510C, 8270D SIM				250 mL	1 mL	7 SU	0.25 mL
LCSD 280-434941/3		3510C, 8270D SIM				250 mL	1 mL	7 SU	0.25 mL
280-115950-I-4	RQLmw-007-181001-GW	3510C, 8270D SIM	T	415.4 g	181.8 g	233.6 mL	1 mL	7 SU	
280-115950-H-5	RQLmw-008-181001-GW	3510C, 8270D SIM	T	434.9 g	181.2 g	253.7 mL	1 mL	7 SU	

Lab Sample ID	Client Sample ID	Method Chain	Basis	SIM_LVI_SURR 00006					
MB 280-434941/1		3510C, 8270D SIM		0.25 mL					
LCS 280-434941/2		3510C, 8270D SIM		0.25 mL					
LCSD 280-434941/3		3510C, 8270D SIM		0.25 mL					
280-115950-I-4	RQLmw-007-181001-GW	3510C, 8270D SIM	T	0.25 mL					
280-115950-H-5	RQLmw-008-181001-GW	3510C, 8270D SIM	T	0.25 mL					

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

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 434941 Batch Start Date: 10/25/18 12:34 Batch Analyst: Stewart, Klaudia J

Batch Method: 3510C Batch End Date: 10/25/18 19:35

Batch Notes	
Balance ID	24750399
Batch Comment	DV-OP-0006/0007
Analyst ID - Concentration	MM
Concentration 1 Corrected Temperature	84 Degrees C
Equipment ID - Concentration 1	A
Analyst ID - Extraction	KS (Trainee) + AMB (trainer)
Method/Fraction	3510C_LVI/8270D_SIM_DOD5
Na2SO4 ID	0000205461_00006
NaCl ID	181957
Pipette/Syringe/Dispenser ID	1n2s
Prep Solvent ID	MeCl2_Cycl_00409
Prep Solvent Volume Used	90 mL
Analyst ID - Spike Analyst	KS
Analyst ID - Spike Witness Analyst	Reviewer:JZ
Sufficient Volume for Batch QC	No
Concentration 1 Uncorrected Temperature	85 Degrees C
Reagent Water ID	S. Elga

Basis	Basis Description
T	Total/NA

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

8081B_DOD5

Organochlorine Pesticides (GC)

FORM II
PESTICIDES SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low

GC Column (2): CLP2 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCX2 #	DCBP2 #
LL1mw-088-181001-GW	280-115950-2	86	89
LL1mw-088-181002-GW	280-115950-3	91	89
RQLmw-007-181001-GW	280-115950-4	82	64
RQLmw-008-181001-GW	280-115950-5	76	61
	MB 280-434851/1-A	80	91
	LCS 280-434851/2-A	83	102
	LCS 280-434851/11-A	80	94
	LCSD 280-434851/3-A	81	100
	LCSD 280-434851/12-A	77	86

	QC LIMITS
TCX = Tetrachloro-m-xylene	44-124
DCBP = DCB Decachlorobiphenyl	34-122

Column to be used to flag recovery values

FORM II 8081B

FORM III
PESTICIDES LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11230015.D

Lab ID: LCS 280-434851/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
4,4'-DDD	0.500	0.575	115	56-143	
4,4'-DDE	0.500	0.561	112	57-135	
4,4'-DDT	0.500	0.636	127	51-143	
Aldrin	0.500	0.548	110	45-134	
alpha-BHC	0.500	0.533	107	54-138	
alpha-Chlordane	0.500	0.573	115	60-129	
beta-BHC	0.500	0.505	101	56-136	
delta-BHC	0.500	0.546	109	52-142	
Dieldrin	0.500	0.569	114	60-136	
Endosulfan I	0.500	0.560	112	62-126	
Endosulfan II	0.500	0.528	106	52-135	
Endosulfan sulfate	0.500	0.579	116	62-133	
Endrin	0.500	0.612	122	60-138	
Endrin aldehyde	0.500	0.367	73	51-132	
Endrin ketone	0.500	0.575	115	58-134	
gamma-BHC (Lindane)	0.500	0.551	110	59-134	
gamma-Chlordane	0.500	0.565	113	56-136	
Heptachlor	0.500	0.574	115	54-130	
Heptachlor epoxide	0.500	0.577	115	61-133	
Methoxychlor	0.500	0.600	120	54-145	

Column to be used to flag recovery and RPD values

FORM III 8081B

FORM III
PESTICIDES LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11230021.D

Lab ID: LCS 280-434851/11-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Toxaphene	2.00	2.58	129	33-134	

Column to be used to flag recovery and RPD values

FORM III 8081B

FORM III
PESTICIDES LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11230016.D

Lab ID: LCSD 280-434851/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
4,4'-DDD	0.500	0.569	114	1	30	56-143	
4,4'-DDE	0.500	0.556	111	1	30	57-135	
4,4'-DDT	0.500	0.628	126	1	30	51-143	
Aldrin	0.500	0.553	111	1	30	45-134	
alpha-BHC	0.500	0.533	107	0	30	54-138	
alpha-Chlordane	0.500	0.570	114	0	30	60-129	
beta-BHC	0.500	0.509	102	1	30	56-136	
delta-BHC	0.500	0.550	110	1	30	52-142	
Dieldrin	0.500	0.566	113	1	30	60-136	
Endosulfan I	0.500	0.557	111	0	30	62-126	
Endosulfan II	0.500	0.521	104	1	30	52-135	
Endosulfan sulfate	0.500	0.567	113	2	30	62-133	
Endrin	0.500	0.601	120	2	30	60-138	
Endrin aldehyde	0.500	0.279	56	27	30	51-132	
Endrin ketone	0.500	0.566	113	2	30	58-134	
gamma-BHC (Lindane)	0.500	0.555	111	1	30	59-134	
gamma-Chlordane	0.500	0.564	113	0	30	56-136	
Heptachlor	0.500	0.583	117	2	30	54-130	
Heptachlor epoxide	0.500	0.578	116	0	30	61-133	
Methoxychlor	0.500	0.616	123	3	30	54-145	

Column to be used to flag recovery and RPD values

FORM III 8081B

FORM III
PESTICIDES LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11230022.D

Lab ID: LCSD 280-434851/12-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Toxaphene	2.00	2.79	139	8	30	33-134	Q

Column to be used to flag recovery and RPD values

FORM III 8081B

FORM IV
PESTICIDES METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: MB 280-434851/1-A

Matrix: Water Date Extracted: 10/25/2018 09:01

Lab File ID:(1) 11230014.D Lab File ID:(2) 11230014.D

Date Analyzed:(1) 11/23/2018 20:11 Date Analyzed:(2) 11/23/2018 20:11

Instrument ID:(1) SGC_P2 Instrument ID:(2) SGC_P2

GC Column:(1) CLP1 ID: 0.32(mm) GC Column:(2) CLP2 ID: 0.32(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-434851/2-A	11/23/2018 20:29	11/23/2018 20:29
	LCSD 280-434851/3-A	11/23/2018 20:46	11/23/2018 20:46
LL1mw-088-181001-GW	280-115950-2	11/23/2018 21:04	11/23/2018 21:04
LL1mw-088-181002-GW	280-115950-3	11/23/2018 21:22	11/23/2018 21:22
RQLmw-007-181001-GW	280-115950-4	11/23/2018 21:39	11/23/2018 21:39
RQLmw-008-181001-GW	280-115950-5	11/23/2018 21:57	11/23/2018 21:57
	LCS 280-434851/11-A	11/23/2018 22:14	11/23/2018 22:14
	LCSD 280-434851/12-A	11/23/2018 22:32	11/23/2018 22:32

FORM VIII
PESTICIDES INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Sample No.: STD4 280-433303/29 Date Analyzed: 10/13/2018 19:57

Instrument ID: SGC_P2 GC Column: CLP1 ID: 0.32(mm)

Lab File ID (Standard): 024F3201.D Heated Purge: (Y/N) N

Calibration ID: 33989

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		1639866372	3.02				
UPPER LIMIT		3279732744	3.52				
LOWER LIMIT		819933186	2.52				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-433303/33		1735793263	3.02				
ICV 280-433303/34		1963980017	3.02				
ICV 280-433303/35		1776097136	3.02				
ICV 280-433303/36		1833818877	3.02				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8081B

FORM VIII
PESTICIDES INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Sample No.: STD4 280-433303/29 Date Analyzed: 10/13/2018 19:57

Instrument ID: SGC_P2 GC Column: CLP2 ID: 0.32(mm)

Lab File ID (Standard): 024F3201.D Heated Purge: (Y/N) N

Calibration ID: 33990

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		184249474	2.84				
UPPER LIMIT		368498948	3.34				
LOWER LIMIT		92124737	2.34				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-433303/33		195320590	2.84				
ICV 280-433303/34		209759075	2.84				
ICV 280-433303/35		196652802	2.84				
ICV 280-433303/36		196779319	2.84				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8081B

FORM VIII
PESTICIDES INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Sample No.: CCVIS 280-438595/13 Date Analyzed: 11/23/2018 19:54

Instrument ID: SGC_P2 GC Column: CLP1 ID: 0.32(mm)

Lab File ID (Standard): 11230013.D Heated Purge: (Y/N) N

Calibration ID: 33989

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1583147211	3.01				
UPPER LIMIT		3166294422	3.51				
LOWER LIMIT		791573606	2.51				
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 280-434851/1-A		1692029547	3.01				
LCS 280-434851/2-A		1601711568	3.00				
LCSD 280-434851/3-A		1569423015	3.01				
280-115950-2	LL1mw-088-181001-GW	1534727440	3.00				
280-115950-3	LL1mw-088-181002-GW	1568045477	3.01				
280-115950-4	RQLmw-007-181001-GW	1655535058	3.01				
280-115950-5	RQLmw-008-181001-GW	1636196538	3.01				
LCS 280-434851/11-A		1601587143	3.00				
LCSD 280-434851/12-A		1688862458	3.00				
CCV 280-438595/24		1566520737	3.01				
CCV 280-438595/26		1634780219	3.01				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8081B

FORM VIII
PESTICIDES INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Sample No.: CCVIS 280-438595/13 Date Analyzed: 11/23/2018 19:54

Instrument ID: SGC_P2 GC Column: CLP2 ID: 0.32(mm)

Lab File ID (Standard): 11230013.D Heated Purge: (Y/N) N

Calibration ID: 33990

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		215658534	2.81				
UPPER LIMIT		431317068	3.31				
LOWER LIMIT		107829267	2.31				
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 280-434851/1-A		229702527	2.81				
LCS 280-434851/2-A		216263228	2.81				
LCSD 280-434851/3-A		216045196	2.81				
280-115950-2	LL1mw-088-181001-GW	213264962	2.81				
280-115950-3	LL1mw-088-181002-GW	217029754	2.81				
280-115950-4	RQLmw-007-181001-GW	222533947	2.81				
280-115950-5	RQLmw-008-181001-GW	226555874	2.81				
LCS 280-434851/11-A		220457881	2.81				
LCSD 280-434851/12-A		229464786	2.81				
CCV 280-438595/24		218889998	2.81				
CCV 280-438595/26		227836204	2.81				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8081B

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 280-434851/2-A

Instrument ID (1): SGC_P2 Instrument ID (2): SGC_P2

Date Analyzed (1): 11/23/2018 20:29 Date Analyzed (2): 11/23/2018 20:29

GC Column (1): CLP1 ID: 0.32(mm) GC Column (2): CLP2 ID: 0.32(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
alpha-BHC	1		4.48	4.47	4.49	0.510		4.4
	2		4.41	4.40	4.43	0.533		
gamma-BHC (Lindane)	1		4.77	4.76	4.78	0.542		1.6
	2		4.73	4.71	4.74	0.551		
beta-BHC	1		4.85	4.83	4.86	0.530		4.8
	2		4.80	4.79	4.82	0.505		
delta-BHC	1		4.99	4.98	5.01	0.557		2.0
	2		5.04	5.02	5.05	0.546		
Heptachlor	1		5.17	5.16	5.18	0.583		1.6
	2		5.08	5.07	5.09	0.574		
Aldrin	1		5.44	5.43	5.45	0.538		1.8
	2		5.34	5.33	5.36	0.548		
Heptachlor epoxide	1		6.05	6.04	6.06	0.603		4.4
	2		5.88	5.87	5.89	0.577		
gamma-Chlordane	1		6.18	6.17	6.19	0.598		5.6
	2		6.08	6.07	6.09	0.565		
alpha-Chlordane	1		6.32	6.31	6.33	0.598		4.2
	2		6.23	6.22	6.25	0.573		
4,4'-DDE	1		6.40	6.38	6.41	0.534		4.9
	2		6.42	6.41	6.43	0.561		
Endosulfan I	1		6.47	6.46	6.48	0.583		4.2
	2		6.29	6.28	6.31	0.560		
Dieldrin	1		6.72	6.71	6.73	0.612		7.3
	2		6.58	6.57	6.60	0.569		
Endrin	1		6.97	6.96	6.98	0.646		5.4
	2		6.91	6.89	6.92	0.612		
4,4'-DDD	1		7.03	7.02	7.04	0.613		6.4
	2		7.03	7.02	7.05	0.575		
Endosulfan II	1		7.21	7.19	7.22	0.576		8.6
	2		7.13	7.12	7.14	0.528		
4,4'-DDT	1		7.32	7.31	7.34	0.569		11.1
	2		7.36	7.35	7.38	0.636		
Endrin aldehyde	1		7.65	7.64	7.66	0.407		10.5
	2		7.49	7.48	7.50	0.367		
Methoxychlor	1		7.83	7.82	7.84	0.639		6.3
	2		8.09	8.08	8.11	0.600		
Endosulfan sulfate	1		8.11	8.10	8.12	0.687		17.1
	2		7.78	7.77	7.79	0.579		
Endrin ketone	1		8.40	8.39	8.41	0.633		9.6
	2		8.33	8.32	8.35	0.575		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 280-434851/3-A

Instrument ID (1): SGC_P2 Instrument ID (2): SGC_P2

Date Analyzed (1): 11/23/2018 20:46 Date Analyzed (2): 11/23/2018 20:46

GC Column (1): CLP1 ID: 0.32(mm) GC Column (2): CLP2 ID: 0.32(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
alpha-BHC	1		4.48	4.47	4.49	0.511		4.3
	2		4.41	4.40	4.43	0.533		
gamma-BHC (Lindane)	1		4.77	4.76	4.78	0.547		1.5
	2		4.73	4.71	4.74	0.555		
beta-BHC	1		4.85	4.83	4.86	0.539		5.6
	2		4.80	4.79	4.82	0.509		
delta-BHC	1		4.99	4.98	5.01	0.564		2.5
	2		5.04	5.02	5.05	0.550		
Heptachlor	1		5.17	5.16	5.18	0.596		2.2
	2		5.08	5.07	5.09	0.583		
Aldrin	1		5.44	5.43	5.45	0.547		1.1
	2		5.34	5.33	5.36	0.553		
Heptachlor epoxide	1		6.05	6.04	6.06	0.612		5.6
	2		5.88	5.87	5.89	0.578		
gamma-Chlordane	1		6.18	6.17	6.19	0.604		6.9
	2		6.08	6.07	6.09	0.564		
alpha-Chlordane	1		6.32	6.31	6.33	0.603		5.6
	2		6.23	6.22	6.25	0.570		
4,4'-DDE	1		6.40	6.38	6.41	0.535		3.9
	2		6.42	6.41	6.43	0.556		
Endosulfan I	1		6.47	6.46	6.48	0.590		5.6
	2		6.29	6.28	6.31	0.557		
Dieldrin	1		6.72	6.71	6.73	0.615		8.3
	2		6.58	6.57	6.60	0.566		
Endrin	1		6.97	6.96	6.98	0.643		6.8
	2		6.90	6.89	6.92	0.601		
4,4'-DDD	1		7.03	7.02	7.04	0.615		7.8
	2		7.03	7.02	7.05	0.569		
Endosulfan II	1		7.20	7.19	7.22	0.576		10.1
	2		7.13	7.12	7.14	0.521		
4,4'-DDT	1		7.32	7.31	7.34	0.593		5.7
	2		7.36	7.35	7.38	0.628		
Endrin aldehyde	1		7.65	7.64	7.66	0.311		10.7
	2		7.49	7.48	7.50	0.279		
Methoxychlor	1		7.83	7.82	7.84	0.662		7.2
	2		8.09	8.08	8.11	0.616		
Endosulfan sulfate	1		8.11	8.10	8.12	0.682		18.4
	2		7.78	7.77	7.79	0.567		
Endrin ketone	1		8.40	8.39	8.41	0.636		11.5
	2		8.33	8.32	8.35	0.566		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 280-434851/11-A

Instrument ID (1): SGC_P2 Instrument ID (2): SGC_P2

Date Analyzed (1): 11/23/2018 22:14 Date Analyzed (2): 11/23/2018 22:14

GC Column (1): CLP1 ID: 0.32(mm) GC Column (2): CLP2 ID: 0.32(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Toxaphene	1	1	6.20	6.20	6.23	1.34	2.59	0.3
		2	6.82	6.81	6.83	1.77		
		3	7.49	7.48	7.51	2.45		
		4	7.86	7.84	7.87	2.95		
		5	8.18	8.16	8.18	4.43		
	2	1	5.73	5.72	5.74	2.11	2.58	
		2	7.08	7.07	7.09	2.07		
		3	7.22	7.21	7.23	2.07		
		4	7.72	7.72	7.75	4.02		
		5	8.03	8.02	8.04	2.64		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 280-434851/12-A

Instrument ID (1): SGC_P2 Instrument ID (2): SGC_P2

Date Analyzed (1): 11/23/2018 22:32 Date Analyzed (2): 11/23/2018 22:32

GC Column (1): CLP1 ID: 0.32(mm) GC Column (2): CLP2 ID: 0.32(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Toxaphene	1	1	6.20	6.20	6.23	1.60	2.55	8.9
		2	6.82	6.81	6.83	1.77		
		3	7.49	7.48	7.51	2.44		
		4	7.86	7.84	7.87	2.96		
		5	8.18	8.16	8.18	3.99		
	2	1	5.73	5.72	5.74	2.27	2.79	
		2	7.08	7.07	7.09	2.09		
		3	7.22	7.21	7.23	2.05		
		4	7.72	7.72	7.75	4.92		
		5	8.03	8.02	8.04	2.61		

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: LL1mw-088-181001-GW | Lab Sample ID: 280-115950-2

Matrix: Water | Lab File ID: 11230017.D

Analysis Method: 8081B | Date Collected: 10/22/2018 10:40

Extraction Method: 3510C | Date Extracted: 10/25/2018 09:01

Sample wt/vol: 946(mL) | Date Analyzed: 11/23/2018 21:04

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438595 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
72-54-8	4,4'-DDD	0.021	U	0.053	0.021	0.0081
72-55-9	4,4'-DDE	0.021	U	0.053	0.021	0.0079
50-29-3	4,4'-DDT	0.053	U	0.053	0.053	0.016
309-00-2	Aldrin	0.021	U	0.053	0.021	0.0062
319-84-6	alpha-BHC	0.021	U	0.053	0.021	0.0056
5103-71-9	alpha-Chlordane	0.021	U	0.053	0.021	0.0056
319-85-7	beta-BHC	0.021	U	0.053	0.021	0.0092
319-86-8	delta-BHC	0.021	U	0.053	0.021	0.0061
60-57-1	Dieldrin	0.021	U	0.053	0.021	0.0067
959-98-8	Endosulfan I	0.021	U	0.053	0.021	0.0061
33213-65-9	Endosulfan II	0.021	U	0.053	0.021	0.0074
1031-07-8	Endosulfan sulfate	0.021	U	0.053	0.021	0.0060
72-20-8	Endrin	0.021	U	0.053	0.021	0.0084
7421-93-4	Endrin aldehyde	0.021	U	0.053	0.021	0.0093
53494-70-5	Endrin ketone	0.021	U	0.053	0.021	0.0074
58-89-9	gamma-BHC (Lindane)	0.021	U	0.053	0.021	0.0073
5103-74-2	gamma-Chlordane	0.021	U	0.053	0.021	0.0096
76-44-8	Heptachlor	0.021	U	0.053	0.021	0.0081
1024-57-3	Heptachlor epoxide	0.021	U	0.053	0.021	0.0079
72-43-5	Methoxychlor	0.053	U	0.053	0.053	0.014
8001-35-2	Toxaphene	0.85	U Q	2.1	0.85	0.39

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	89		34-122
877-09-8	Tetrachloro-m-xylene	86		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230017.D
Lims ID: 280-115950-D-2-A
Client ID: LL1mw-088-181001-GW
Sample Type: Client
Inject. Date: 23-Nov-2018 21:04:30 ALS Bottle#: 11 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-D-2-A
Misc. Info.: 280-0076490-017
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:32:43 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

First Level Reviewer: mooret Date: 25-Nov-2018 19:13:33

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical						
1					0.7305	
2					-0.0151	
					RPD = 208.45	
LOD = 0.002000						
* 2 1-Bromo-2-nitrobenzene						
1	3.004	3.005	0.000	1534727440	150.0	
2	2.807	2.807	0.000	213264962	150.0	
$ 4 Tetrachloro-m-xylene						
1	3.902	3.902	0.000	177903601	16.0	
2	3.789	3.790	-0.001	30527024	17.2	
					RPD = 6.93	
5 Hexachlorobenzene						
1	4.312	4.310	0.002	1999492	0.4615	
2	4.275	4.268	0.007	261307	-0.4303	
					RPD = 5706.67	
6 Diallate						
1		4.336			ND	
2		4.221				
7 Propachlor						
1		4.477			ND	
2		4.099				
8 alpha-BHC						
1		4.480			ND	
2		4.413				
9 gamma-BHC (Lindane)						
1		4.769			ND	
2		4.726				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
10 beta-BHC						
1		4.846			ND	
2		4.803				
11 2,4,5-Trichlorophenol						
1		4.861			ND	
2		4.772				
12 delta-BHC						
1	4.993	4.995	-0.002	1645233	0.7305	
2	5.041	5.035	0.006	218642	-0.0151	
					RPD = 208.45	
14 Chlordane (technical)						
1		5.101			ND	
1		5.568				
1		6.179				
1		6.317				
1		7.132				
2		4.963				
2		5.483				
2		6.079				
2		6.235				
2		7.179				
13 Technical Chlordane						
1		5.101			ND	
1		5.568				
1		6.179				
1		6.317				
1		7.132				
2		4.963				
2		5.483				
2		6.079				
2		6.235				
2		7.179				
15 Heptachlor						
1		5.169			ND	
2		5.077				
16 Aldrin						
1		5.438			ND	
2		5.345				
17 Chlorpyrifos						
1		5.669			ND	
2		5.565				
18 Isodrin						
1		5.762			ND	
2		5.703				
19 Dicofol						
1		5.801			ND	
2		5.663				
20 2,4'-DDE						
1		6.031			ND	
2		6.086				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
21 Heptachlor epoxide						
1		6.048			ND	
2		5.881				
22 trans-Chlordane						
1		6.179			ND	
2		6.080				
28 Toxaphene						
1		6.215			ND	
1		6.821				
1		7.494				
1		7.853				
1		8.171				
2		5.728				
2		7.082				
2		7.221				
2		7.736				
2		8.031				
23 cis-Chlordane						
1		6.320			ND	
2		6.235				
24 4,4'-DDE						
1		6.395			ND	
2		6.418				
25 Endosulfan I						
1		6.468			ND	
2		6.294				
26 2,4'-DDD						
1		6.581			ND	
2		6.631				
27 Dieldrin						
1		6.722			ND	
2		6.584				
29 2,4'-DDT						
1		6.848			ND	
2		6.953				
30 Endrin						
1		6.970			ND	
2		6.905				
31 Kepone						
1		7.012			ND	
2		7.022				
32 4,4'-DDD						
1		7.031			ND	
2		7.033				
33 Chlorobenzilate						
1		7.045			ND	
2		6.900				
34 Endosulfan II						
1		7.206			ND	
2		7.131				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
35 4,4'-DDT						
1		7.325			ND	
2		7.364				
36 Endrin aldehyde						
1		7.650			ND	
2		7.490				
37 Methoxychlor						
1		7.830			ND	
2		8.094				
38 Mirex						
1		7.988			ND	
2		8.285				
39 Endosulfan sulfate						
1		8.109			ND	
2		7.782				
40 Endrin ketone						
1	8.389	8.400	-0.011	145440	0.2659	
2	8.335	8.335	0.000	155490	-0.4674	
					RPD = -728.00	
$ 41 DCB Decachlorobiphenyl						
1	9.413	9.415	-0.002	122443229	20.9	
2	9.605	9.605	0.000	18836681	17.7	
					RPD = 16.59	
42 Tris(2,3-dibromopropyl)phosphate						
1		11.209			ND	
2		11.380				
S 3 Endosulfan, Total						
1		0.000			ND	
2		0.000				

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Reagents:

8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

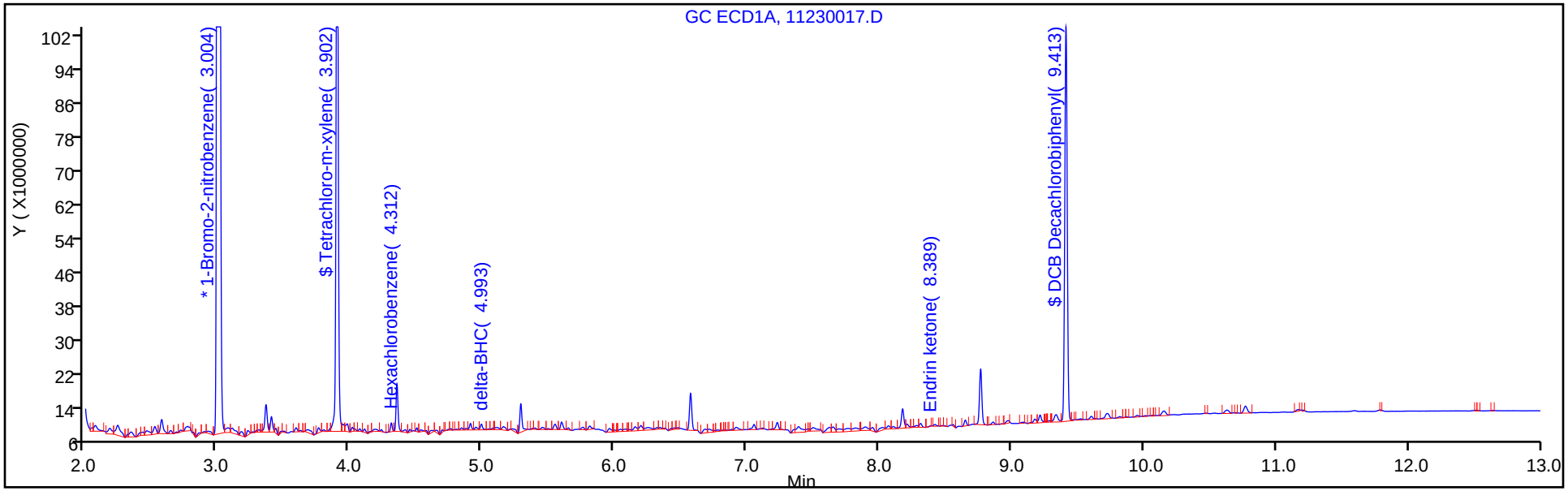
Report Date: 25-Nov-2018 19:32:53 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

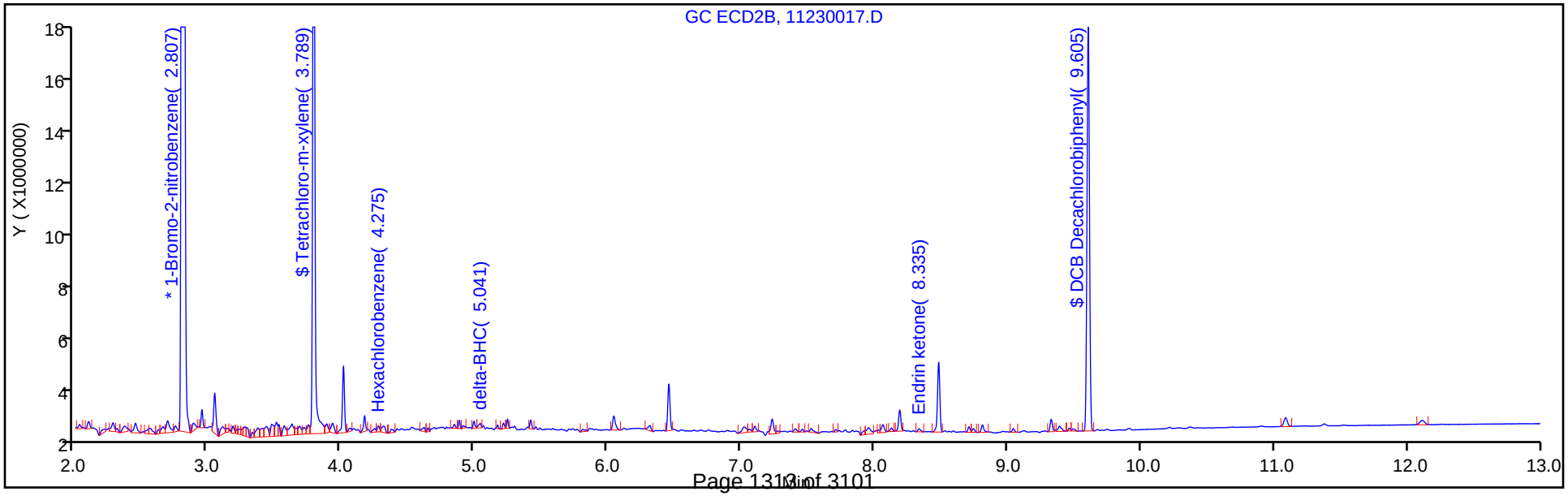
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230017.D

Injection Date:	23-Nov-2018 21:04:30	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	280-115950-D-2-A	Lab Sample ID:	280-115950-2	Worklist Smp#:	17
Client ID:	LL1mw-088-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230017.D				
Lims ID:	280-115950-D-2-A				
Client ID:	LL1mw-088-181001-GW				
Sample Type:	Client				
Inject. Date:	23-Nov-2018 21:04:30	ALS Bottle#:	11	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-115950-D-2-A				
Misc. Info.:	280-0076490-017				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	25-Nov-2018 19:32:43	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0312				
First Level Reviewer: mooret		Date:	25-Nov-2018 19:13:33		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	16.0	80.20
$ 41 DCB Decachlorobiphenyl	20.0	20.9	104.70

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	17.2	85.96
$ 41 DCB Decachlorobiphenyl	20.0	17.7	88.66

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: LL1mw-088-181002-GW | Lab Sample ID: 280-115950-3

Matrix: Water | Lab File ID: 11230018.D

Analysis Method: 8081B | Date Collected: 10/22/2018 10:40

Extraction Method: 3510C | Date Extracted: 10/25/2018 09:01

Sample wt/vol: 953.7(mL) | Date Analyzed: 11/23/2018 21:22

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438595 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
72-54-8	4,4'-DDD	0.021	U	0.052	0.021	0.0081
72-55-9	4,4'-DDE	0.021	U	0.052	0.021	0.0079
50-29-3	4,4'-DDT	0.052	U	0.052	0.052	0.016
309-00-2	Aldrin	0.021	U	0.052	0.021	0.0062
319-84-6	alpha-BHC	0.021	U	0.052	0.021	0.0056
5103-71-9	alpha-Chlordane	0.021	U	0.052	0.021	0.0056
319-85-7	beta-BHC	0.021	U	0.052	0.021	0.0091
319-86-8	delta-BHC	0.021	U	0.052	0.021	0.0061
60-57-1	Dieldrin	0.021	U	0.052	0.021	0.0066
959-98-8	Endosulfan I	0.021	U	0.052	0.021	0.0061
33213-65-9	Endosulfan II	0.021	U	0.052	0.021	0.0073
1031-07-8	Endosulfan sulfate	0.021	U	0.052	0.021	0.0060
72-20-8	Endrin	0.021	U	0.052	0.021	0.0083
7421-93-4	Endrin aldehyde	0.021	U	0.052	0.021	0.0092
53494-70-5	Endrin ketone	0.021	U	0.052	0.021	0.0073
58-89-9	gamma-BHC (Lindane)	0.021	U	0.052	0.021	0.0072
5103-74-2	gamma-Chlordane	0.021	U	0.052	0.021	0.0095
76-44-8	Heptachlor	0.021	U	0.052	0.021	0.0081
1024-57-3	Heptachlor epoxide	0.021	U	0.052	0.021	0.0079
72-43-5	Methoxychlor	0.052	U	0.052	0.052	0.014
8001-35-2	Toxaphene	0.84	U Q	2.1	0.84	0.38

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	89		34-122
877-09-8	Tetrachloro-m-xylene	91		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230018.D
Lims ID: 280-115950-D-3-A
Client ID: LL1mw-088-181002-GW
Sample Type: Client
Inject. Date: 23-Nov-2018 21:22:08 ALS Bottle#: 12 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-D-3-A
Misc. Info.: 280-0076490-018
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:32:43 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

First Level Reviewer: mooret Date: 25-Nov-2018 19:14:52

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical						
1					0.8798	
2					0.0380	
					RPD = 183.46	
* 2 1-Bromo-2-nitrobenzene						
1	3.006	3.005	0.001	1568045477	150.0	
2	2.807	2.807	0.000	217029754	150.0	
$ 4 Tetrachloro-m-xylene						
1	3.903	3.902	0.001	192492818	17.0	
2	3.790	3.790	0.000	32686376	18.1	
					RPD = 6.60	
5 Hexachlorobenzene						
1	4.311	4.310	0.001	2588176	0.5065	
2	4.273	4.268	0.005	282471	-0.4213	
					RPD = 2178.19	
6 Diallate						
1		4.336			ND	
2		4.221				
7 Propachlor						
1	4.478	4.477	0.001	137958	-2.62	
2	4.089	4.099	-0.010	302088	0.3865	
					RPD = -269.09	
8 alpha-BHC						
1		4.480			ND	
2		4.413				
9 gamma-BHC (Lindane)						
1		4.769			ND	
2		4.726				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
10 beta-BHC						
1		4.846			ND	
2		4.803				
11 2,4,5-Trichlorophenol						
1		4.861			ND	
2		4.772				
12 delta-BHC						
1	4.992	4.995	-0.003	3971085	0.8798	
2	5.043	5.035	0.008	334652	0.0380	
					RPD = 183.46	
14 Chlordane (technical)						
1		5.101			ND	
1		5.568				
1		6.179				
1		6.317				
1		7.132				
2		4.963				
2		5.483				
2		6.079				
2		6.235				
2		7.179				
13 Technical Chlordane						
1		5.101			ND	
1		5.568				
1		6.179				
1		6.317				
1		7.132				
2		4.963				
2		5.483				
2		6.079				
2		6.235				
2		7.179				
15 Heptachlor						
1		5.169			ND	
2		5.077				
16 Aldrin						
1		5.438			ND	
2		5.345				
17 Chlorpyrifos						
1		5.669			ND	
2		5.565				
18 Isodrin						
1		5.762			ND	
2		5.703				
19 Dicofol						
1		5.801			ND	
2		5.663				
20 2,4'-DDE						
1		6.031			ND	
2		6.086				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
21 Heptachlor epoxide						
1	6.043	6.048	-0.005	308621	0.2838	
2	5.876	5.881	-0.005	174911	-0.4684	
					RPD = -815.04	
22 trans-Chlordane						
1		6.179			ND	
2		6.080				
28 Toxaphene						
1		6.215			ND	
1		6.821				
1		7.494				
1		7.853				
1		8.171				
2		5.728				
2		7.082				
2		7.221				
2		7.736				
2		8.031				
23 cis-Chlordane						
1		6.320			ND	
2		6.235				
24 4,4'-DDE						
1		6.395			ND	
2		6.418				
25 Endosulfan I						
1		6.468			ND	
2		6.294				
26 2,4'-DDD						
1		6.581			ND	
2		6.631				
27 Dieldrin						
1		6.722			ND	
2		6.584				
29 2,4'-DDT						
1		6.848			ND	
2		6.953				
30 Endrin						
1		6.970			ND	
2		6.905				
31 Kepone						
1		7.012			ND	
2		7.022				
32 4,4'-DDD						
1		7.031			ND	
2		7.033				
33 Chlorobenzilate						
1		7.045			ND	
2		6.900				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
34 Endosulfan II						
1		7.206			ND	
2		7.131				
35 4,4'-DDT						
1		7.325			ND	
2		7.364				
36 Endrin aldehyde						
1		7.650			ND	
2		7.490				
37 Methoxychlor						
1		7.830			ND	
2		8.094				
38 Mirex						
1		7.988			ND	
2		8.285				
39 Endosulfan sulfate						
1		8.109			ND	
2		7.782				
40 Endrin ketone						
1		8.400			ND	
2		8.335				
$ 41 DCB Decachlorobiphenyl						
1	9.414	9.415	-0.001	124680719	20.9	
2	9.604	9.605	-0.001	19238656	17.8	
					RPD = 15.88	
42 Tris(2,3-dibromopropyl)phosphate						
1	11.206	11.209	-0.003	183339	240.9	
2	11.376	11.380	-0.004	104303	243.1	
					RPD = 0.93	
S 3 Endosulfan, Total						
1		0.000			ND	
2		0.000				

Reagents:

8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

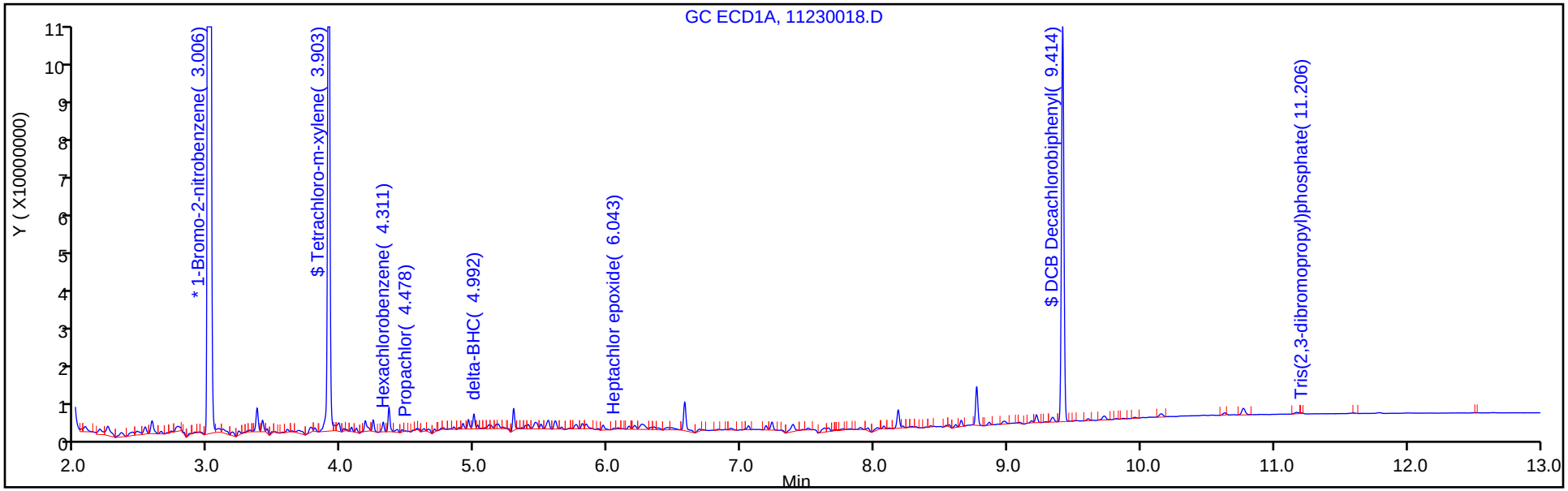
Report Date: 25-Nov-2018 19:32:52 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

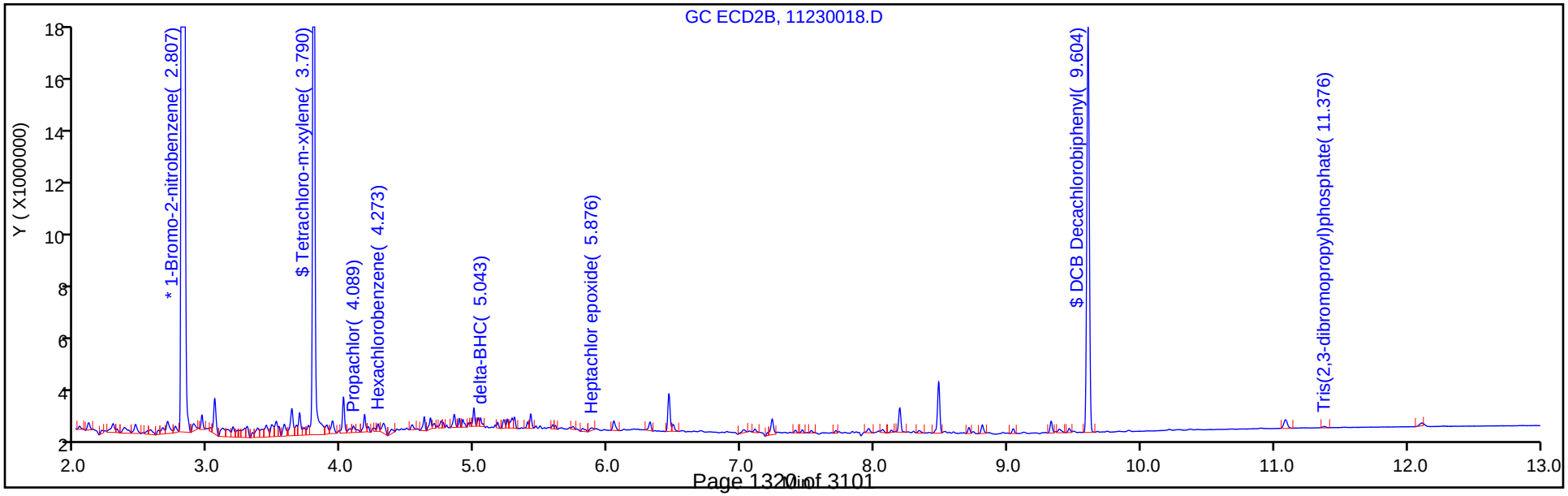
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230018.D

Injection Date:	23-Nov-2018 21:22:08	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	280-115950-D-3-A	Lab Sample ID:	280-115950-3	Worklist Smp#:	18
Client ID:	LL1mw-088-181002-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230018.D				
Lims ID:	280-115950-D-3-A				
Client ID:	LL1mw-088-181002-GW				
Sample Type:	Client				
Inject. Date:	23-Nov-2018 21:22:08	ALS Bottle#:	12	Worklist Smp#:	18
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-115950-D-3-A				
Misc. Info.:	280-0076490-018				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	25-Nov-2018 19:32:43	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0312				
First Level Reviewer: mooret		Date:	25-Nov-2018 19:14:52		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	17.0	84.82
$ 41 DCB Decachlorobiphenyl	20.0	20.9	104.35

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	18.1	90.61
$ 41 DCB Decachlorobiphenyl	20.0	17.8	89.00

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: RQLmw-007-181001-GW | Lab Sample ID: 280-115950-4

Matrix: Water | Lab File ID: 11230019.D

Analysis Method: 8081B | Date Collected: 10/22/2018 12:50

Extraction Method: 3510C | Date Extracted: 10/25/2018 09:01

Sample wt/vol: 1034.8(mL) | Date Analyzed: 11/23/2018 21:39

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438595 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
72-54-8	4,4'-DDD	0.019	U	0.048	0.019	0.0074
72-55-9	4,4'-DDE	0.019	U	0.048	0.019	0.0072
50-29-3	4,4'-DDT	0.048	U	0.048	0.048	0.014
309-00-2	Aldrin	0.019	U	0.048	0.019	0.0057
319-84-6	alpha-BHC	0.019	U	0.048	0.019	0.0051
5103-71-9	alpha-Chlordane	0.019	U	0.048	0.019	0.0051
319-85-7	beta-BHC	0.019	U	0.048	0.019	0.0084
319-86-8	delta-BHC	0.019	U	0.048	0.019	0.0056
60-57-1	Dieldrin	0.019	U	0.048	0.019	0.0061
959-98-8	Endosulfan I	0.019	U	0.048	0.019	0.0056
33213-65-9	Endosulfan II	0.019	U	0.048	0.019	0.0068
1031-07-8	Endosulfan sulfate	0.019	U	0.048	0.019	0.0055
72-20-8	Endrin	0.019	U	0.048	0.019	0.0076
7421-93-4	Endrin aldehyde	0.019	U	0.048	0.019	0.0085
53494-70-5	Endrin ketone	0.019	U	0.048	0.019	0.0068
58-89-9	gamma-BHC (Lindane)	0.019	U	0.048	0.019	0.0067
5103-74-2	gamma-Chlordane	0.019	U	0.048	0.019	0.0088
76-44-8	Heptachlor	0.019	U	0.048	0.019	0.0074
1024-57-3	Heptachlor epoxide	0.019	U	0.048	0.019	0.0072
72-43-5	Methoxychlor	0.048	U	0.048	0.048	0.013
8001-35-2	Toxaphene	0.77	U Q	1.9	0.77	0.35

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	64		34-122
877-09-8	Tetrachloro-m-xylene	82		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230019.D
Lims ID: 280-115950-C-4-A
Client ID: RQLmw-007-181001-GW
Sample Type: Client
Inject. Date: 23-Nov-2018 21:39:40 ALS Bottle#: 13 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-C-4-A
Misc. Info.: 280-0076490-019
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:32:43 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

First Level Reviewer: mooret Date: 25-Nov-2018 19:15:42

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical						
1					1.43	
2					0.0680	
					RPD = 181.82	
* 2 1-Bromo-2-nitrobenzene						
1	3.005	3.005	0.000	1655535058	150.0	
2	2.807	2.807	-0.001	222533947	150.0	
$ 4 Tetrachloro-m-xylene						
1	3.902	3.902	0.000	185336186	15.5	
2	3.789	3.790	-0.001	30550735	16.5	
					RPD = 6.00	
5 Hexachlorobenzene						
1		4.310			ND	
2		4.268				
6 Diallate						
1		4.336			ND	
2		4.221				
7 Propachlor						
1	4.466	4.477	-0.011	2271507	-1.98	
2	4.099	4.099	0.000	420542	0.6390	
					RPD = -390.76	
8 alpha-BHC						
1		4.480			ND	
2		4.413				
9 gamma-BHC (Lindane)						
1	4.764	4.769	-0.005	655716	0.5424	
2	4.732	4.726	0.006	196481	-0.0978	
					RPD = 288.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
10 beta-BHC						
1		4.846			ND	
2		4.803				
11 2,4,5-Trichlorophenol						
1		4.861			ND	
2		4.772				
12 delta-BHC						
1	4.988	4.995	-0.007	4299500	0.8864	
2	5.025	5.035	-0.010	620389	0.1659	
					RPD = 136.94	
14 Chlordane (technical)						
1		5.101			ND	
1		5.568				
1		6.179				
1		6.317				
1		7.132				
2		4.963				
2		5.483				
2		6.079				
2		6.235				
2		7.179				
13 Technical Chlordane						
1		5.101			ND	
1		5.568				
1		6.179				
1		6.317				
1		7.132				
2		4.963				
2		5.483				
2		6.079				
2		6.235				
2		7.179				
15 Heptachlor						
1		5.169			ND	
2		5.077				
16 Aldrin						
1		5.438			ND	
2		5.345				
17 Chlorpyrifos						
1		5.669			ND	
2		5.565				
18 Isodrin						
1		5.762			ND	
2		5.703				
19 Dicofol						
1		5.801			ND	
2		5.663				
20 2,4'-DDE						
1		6.031			ND	
2		6.086				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
21 Heptachlor epoxide						
1		6.048			ND	
2		5.881				
22 trans-Chlordane						
1		6.179			ND	
2		6.080				
28 Toxaphene						
1	0.000	6.215	-6.215	0	0	
1	6.813	6.821	-0.008	398262	47.9	
1	7.488	7.494	-0.006	201846	66.3	
1	7.863	7.853	0.010	155895	76.1	
1	8.178	8.171	0.007	6359972	171.4	
		Average of Peak Amounts =			90.4	
2	5.718	5.728	-0.010	132031	-32.8	
2	0.000	7.082	-7.082	0	0	
2	7.228	7.221	0.007	443839	6.78	
2	7.728	7.736	-0.008	136723	14.1	
2	0.000	8.031	-8.031	0	0	
		Average of Peak Amounts =			-3.98	
					RPD = 218.43	
23 cis-Chlordane						
1		6.320			ND	
2		6.235				
24 4,4'-DDE						
1		6.395			ND	
2		6.418				
25 Endosulfan I						
1		6.468			ND	
2		6.294				
26 2,4'-DDD						
1		6.581			ND	
2		6.631				
27 Dieldrin						
1		6.722			ND	
2		6.584				
29 2,4'-DDT						
1		6.848			ND	
2		6.953				
30 Endrin						
1		6.970			ND	
2		6.905				
31 Kepone						
1	7.022	7.012	0.010	1347025	25.4	
2	7.011	7.022	-0.011	1051433	25.4	
					RPD = 0.01	
32 4,4'-DDD						
1		7.031			ND	
2		7.033				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
33 Chlorobenzilate						
1	7.053	7.045	0.008	1874202	-1.60	
2	6.891	6.900	-0.009	110578	-4.47	
					RPD = -94.28	
LOD = 0.1500						
34 Endosulfan II						
1		7.206			ND	
2		7.131				
35 4,4'-DDT						
1		7.325			ND	
2		7.364				
36 Endrin aldehyde						
1		7.650			ND	
2		7.490				
37 Methoxychlor						
1		7.830			ND	
2		8.094				
38 Mirex						
1		7.988			ND	
2		8.285				
39 Endosulfan sulfate						
1		8.109			ND	
2		7.782				
40 Endrin ketone						
1		8.400			ND	
2		8.335				
$ 41 DCB Decachlorobiphenyl						
1	9.413	9.415	-0.002	96082512	15.2	
2	9.604	9.605	-0.001	14434266	12.8	
					RPD = 17.45	
42 Tris(2,3-dibromopropyl)phosphate						
1		11.209			ND	
2		11.380				
S 3 Endosulfan, Total						
1		0.000			ND	
2		0.000				

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Reagents:

8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

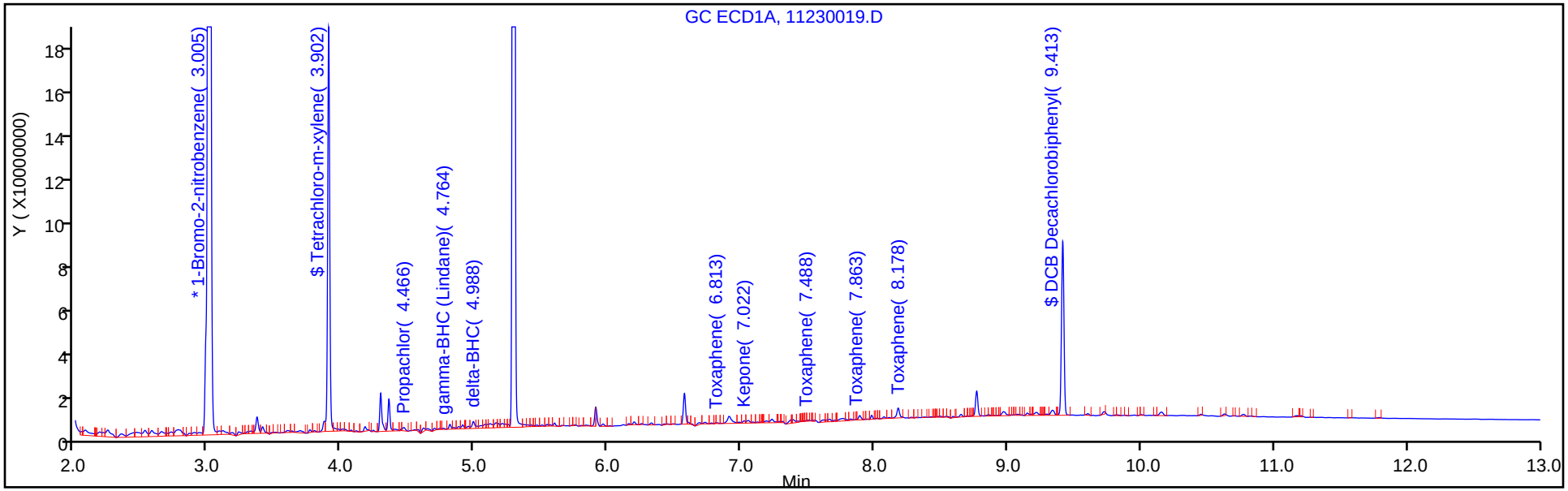
Report Date: 25-Nov-2018 19:32:51 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

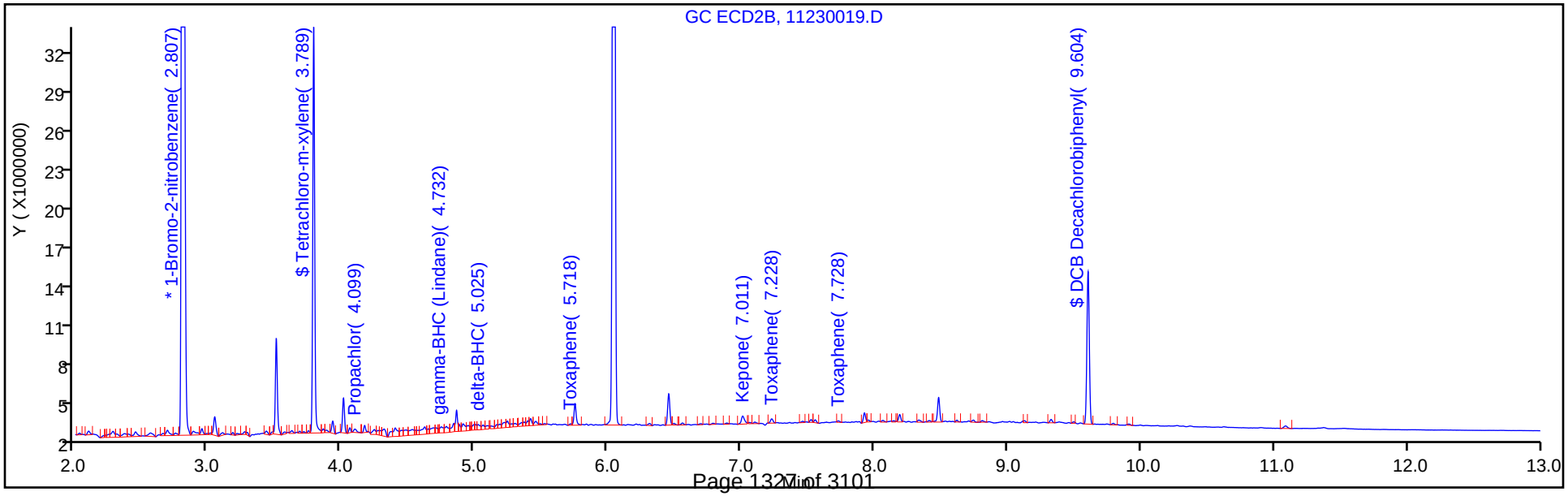
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230019.D

Injection Date:	23-Nov-2018 21:39:40	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	280-115950-C-4-A	Lab Sample ID:	280-115950-4	Worklist Smp#:	19
Client ID:	RQLmw-007-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230019.D				
Lims ID:	280-115950-C-4-A				
Client ID:	RQLmw-007-181001-GW				
Sample Type:	Client				
Inject. Date:	23-Nov-2018 21:39:40	ALS Bottle#:	13	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-115950-C-4-A				
Misc. Info.:	280-0076490-019				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	25-Nov-2018 19:32:43	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0312				
First Level Reviewer: mooret		Date:	25-Nov-2018 19:15:42		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.5	77.52
$ 41 DCB Decachlorobiphenyl	20.0	15.2	75.95

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	16.5	82.31
$ 41 DCB Decachlorobiphenyl	20.0	12.8	63.76

Report Date: 25-Nov-2018 19:32:51 Chrom Revision: 2.3 21-Nov-2018 13:56:44

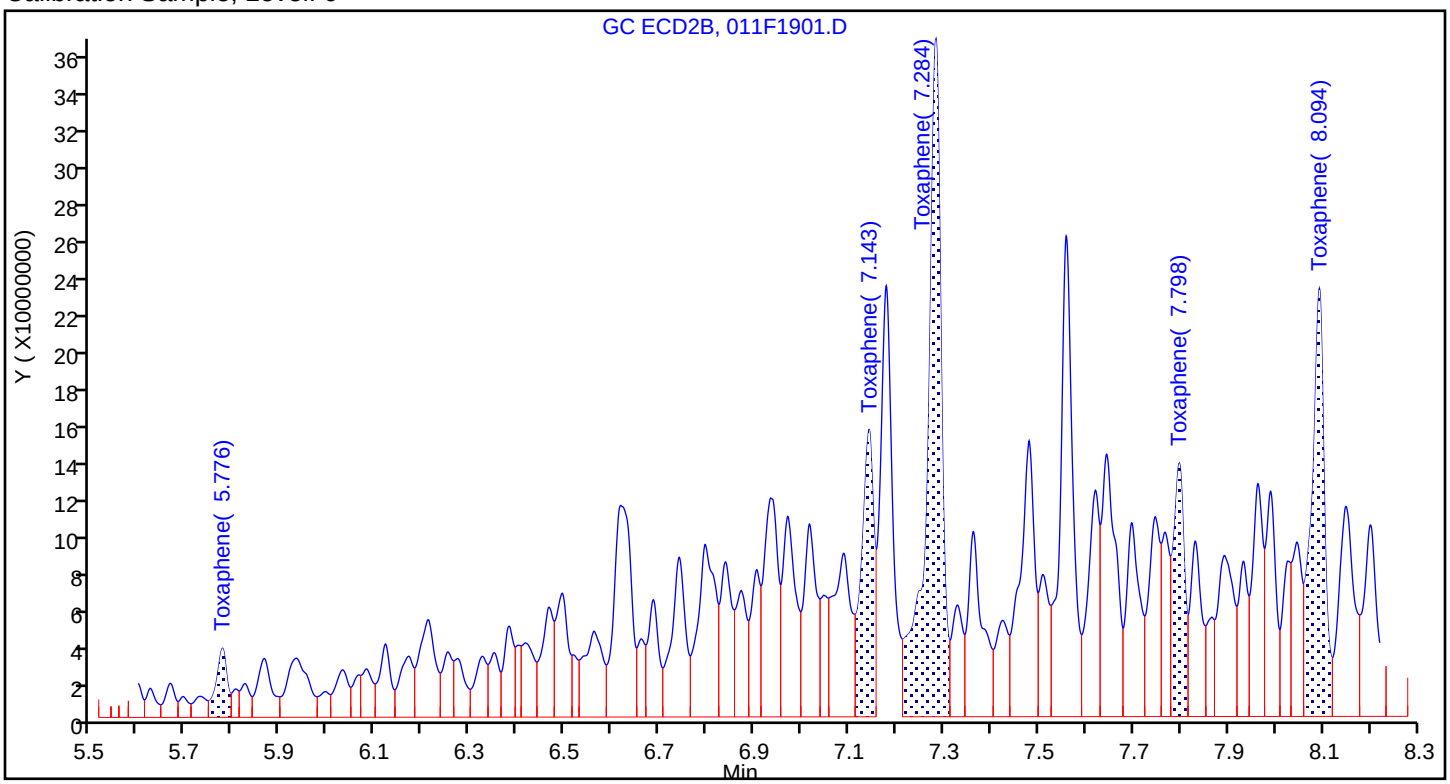
TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230019.D

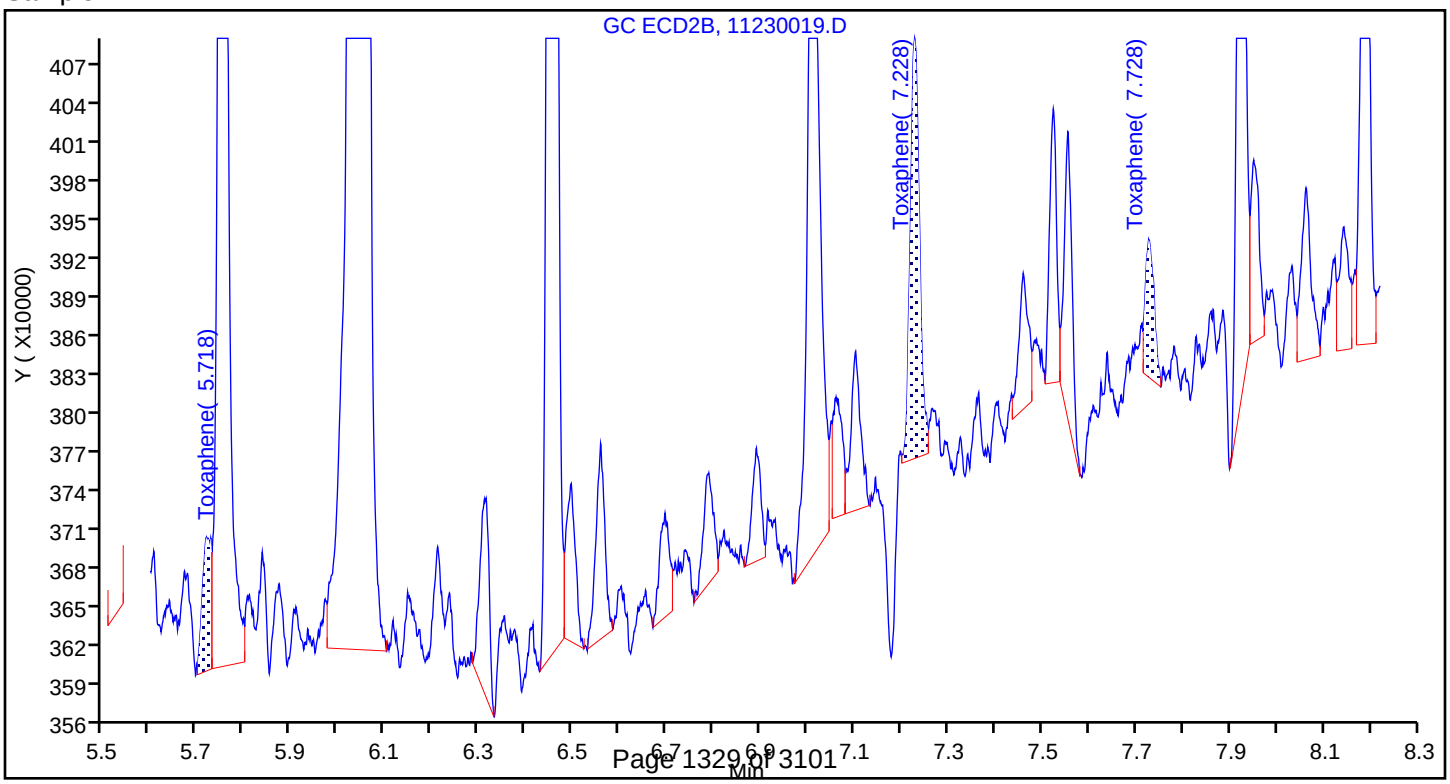
Injection Date:	23-Nov-2018 21:39:40	Instrument ID:	SGC_P2		
Lims ID:	280-115950-C-4-A	Lab Sample ID:	280-115950-4		
Client ID:	RQLmw-007-181001-GW				
Operator ID:	TEM	ALS Bottle#:	13	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

28 Toxaphene, CAS: 8001-35-2

Calibration Sample, Level: 6



Sample



FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: RQLmw-008-181001-GW | Lab Sample ID: 280-115950-5

Matrix: Water | Lab File ID: 11230020.D

Analysis Method: 8081B | Date Collected: 10/22/2018 10:05

Extraction Method: 3510C | Date Extracted: 10/25/2018 09:01

Sample wt/vol: 972.1(mL) | Date Analyzed: 11/23/2018 21:57

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438595 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
72-54-8	4,4'-DDD	0.021	U	0.051	0.021	0.0079
72-55-9	4,4'-DDE	0.021	U	0.051	0.021	0.0077
50-29-3	4,4'-DDT	0.051	U	0.051	0.051	0.015
309-00-2	Aldrin	0.021	U	0.051	0.021	0.0061
319-84-6	alpha-BHC	0.021	U	0.051	0.021	0.0055
5103-71-9	alpha-Chlordane	0.021	U	0.051	0.021	0.0055
319-85-7	beta-BHC	0.021	U	0.051	0.021	0.0089
319-86-8	delta-BHC	0.021	U	0.051	0.021	0.0060
60-57-1	Dieldrin	0.021	U	0.051	0.021	0.0065
959-98-8	Endosulfan I	0.021	U	0.051	0.021	0.0060
33213-65-9	Endosulfan II	0.021	U	0.051	0.021	0.0072
1031-07-8	Endosulfan sulfate	0.021	U	0.051	0.021	0.0059
72-20-8	Endrin	0.021	U	0.051	0.021	0.0081
7421-93-4	Endrin aldehyde	0.021	U	0.051	0.021	0.0091
53494-70-5	Endrin ketone	0.021	U	0.051	0.021	0.0072
58-89-9	gamma-BHC (Lindane)	0.021	U	0.051	0.021	0.0071
5103-74-2	gamma-Chlordane	0.021	U	0.051	0.021	0.0094
76-44-8	Heptachlor	0.021	U	0.051	0.021	0.0079
1024-57-3	Heptachlor epoxide	0.021	U	0.051	0.021	0.0077
72-43-5	Methoxychlor	0.051	U	0.051	0.051	0.013
8001-35-2	Toxaphene	0.82	U Q	2.1	0.82	0.38

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	61		34-122
877-09-8	Tetrachloro-m-xylene	76		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230020.D
Lims ID: 280-115950-C-5-A
Client ID: RQLmw-008-181001-GW
Sample Type: Client
Inject. Date: 23-Nov-2018 21:57:11 ALS Bottle#: 14 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-C-5-A
Misc. Info.: 280-0076490-020
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:32:43 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

First Level Reviewer: mooret Date: 25-Nov-2018 19:17:09

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical						
1		1.000			ND	
2		0.000				
* 2 1-Bromo-2-nitrobenzene						
1	3.005	3.005	0.000	1636196538	150.0	
2	2.808	2.807	0.001	226555874	150.0	
$ 4 Tetrachloro-m-xylene						
1	3.902	3.902	0.000	180064588	15.2	
2	3.790	3.790	0.000	28882847	15.2	
					RPD = 0.03	
5 Hexachlorobenzene						
1	4.312	4.310	0.002	2247221	0.4707	
2	4.268	4.268	0.000	198110	-0.4716	
					RPD = -196762.20	
6 Diallate						
1		4.336			ND	
2		4.221				
7 Propachlor						
1		4.477			ND	
2		4.099				
8 alpha-BHC						
1		4.480			ND	
2		4.413				
9 gamma-BHC (Lindane)						
1		4.769			ND	
2		4.726				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
10 beta-BHC						
1		4.846			ND	
2		4.803				
11 2,4,5-Trichlorophenol						
1		4.861			ND	
2		4.772				
12 delta-BHC						
1		4.995			ND	
2		5.035				
14 Chlordane (technical)						
1		5.101			ND	
1		5.568				
1		6.179				
1		6.317				
1		7.132				
2		4.963				
2		5.483				
2		6.079				
2		6.235				
2		7.179				
13 Technical Chlordane						
1		5.101			ND	
1		5.568				
1		6.179				
1		6.317				
1		7.132				
2		4.963				
2		5.483				
2		6.079				
2		6.235				
2		7.179				
15 Heptachlor						
1		5.169			ND	
2		5.077				
16 Aldrin						
1		5.438			ND	
2		5.345				
17 Chlorpyrifos						
1		5.669			ND	
2		5.565				
18 Isodrin						
1		5.762			ND	
2		5.703				
19 Dicofol						
1		5.801			ND	
2		5.663				
20 2,4'-DDE						
1		6.031			ND	
2		6.086				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
21 Heptachlor epoxide						
1		6.048			ND	
2		5.881				
22 trans-Chlordane						
1		6.179			ND	
2		6.080				
28 Toxaphene						
1	6.219	6.215	0.004	161040	36.5	
1	6.811	6.821	-0.010	510020	48.5	
1	7.486	7.494	-0.008	7009201	97.3	
1	7.863	7.853	0.010	2740375	105.2	
1	8.178	8.171	0.007	29044805	423.9	
		Average of Peak Amounts =			142.3	
2	5.721	5.728	-0.007	172363	-27.2	
2	0.000	7.082	-7.082	0	0	
2	7.229	7.221	0.008	339621	5.48	
2	7.727	7.736	-0.009	554490	30.8	
2	8.029	8.031	-0.002	115804	4.57	
		Average of Peak Amounts =			3.41	
					RPD = 190.65	
23 cis-Chlordane						
1		6.320			ND	
2		6.235				
24 4,4'-DDE						
1		6.395			ND	
2		6.418				
25 Endosulfan I						
1		6.468			ND	
2		6.294				
26 2,4'-DDD						
1		6.581			ND	
2		6.631				
27 Dieldrin						
1		6.722			ND	
2		6.584				
29 2,4'-DDT						
1		6.848			ND	
2		6.953				
30 Endrin						
1		6.970			ND	
2		6.905				
31 Kepone						
1		7.012			ND	
2		7.022				
32 4,4'-DDD						
1		7.031			ND	
2		7.033				
33 Chlorobenzilate						
1	7.053	7.045	0.008	598195	-3.25	
2	6.890	6.900	-0.010	172472	-3.95	
					RPD = 19.53	

LOD = 0.1500

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/mL	Flags
34 Endosulfan II						
1	7.196	7.206	-0.010	2083047	0.4489	
2	7.127	7.131	-0.004	227335	-0.6321	
					RPD = -1180.37	
35 4,4'-DDT						
1		7.325			ND	
2		7.364				
36 Endrin aldehyde						
1		7.650			ND	
2		7.490				
37 Methoxychlor						
1		7.830			ND	
2		8.094				
38 Mirex						
1		7.988			ND	
2		8.285				
39 Endosulfan sulfate						
1		8.109			ND	
2		7.782				
40 Endrin ketone						
1	8.397	8.400	-0.003	1849710	0.4352	
2	8.336	8.335	0.001	266971	-0.4052	
					RPD = 5614.68	
$ 41 DCB Decachlorobiphenyl						M
1	9.414	9.415	-0.001	101517861	16.2	M
2	9.605	9.605	0.000	14112447	12.2	
					RPD = 28.43	
42 Tris(2,3-dibromopropyl)phosphate						
1		11.209			ND	
2		11.380				
S 3 Endosulfan, Total						
1					0.4489	
2					-0.6321	
					RPD = -1180.37	

LOD = 0.002000

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Reagents:

8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

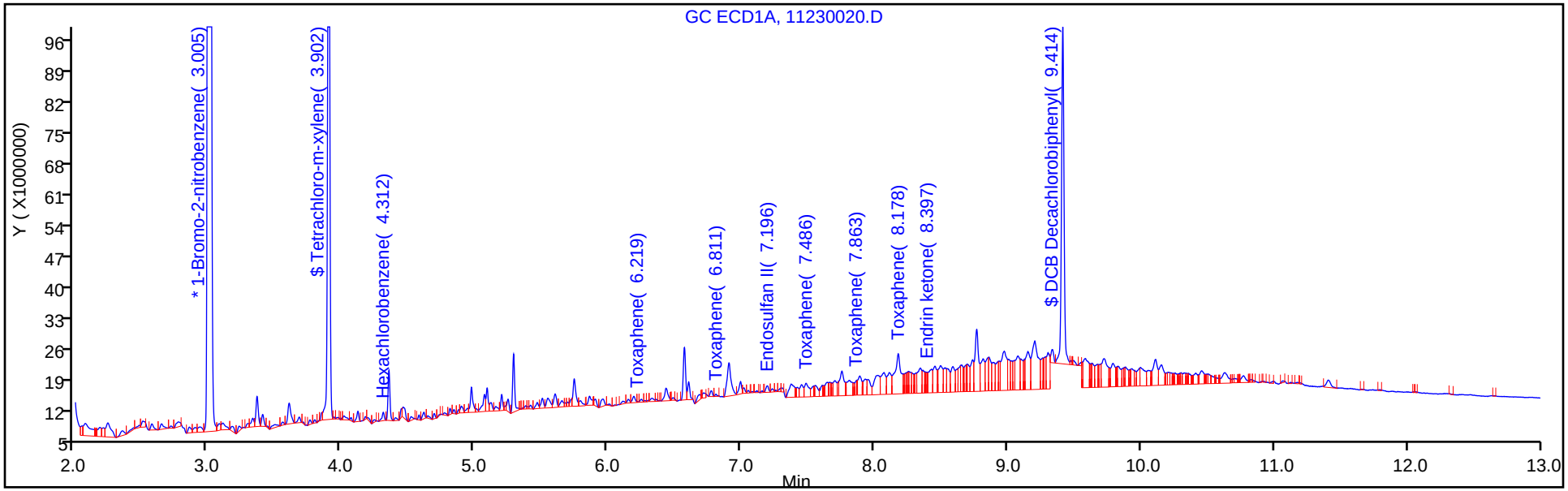
Report Date: 25-Nov-2018 19:32:49 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

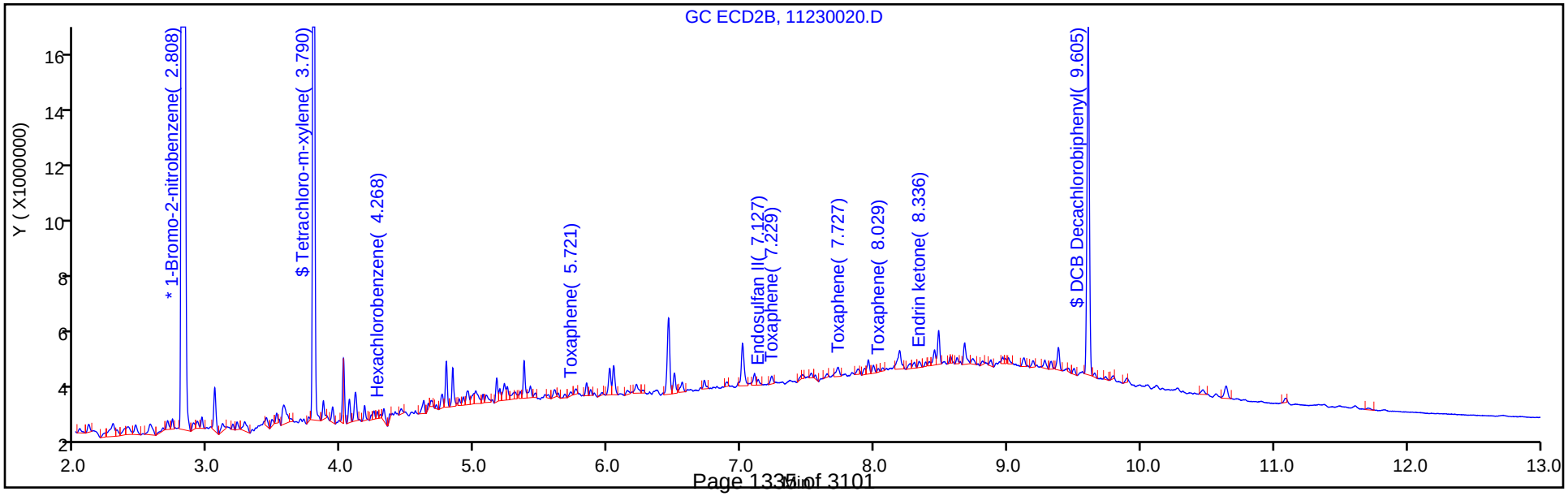
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230020.D

Injection Date:	23-Nov-2018 21:57:11	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	280-115950-C-5-A	Lab Sample ID:	280-115950-5	Worklist Smp#:	20
Client ID:	RQLmw-008-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230020.D				
Lims ID:	280-115950-C-5-A				
Client ID:	RQLmw-008-181001-GW				
Sample Type:	Client				
Inject. Date:	23-Nov-2018 21:57:11	ALS Bottle#:	14	Worklist Smp#:	20
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-115950-C-5-A				
Misc. Info.:	280-0076490-020				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	25-Nov-2018 19:32:43	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0312				
First Level Reviewer: mooret		Date:	25-Nov-2018 19:17:09		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.2	76.24
$ 41 DCB Decachlorobiphenyl	20.0	16.2	81.25

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.2	76.21
$ 41 DCB Decachlorobiphenyl	20.0	12.2	61.03

Report Date: 25-Nov-2018 19:32:49 Chrom Revision: 2.3 21-Nov-2018 13:56:44

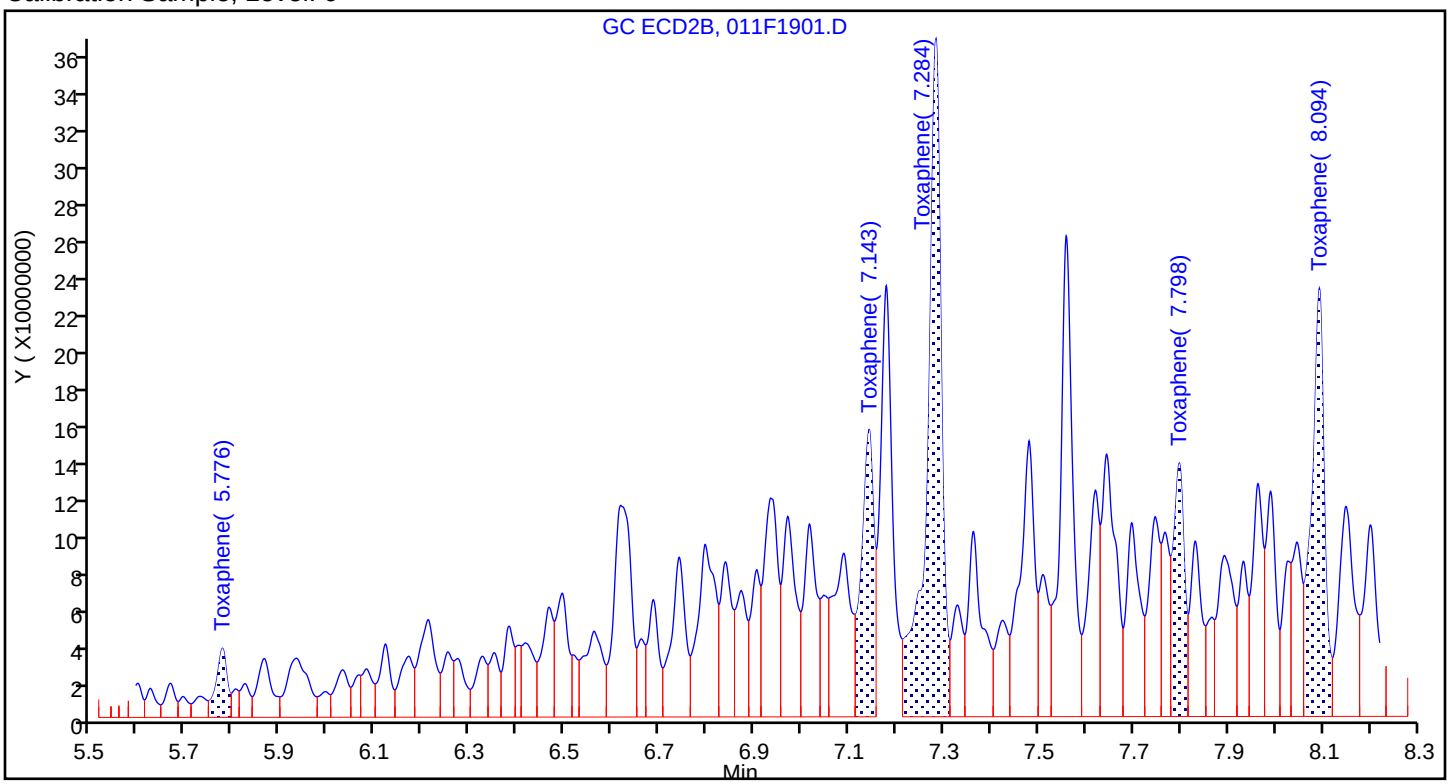
TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230020.D

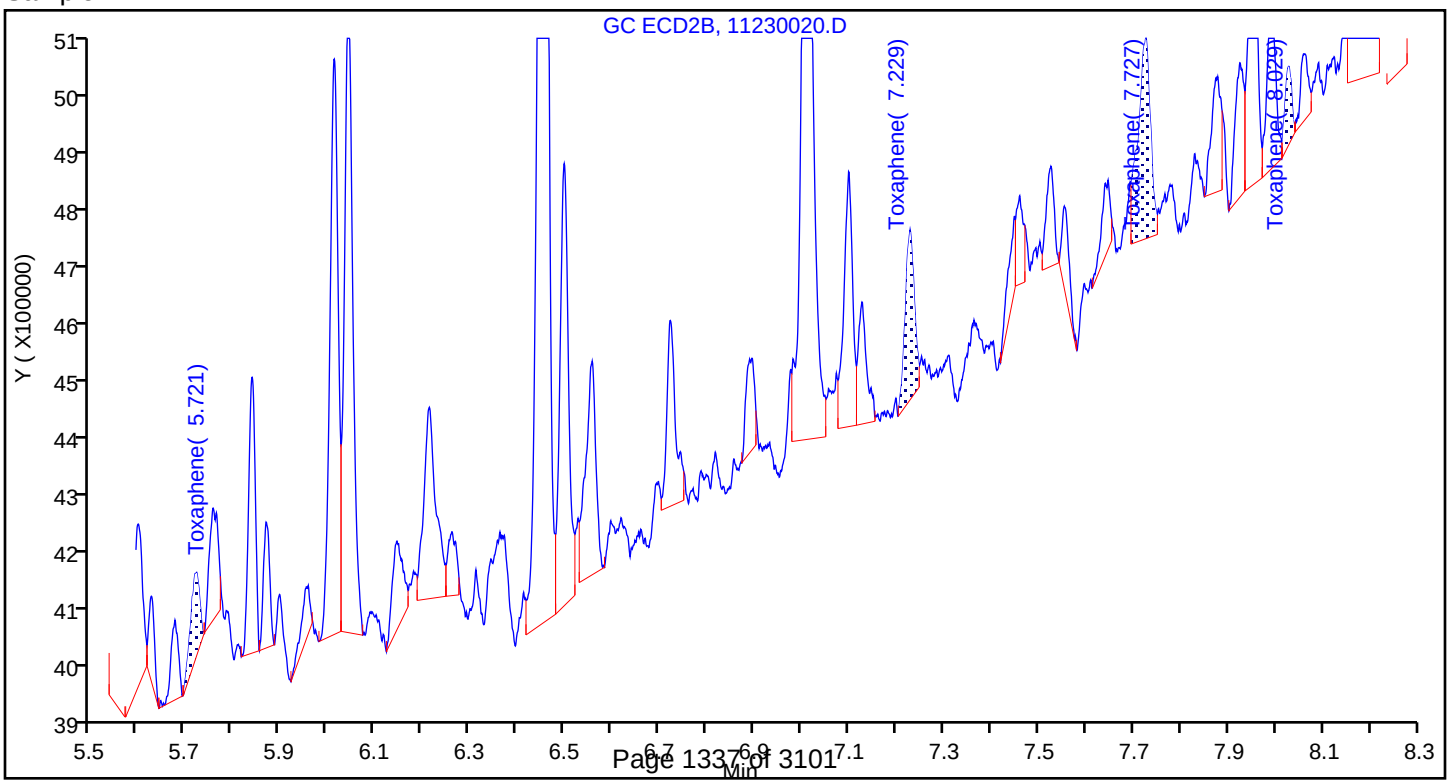
Injection Date:	23-Nov-2018 21:57:11	Instrument ID:	SGC_P2		
Lims ID:	280-115950-C-5-A	Lab Sample ID:	280-115950-5		
Client ID:	RQLmw-008-181001-GW				
Operator ID:	TEM	ALS Bottle#:	14	Worklist Smp#:	20
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

28 Toxaphene, CAS: 8001-35-2

Calibration Sample, Level: 6



Sample



FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:10 Calibration End Date: 10/13/2018 17:37 Calibration ID: 33997

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-433303/21	016F2401.D
Level 2	STD2 280-433303/20	015F2301.D
Level 3	STD3 280-433303/19	014F2201.D
Level 4	STD4 280-433303/18	013F2101.D
Level 5	STD5 280-433303/17	012F2001.D
Level 6	STD6 280-433303/16	011F1901.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Toxaphene Peak 1	0.0059 0.0071	0.0062	0.0067	0.0068	0.0071	Lin2	-0.239	0.0070							0.9990		0.9900
Toxaphene Peak 2	0.0143 0.0181	0.0151	0.0166	0.0176	0.0185	Lin2	-0.823	0.0179							0.9980		0.9900
Toxaphene Peak 3	0.0141 0.0205	0.0164	0.0179	0.0201	0.0204	Lin2	-1.318	0.0202							0.9980		0.9900
Toxaphene Peak 4	0.0054 0.0083	0.0062	0.0073	0.0079	0.0083	Lin2	-0.605	0.0081							0.9970		0.9900
Toxaphene Peak 5	0.0045 0.0085	0.0056	0.0071	0.0079	0.0086	Lin2	-0.840	0.0083							0.9930		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:10 Calibration End Date: 10/13/2018 17:37 Calibration ID: 33997

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-433303/21	016F2401.D
Level 2	STD2 280-433303/20	015F2301.D
Level 3	STD3 280-433303/19	014F2201.D
Level 4	STD4 280-433303/18	013F2101.D
Level 5	STD5 280-433303/17	012F2001.D
Level 6	STD6 280-433303/16	011F1901.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Toxaphene Peak 1	BNB	Lin2	13484316 984914164	36757841	77218443	157400259	444953077	200 10000	500	1000	2000	5000
Toxaphene Peak 2	BNB	Lin2	32829722 2531832439	89263703	193181281	408359221	1162405972	200 10000	500	1000	2000	5000
Toxaphene Peak 3	BNB	Lin2	32415828 2860362835	96759589	207813969	466543962	1283190101	200 10000	500	1000	2000	5000
Toxaphene Peak 4	BNB	Lin2	12391302 1164606715	36941603	84522297	184785693	519294161	200 10000	500	1000	2000	5000
Toxaphene Peak 5	BNB	Lin2	10296721 1187453780	33168067	82441591	182989462	541962755	200 10000	500	1000	2000	5000

Curve Type Legend:
Lin2 = Linear 1/conc^2 ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\011F1901.D
Lims ID: STD6 TOX
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 13-Oct-2018 16:10:51 ALS Bottle#: 11 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD6 TOX
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:12 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:36:56

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.020	0.001	2093632714	150.0	150.0	
2	2.840	2.839	0.000	210457864	150.0	150.0	
28 Toxaphene							M
1	6.245	6.246	-0.001	984914164	10000	10176	
1	6.853	6.854	-0.001	2531832439	10000	10174	
1	7.528	7.528	0.000	2860362835	10000	10232	
1	7.885	7.886	-0.001	1164606715	10000	10334	
1	8.203	8.204	-0.001	1187453780	10000	10397	
		Average of Peak Amounts =				10263	
2	5.776	5.778	-0.002	60549286	10000	9540.5	M
2	7.143	7.145	-0.002	273869350	10000	9445.5	M
2	7.284	7.286	-0.002	756947570	10000	9410.3	M
2	7.798	7.800	-0.002	219585664	10000	9519.4	M
2	8.094	8.096	-0.002	429283014	10000	9559.5	M
		Average of Peak Amounts =				9495.0	
						RPD = 7.77	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081ToxL6_00023 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

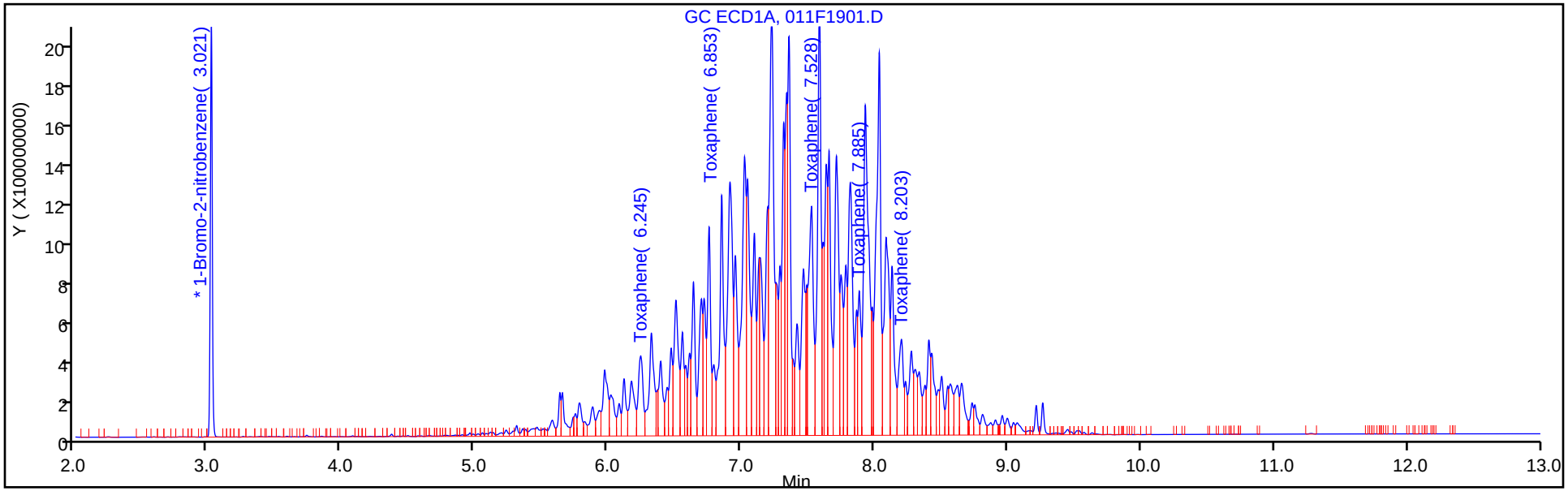
Report Date: 14-Oct-2018 22:11:14 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

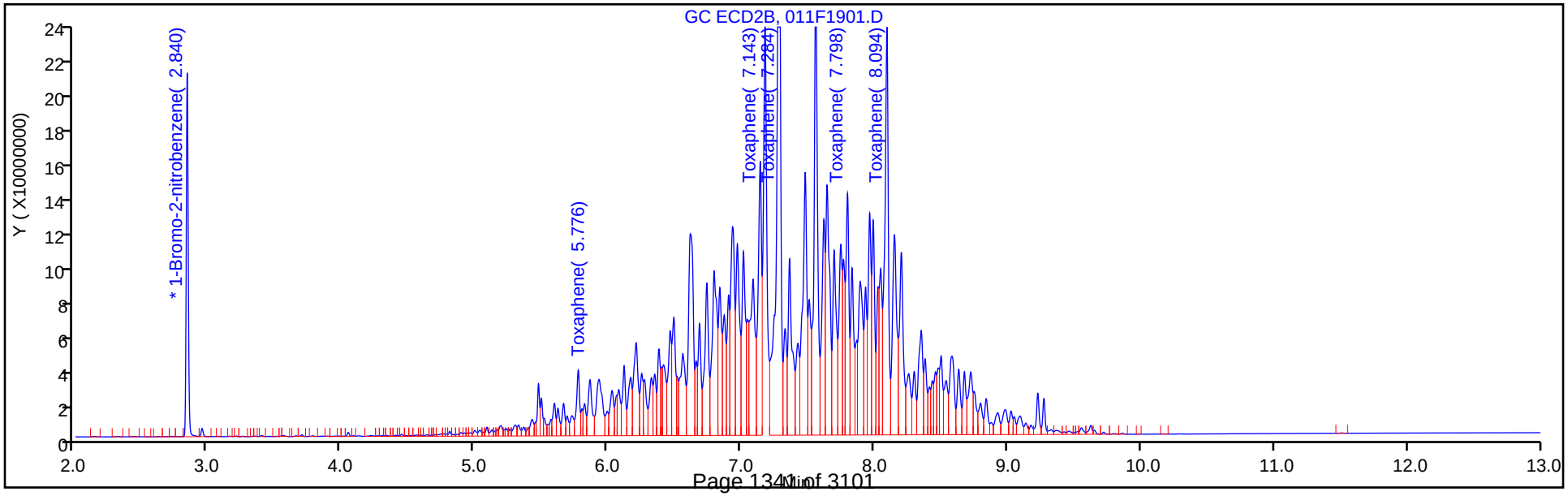
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\011F1901.D

Injection Date:	13-Oct-2018 16:10:51	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD6 TOX			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\012F2001.D
Lims ID: STD5 TOX
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 13-Oct-2018 16:28:15 ALS Bottle#: 12 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD5
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:15 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.020	0.001	1887409806	150.0	150.0	
2	2.840	2.839	0.001	194682264	150.0	150.0	
28 Toxaphene							
1	6.246	6.246	0.000	444953077	5000.0	5116.5	
1	6.853	6.854	-0.001	1162405972	5000.0	5203.9	
1	7.526	7.528	-0.002	1283190101	5000.0	5124.6	
1	7.886	7.886	0.000	519294161	5000.0	5149.2	
1	8.204	8.204	0.000	541962755	5000.0	5314.1	
		Average of Peak Amounts =				5181.6	
2	5.777	5.778	-0.001	30052469	5000.0	5094.6	
2	7.143	7.145	-0.002	136167822	5000.0	5072.1	
2	7.284	7.286	-0.002	377922017	5000.0	5079.7	
2	7.799	7.800	-0.001	110390772	5000.0	5177.3	
2	8.095	8.096	-0.001	210568110	5000.0	5070.0	
		Average of Peak Amounts =				5098.7	
						RPD = 1.61	

Reagents:

8081ToxL5_00021 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

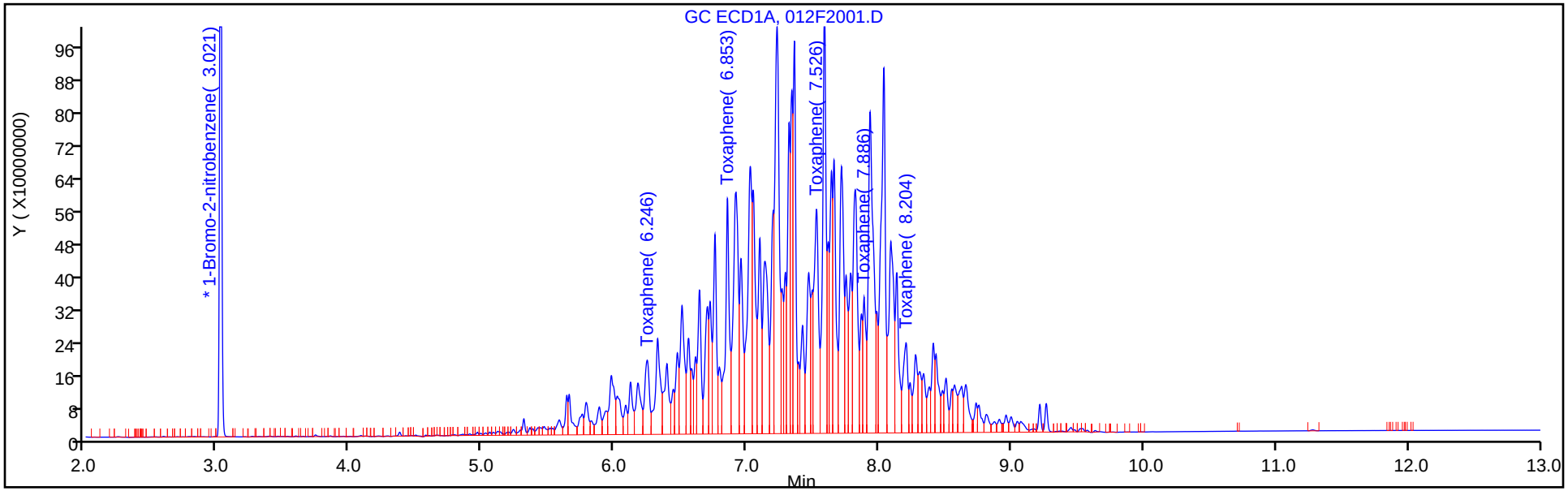
Report Date: 14-Oct-2018 22:11:16 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

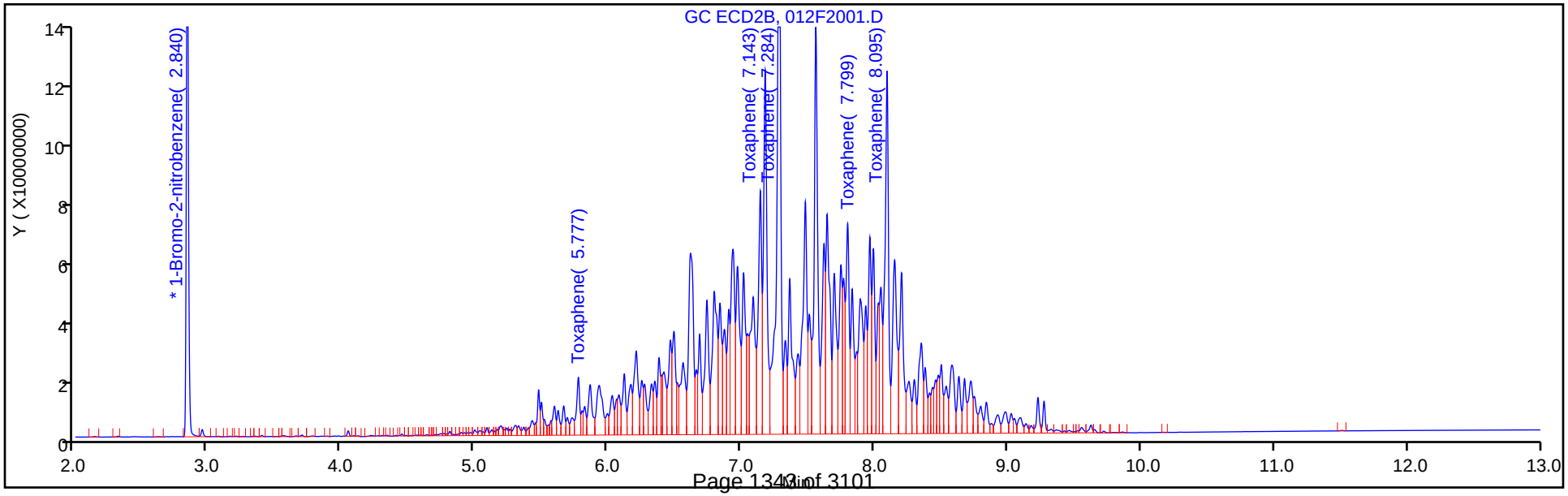
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\012F2001.D

Injection Date:	13-Oct-2018 16:28:15	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD5 TOX			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\013F2101.D
Lims ID: STD4 TOX
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 13-Oct-2018 16:45:38 ALS Bottle#: 13 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD4
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:18 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:28:32

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.021	0.000	1744551294	150.0	150.0	
2	2.841	2.841	0.000	183459712	150.0	150.0	
28 Toxaphene							M
1	6.246	6.246	0.000	157400259	2000.0	1979.4	M
1	6.854	6.854	0.000	408359221	2000.0	2006.3	M
1	7.528	7.528	0.000	466543962	2000.0	2055.4	M
1	7.886	7.886	0.000	184785693	2000.0	2028.0	M
1	8.204	8.204	0.000	182989462	2000.0	2005.7	M
		Average of Peak Amounts =				2015.0	
2	5.778	5.778	0.000	12064651	2000.0	2140.2	M
2	7.145	7.145	0.000	52352055	2000.0	2063.3	M
2	7.286	7.286	0.000	145561454	2000.0	2077.1	M
2	7.800	7.800	0.000	41885928	2000.0	2089.7	M
2	8.096	8.096	0.000	80317017	2000.0	2053.4	M
		Average of Peak Amounts =				2084.7	
						RPD = 3.40	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081TOXCCVL4_00014 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

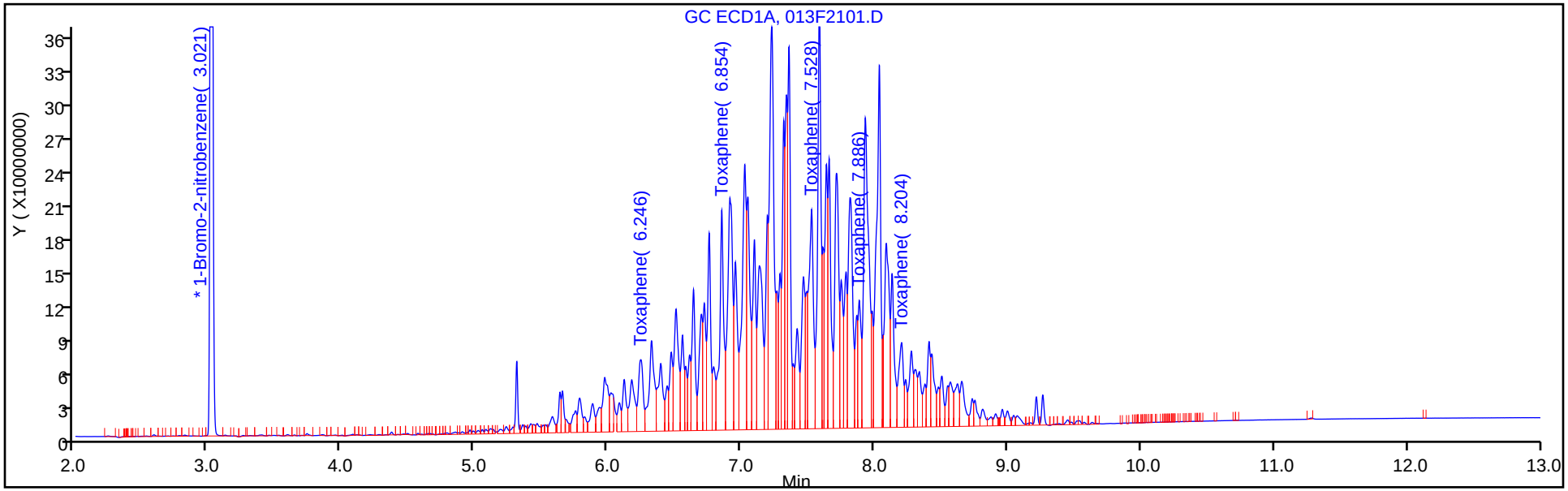
Report Date: 14-Oct-2018 22:11:19 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

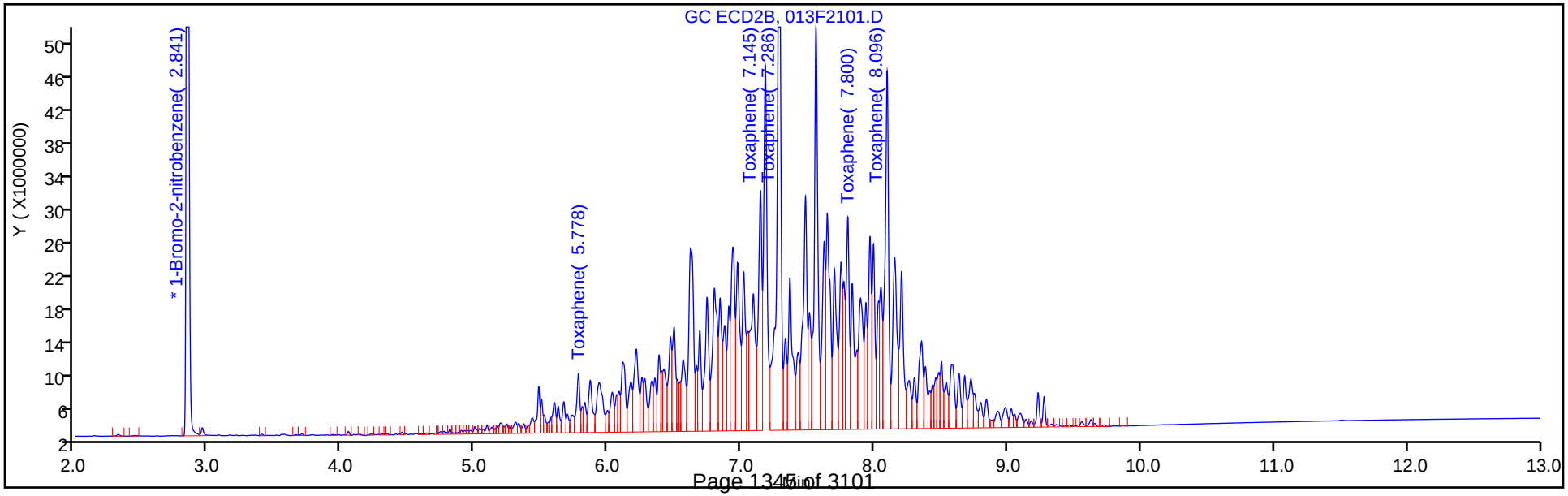
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\013F2101.D

Injection Date:	13-Oct-2018 16:45:38	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD4 TOX			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Report Date: 14-Oct-2018 22:11:19 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\013F2101.D

Injection Date: 13-Oct-2018 16:45:38 Instrument ID: SGC_P2

Lims ID: STD4 TOX

Client ID:

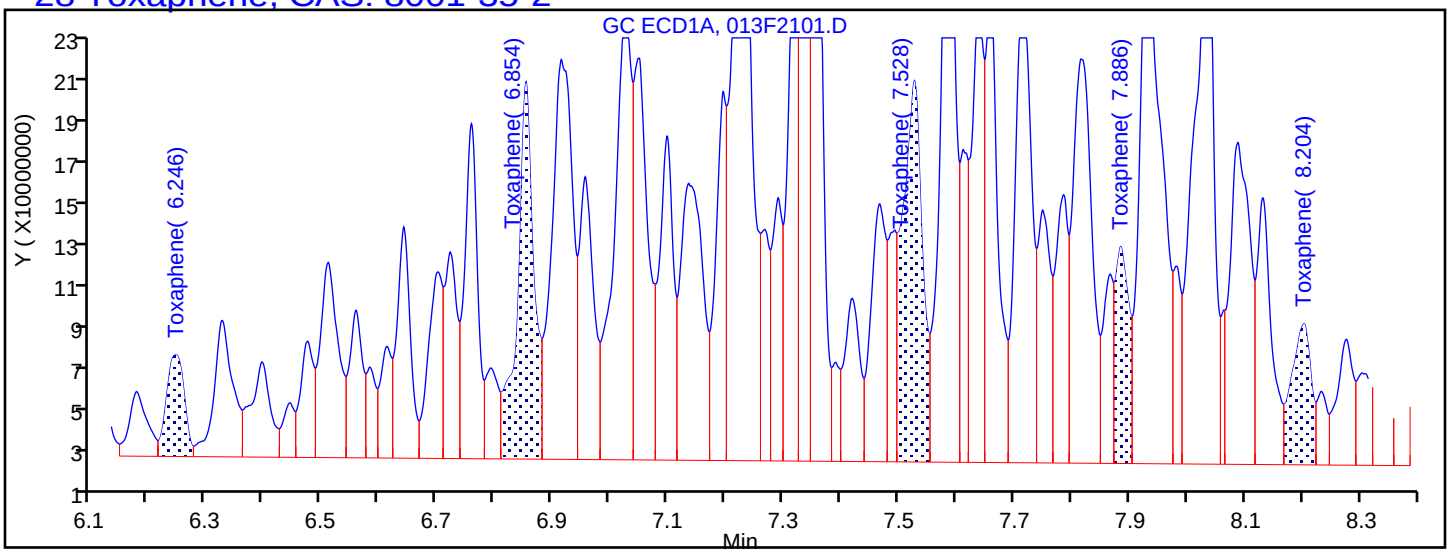
Operator ID: TEM ALS Bottle#: 13 Worklist Smp#: 18

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

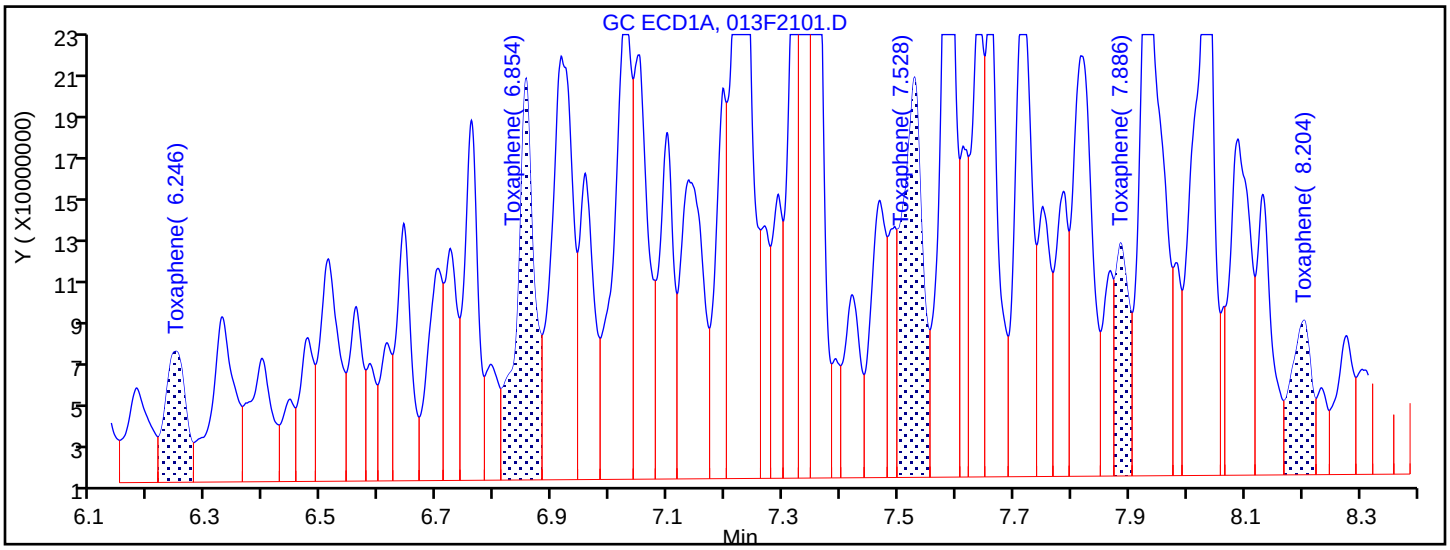
Column: CLP1 (0.32 mm) Detector GC ECD1A

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

6.246	Response = 105015082
6.854	Response = 357524871
7.528	Response = 434898456
7.886	Response = 170048760
8.204	Response = 161011474



Manual Integration Results

6.246	Response = 157400259	M
6.854	Response = 408359221	M
7.528	Response = 466543962	M
7.886	Response = 184785693	M
8.204	Response = 182989462	M

Reviewer: mooret, 14-Oct-2018 21:37:36

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\014F2201.D
Lims ID: STD3 TOX
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 13-Oct-2018 17:03:01 ALS Bottle#: 14 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD3
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:21 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:33:24

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.021	-0.001	1741058857	150.0	150.0	
2	2.841	2.841	-0.001	184005886	150.0	150.0	
28 Toxaphene							M
1	6.244	6.246	-0.002	77218443	1000.0	990.5	M
1	6.854	6.854	0.000	193181281	1000.0	975.2	M
1	7.527	7.528	-0.001	207813969	1000.0	953.6	M
1	7.887	7.886	0.001	84522297	1000.0	969.8	M
1	8.204	8.204	0.000	82441591	1000.0	961.2	M
		Average of Peak Amounts =				970.0	
2	5.777	5.778	-0.001	5366684	1000.0	919.9	
2	7.143	7.145	-0.002	26089503	1000.0	1020.0	
2	7.285	7.286	-0.001	72036294	1000.0	1025.7	
2	7.800	7.800	0.000	19681560	1000.0	983.5	
2	8.095	8.096	-0.001	40124523	1000.0	1023.9	
		Average of Peak Amounts =				994.6	
						RPD = 2.50	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081ToxL3_00020 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

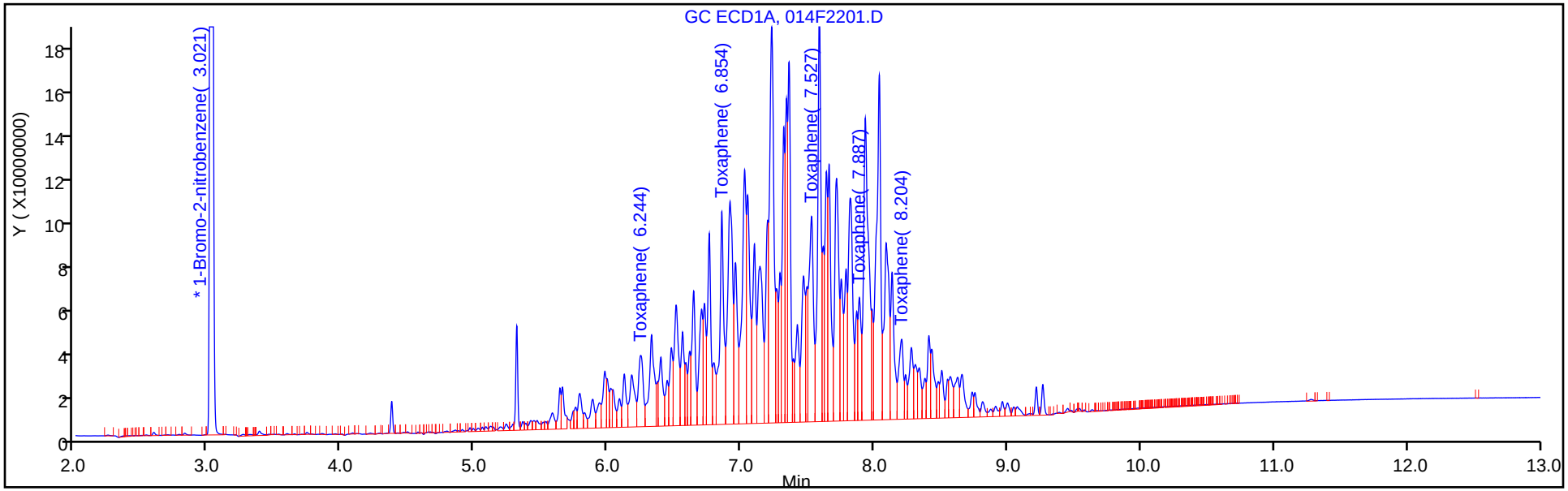
Report Date: 14-Oct-2018 22:11:22 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

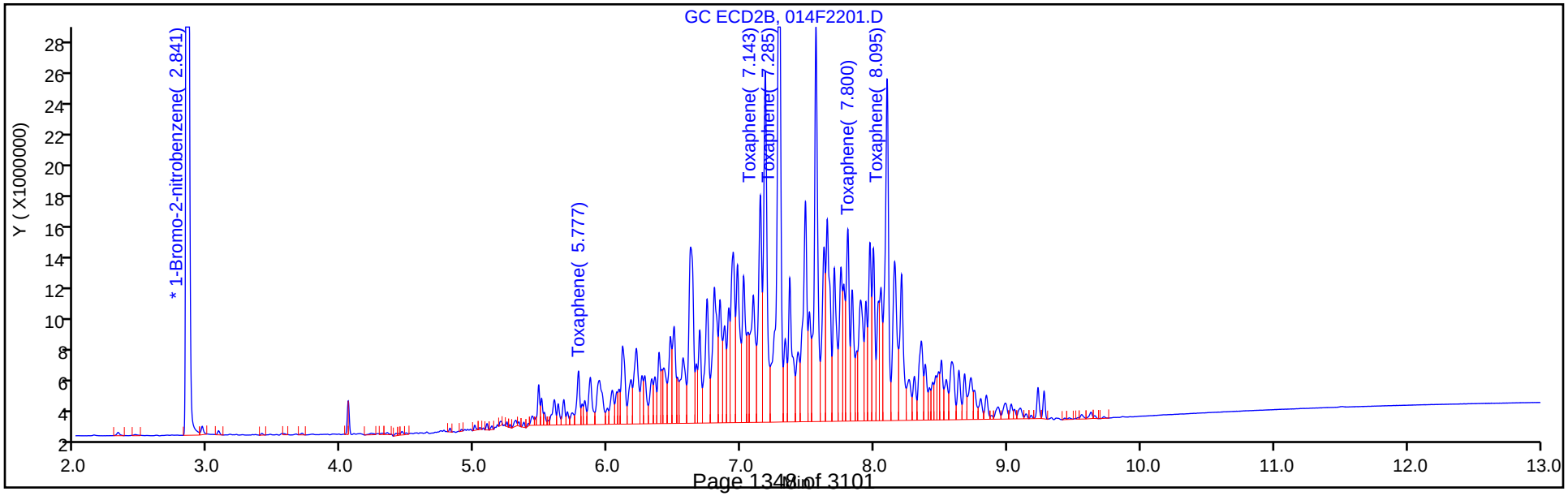
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\014F2201.D

Injection Date:	13-Oct-2018 17:03:01	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD3 TOX			Worklist Smp#:	19
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Report Date: 14-Oct-2018 22:11:22 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\014F2201.D

Injection Date: 13-Oct-2018 17:03:01 Instrument ID: SGC_P2

Lims ID: STD3 TOX

Client ID:

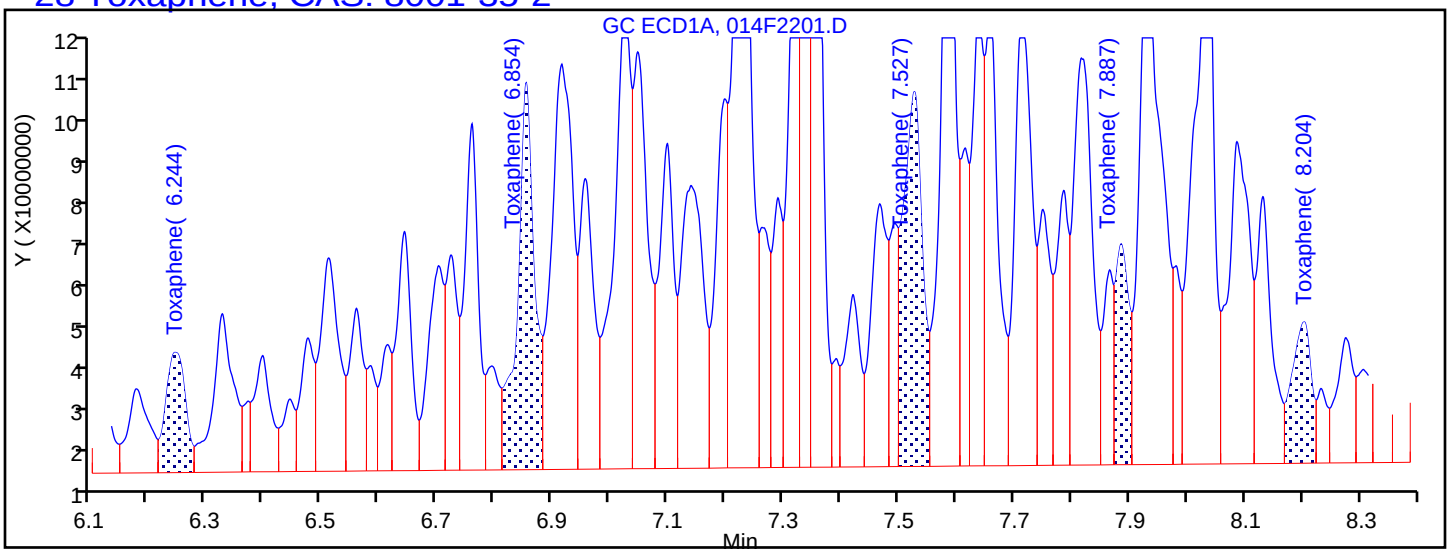
Operator ID: TEM ALS Bottle#: 14 Worklist Smp#: 19

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

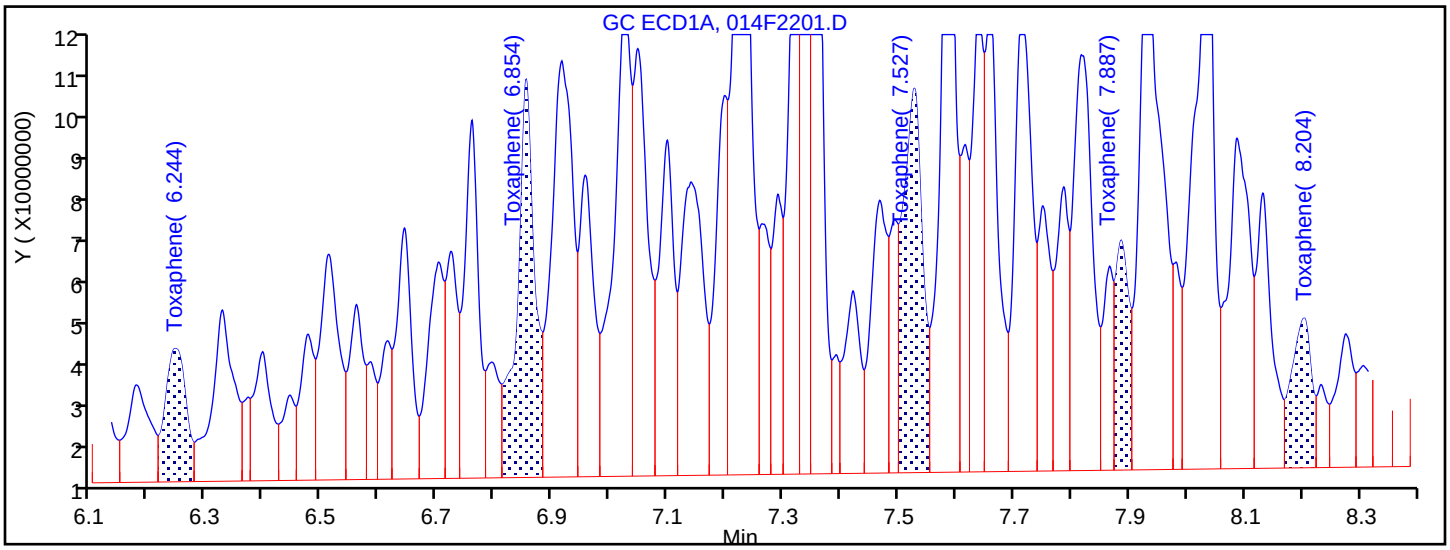
Column: CLP1 (0.32 mm) Detector GC ECD1A

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

6.244	Response = 65861941
6.854	Response = 181685271
7.527	Response = 200210988
7.887	Response = 80538237
8.204	Response = 75933852



Manual Integration Results

6.244	Response = 77218443	M
6.854	Response = 193181281	M
7.527	Response = 207813969	M
7.887	Response = 84522297	M
8.204	Response = 82441591	M

Reviewer: mooret, 14-Oct-2018 21:33:21

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\015F2301.D
Lims ID: STD2 TOX
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 13-Oct-2018 17:20:32 ALS Bottle#: 15 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD2
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:24 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:33:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.022	3.021	0.000	1773925252	150.0	150.0	
2	2.841	2.841	0.000	187588077	150.0	150.0	
28 Toxaphene							M
1	6.244	6.246	-0.002	36757841	500.0	481.1	M
1	6.854	6.854	0.000	89263703	500.0	467.4	M
1	7.528	7.528	0.000	96759589	500.0	471.3	M
1	7.887	7.886	0.001	36941603	500.0	458.5	M
1	8.204	8.204	0.000	33168067	500.0	441.0	M
		Average of Peak Amounts =				463.8	
2	5.778	5.778	0.000	3239492	500.0	523.2	M
2	7.144	7.145	-0.001	13088271	500.0	496.7	M
2	7.284	7.286	-0.002	34980187	500.0	489.4	M
2	7.799	7.800	-0.001	9872826	500.0	488.2	M
2	8.095	8.096	-0.001	19482419	500.0	488.8	M
		Average of Peak Amounts =				497.3	
						RPD = 6.96	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081ToxL2_00021	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

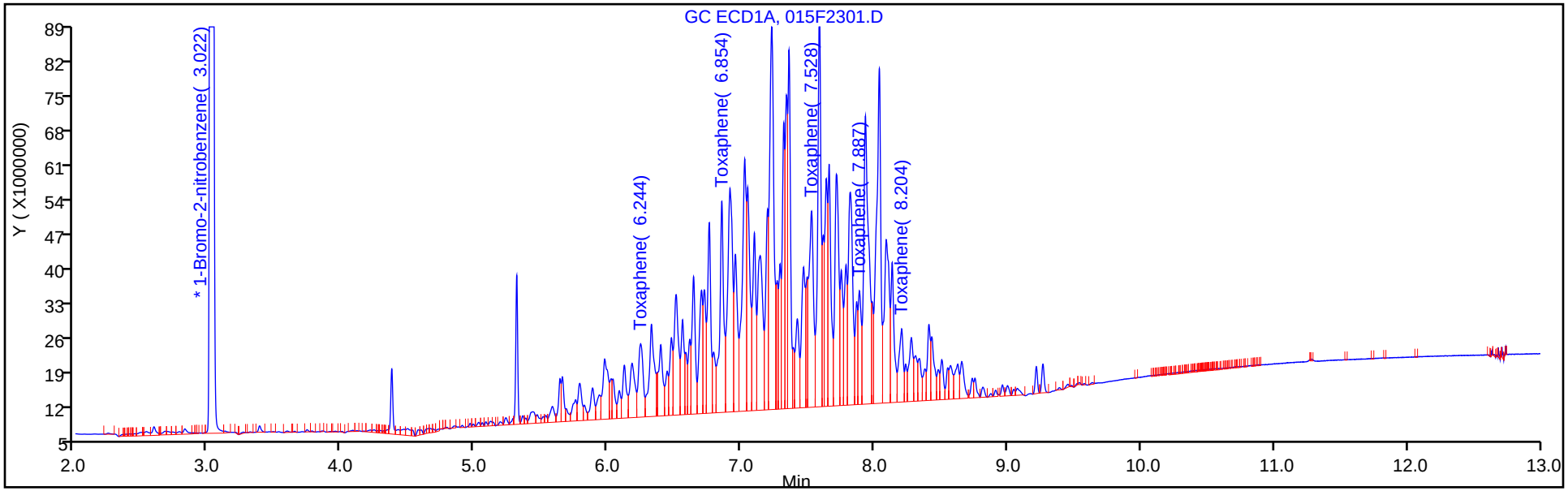
Report Date: 14-Oct-2018 22:11:26 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

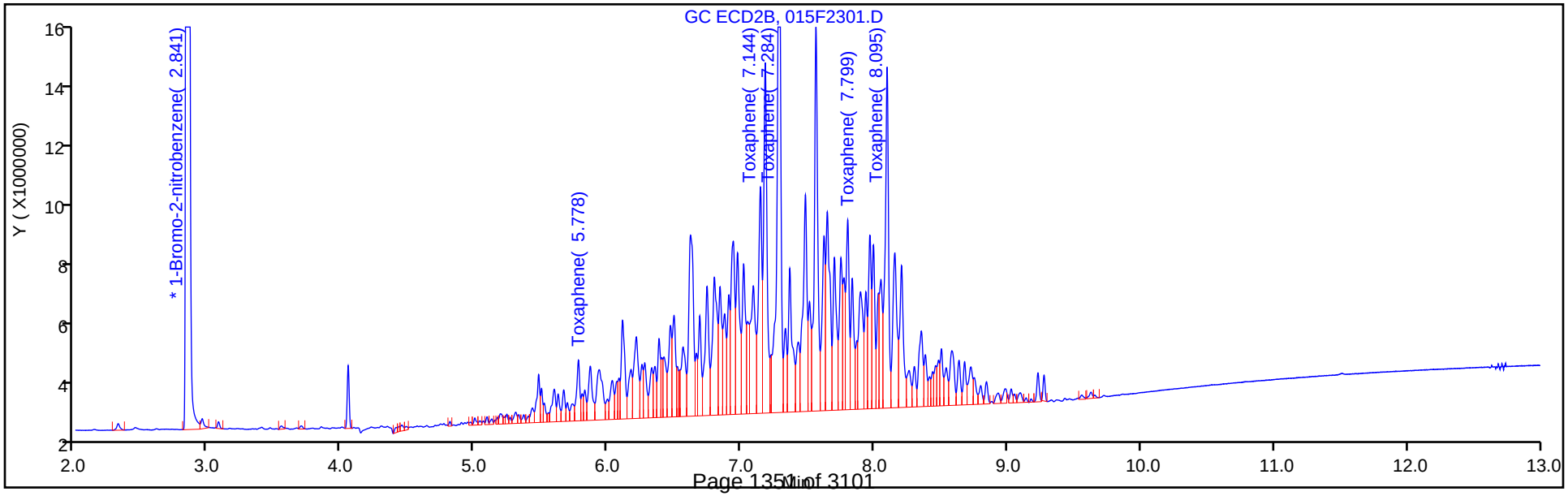
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\015F2301.D

Injection Date:	13-Oct-2018 17:20:32	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD2 TOX			Worklist Smp#:	20
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Report Date: 14-Oct-2018 22:11:26 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\015F2301.D

Injection Date: 13-Oct-2018 17:20:32 Instrument ID: SGC_P2

Lims ID: STD2 TOX

Client ID:

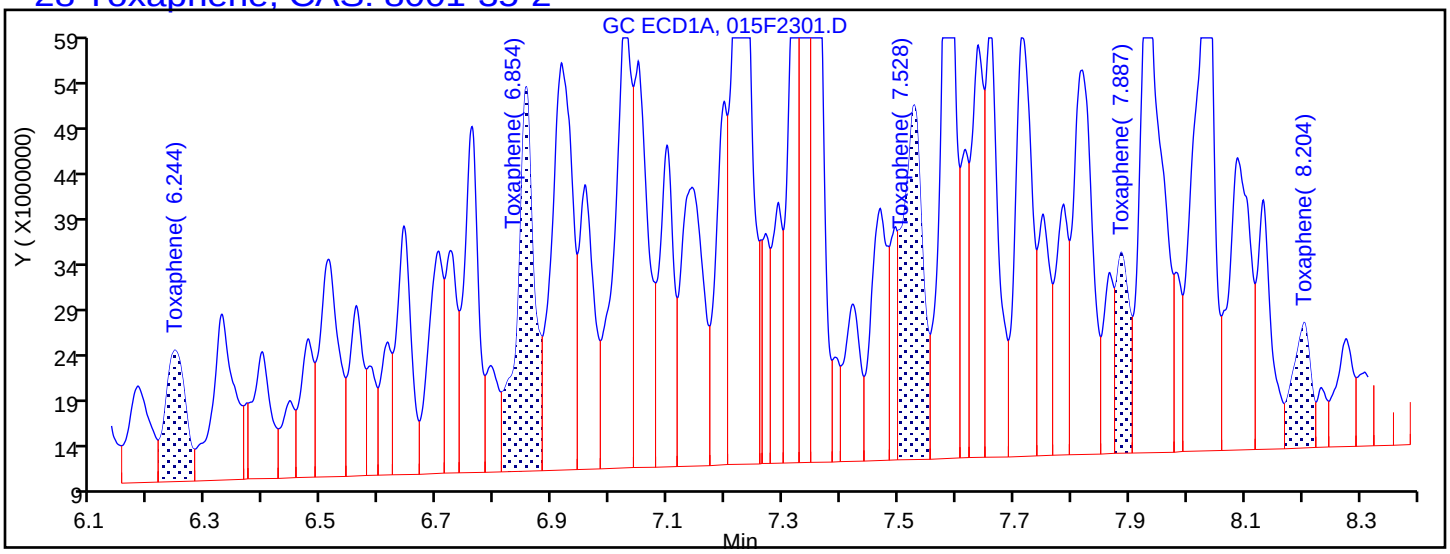
Operator ID: TEM ALS Bottle#: 15 Worklist Smp#: 20

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

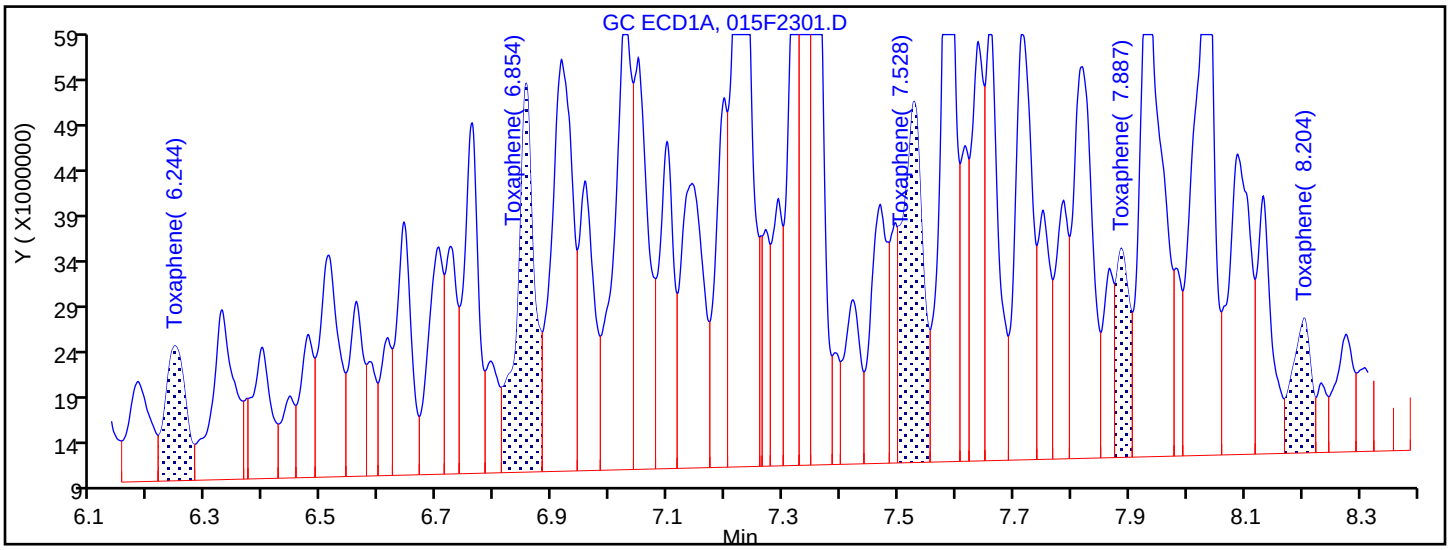
Column: CLP1 (0.32 mm) Detector GC ECD1A

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

6.244	Response = 35050970
6.854	Response = 86556064
7.528	Response = 93843579
7.887	Response = 35112670
8.204	Response = 29712914



Manual Integration Results

6.244	Response = 36757841	M
6.854	Response = 89263703	M
7.528	Response = 96759589	M
7.887	Response = 36941603	M
8.204	Response = 33168067	M

Reviewer: mooret, 14-Oct-2018 21:33:40

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\016F2401.D
Lims ID: STD1 TOX
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 13-Oct-2018 17:37:55 ALS Bottle#: 16 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD1
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:27 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:34:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.022	3.021	0.001	1720287810	150.0	150.0	
2	2.842	2.841	0.001	182087225	150.0	150.0	
28 Toxaphene							M
1	6.245	6.246	-0.001	13484316	200.0	203.4	M
1	6.854	6.854	0.000	32829722	200.0	205.8	M
1	7.528	7.528	0.000	32415828	200.0	205.6	M
1	7.887	7.886	0.001	12391302	200.0	207.2	M
1	8.204	8.204	0.000	10296721	200.0	210.3	M
		Average of Peak Amounts =				206.4	
2	5.778	5.778	0.000	1369118	200.0	198.1	M
2	7.144	7.145	-0.001	5249471	200.0	199.2	M
2	7.284	7.286	-0.002	13813356	200.0	200.0	M
2	7.800	7.800	0.000	3856571	200.0	201.6	M
2	8.095	8.096	-0.001	7701963	200.0	200.4	M
		Average of Peak Amounts =				199.8	
						RPD = 3.24	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081ToxL1_00020 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

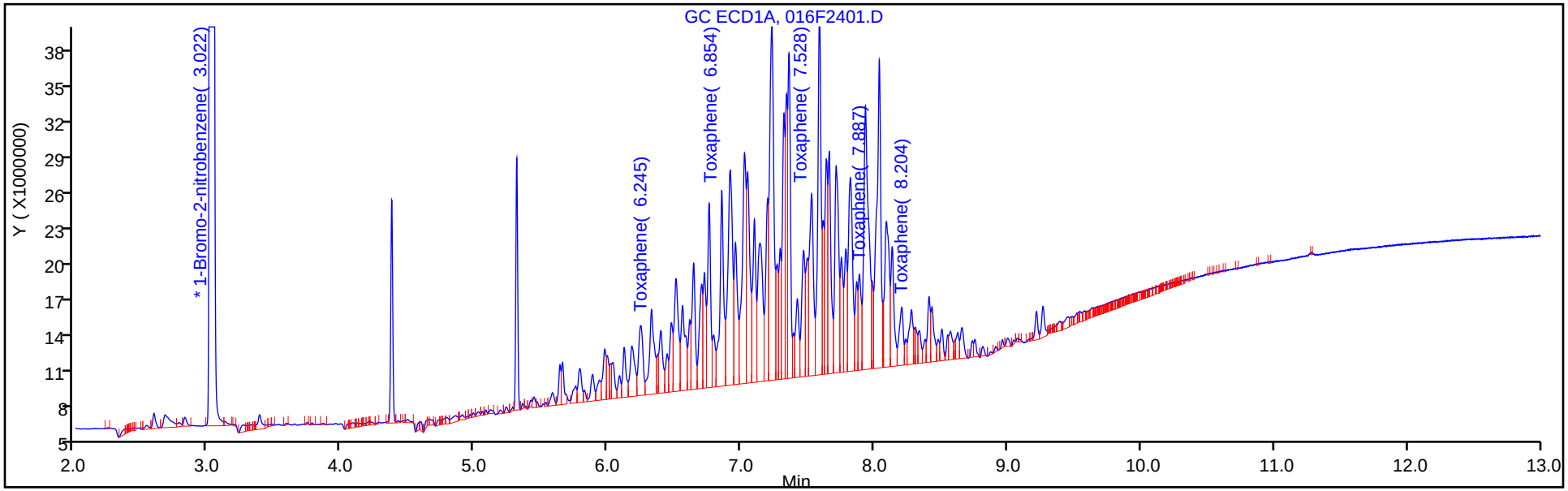
Report Date: 14-Oct-2018 22:11:29 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

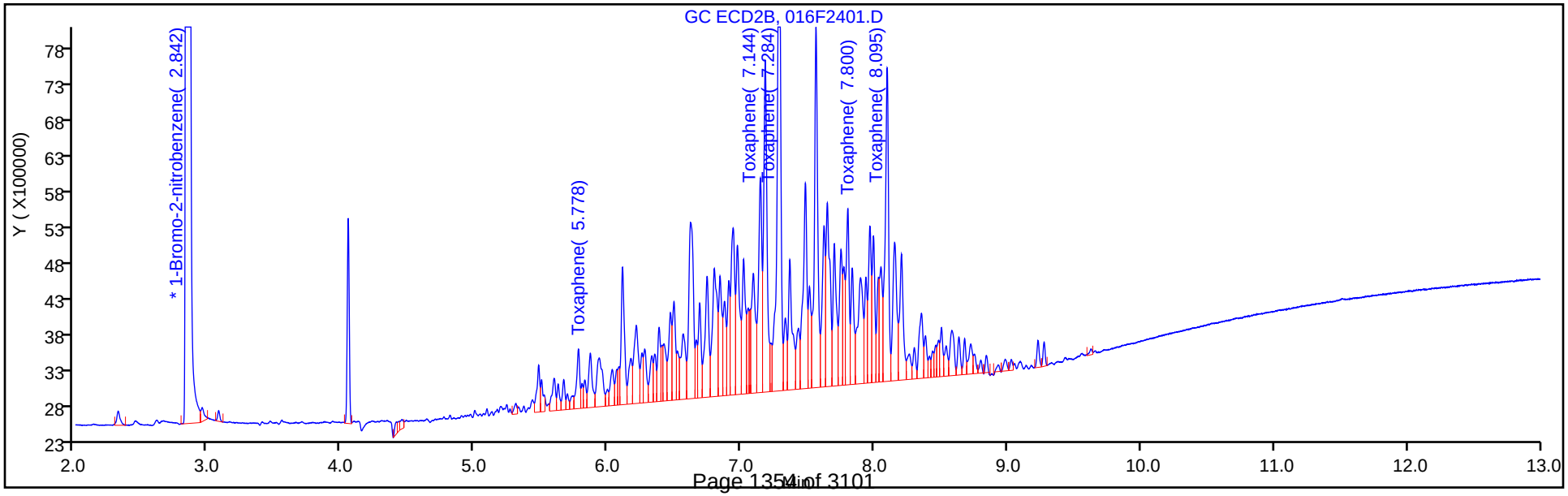
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\016F2401.D

Injection Date:	13-Oct-2018 17:37:55	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD1 TOX			Worklist Smp#:	21
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Report Date: 14-Oct-2018 22:11:29 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\016F2401.D

Injection Date: 13-Oct-2018 17:37:55 Instrument ID: SGC_P2

Lims ID: STD1 TOX

Client ID:

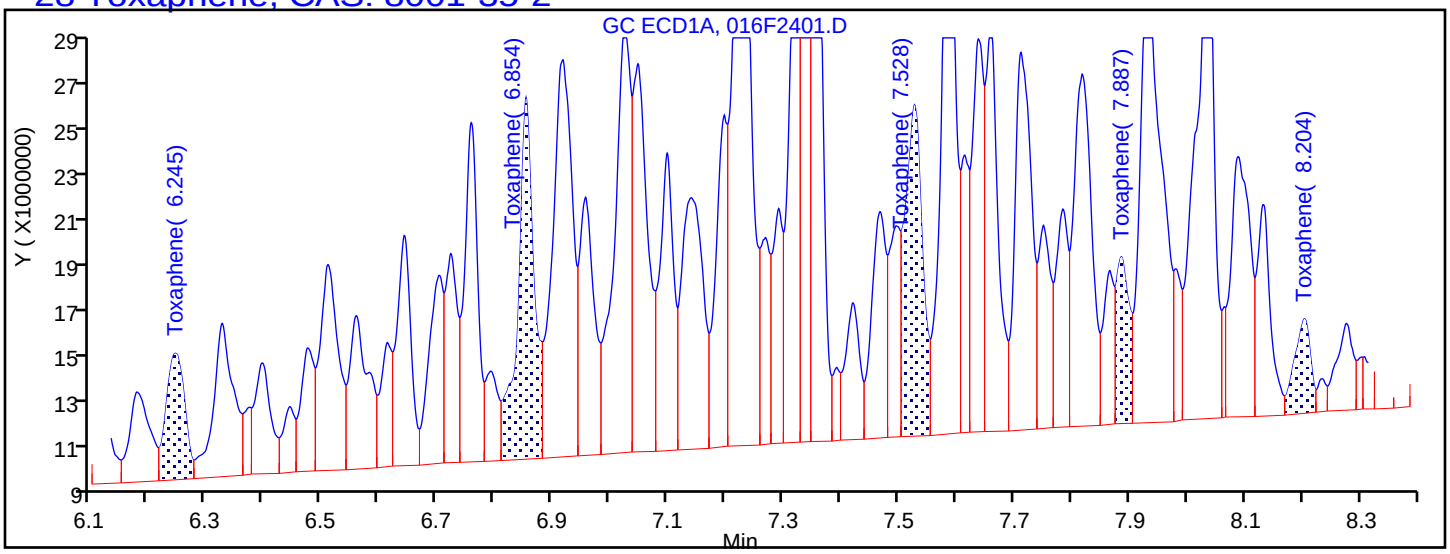
Operator ID: TEM ALS Bottle#: 16 Worklist Smp#: 21

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

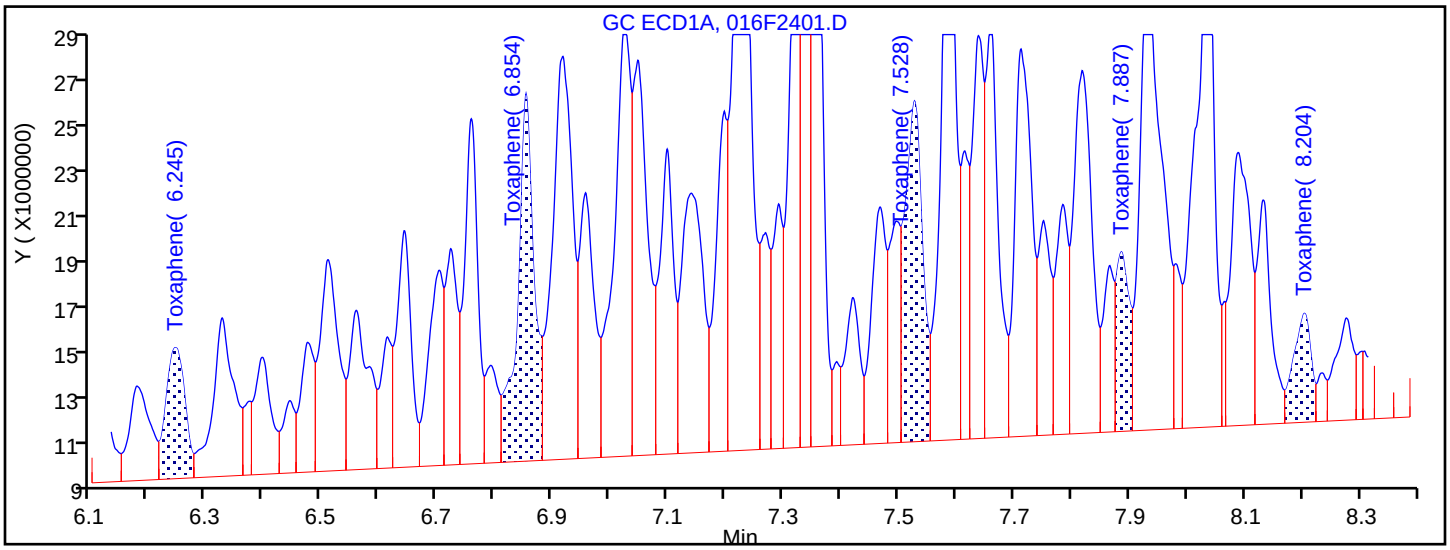
Column: CLP1 (0.32 mm) Detector GC ECD1A

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

6.245	Response = 12595640
6.854	Response = 31226336
7.528	Response = 30814368
7.887	Response = 11278282
8.204	Response = 8153489



Manual Integration Results

6.245	Response = 13484316	M
6.854	Response = 32829722	M
7.528	Response = 32415828	M
7.887	Response = 12391302	M
8.204	Response = 10296721	M

Reviewer: mooret, 14-Oct-2018 21:34:03

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:10 Calibration End Date: 10/13/2018 17:37 Calibration ID: 33998

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-433303/21	016F2401.D
Level 2	STD2 280-433303/20	015F2301.D
Level 3	STD3 280-433303/19	014F2201.D
Level 4	STD4 280-433303/18	013F2101.D
Level 5	STD5 280-433303/17	012F2001.D
Level 6	STD6 280-433303/16	011F1901.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Toxaphene Peak 1	0.0056 0.0043	0.0052	0.0044	0.0049	0.0046	Lin2	0.2366	0.0045							0.9950		0.9900
Toxaphene Peak 2	0.0216 0.0195	0.0209	0.0213	0.0214	0.0210	Lin2	0.2123	0.0206							0.9990		0.9900
Toxaphene Peak 3	0.0569 0.0540	0.0559	0.0587	0.0595	0.0582	Lin2	-0.090	0.0573							0.9980		0.9900
Toxaphene Peak 4	0.0159 0.0157	0.0158	0.0160	0.0171	0.0170	Lin2	-0.140	0.0165							0.9980		0.9900
Toxaphene Peak 5	0.0317 0.0306	0.0312	0.0327	0.0328	0.0324	Lin2	-0.070	0.0320							0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:10 Calibration End Date: 10/13/2018 17:37 Calibration ID: 33998

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-433303/21	016F2401.D
Level 2	STD2 280-433303/20	015F2301.D
Level 3	STD3 280-433303/19	014F2201.D
Level 4	STD4 280-433303/18	013F2101.D
Level 5	STD5 280-433303/17	012F2001.D
Level 6	STD6 280-433303/16	011F1901.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Toxaphene Peak 1	BNB	Lin2	1369118 60549286	3239492	5366684	12064651	30052469	200 10000	500	1000	2000	5000
Toxaphene Peak 2	BNB	Lin2	5249471 273869350	13088271	26089503	52352055	136167822	200 10000	500	1000	2000	5000
Toxaphene Peak 3	BNB	Lin2	13813356 756947570	34980187	72036294	145561454	377922017	200 10000	500	1000	2000	5000
Toxaphene Peak 4	BNB	Lin2	3856571 219585664	9872826	19681560	41885928	110390772	200 10000	500	1000	2000	5000
Toxaphene Peak 5	BNB	Lin2	7701963 429283014	19482419	40124523	80317017	210568110	200 10000	500	1000	2000	5000

Curve Type Legend:
Lin2 = Linear 1/conc^2 ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\011F1901.D
Lims ID: STD6 TOX
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 13-Oct-2018 16:10:51 ALS Bottle#: 11 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD6 TOX
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:12 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:36:56

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.020	0.001	2093632714	150.0	150.0	
2	2.840	2.839	0.000	210457864	150.0	150.0	
28 Toxaphene							M
1	6.245	6.246	-0.001	984914164	10000	10176	
1	6.853	6.854	-0.001	2531832439	10000	10174	
1	7.528	7.528	0.000	2860362835	10000	10232	
1	7.885	7.886	-0.001	1164606715	10000	10334	
1	8.203	8.204	-0.001	1187453780	10000	10397	
		Average of Peak Amounts =				10263	
2	5.776	5.778	-0.002	60549286	10000	9540.5	M
2	7.143	7.145	-0.002	273869350	10000	9445.5	M
2	7.284	7.286	-0.002	756947570	10000	9410.3	M
2	7.798	7.800	-0.002	219585664	10000	9519.4	M
2	8.094	8.096	-0.002	429283014	10000	9559.5	M
		Average of Peak Amounts =				9495.0	
						RPD = 7.77	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081ToxL6_00023	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

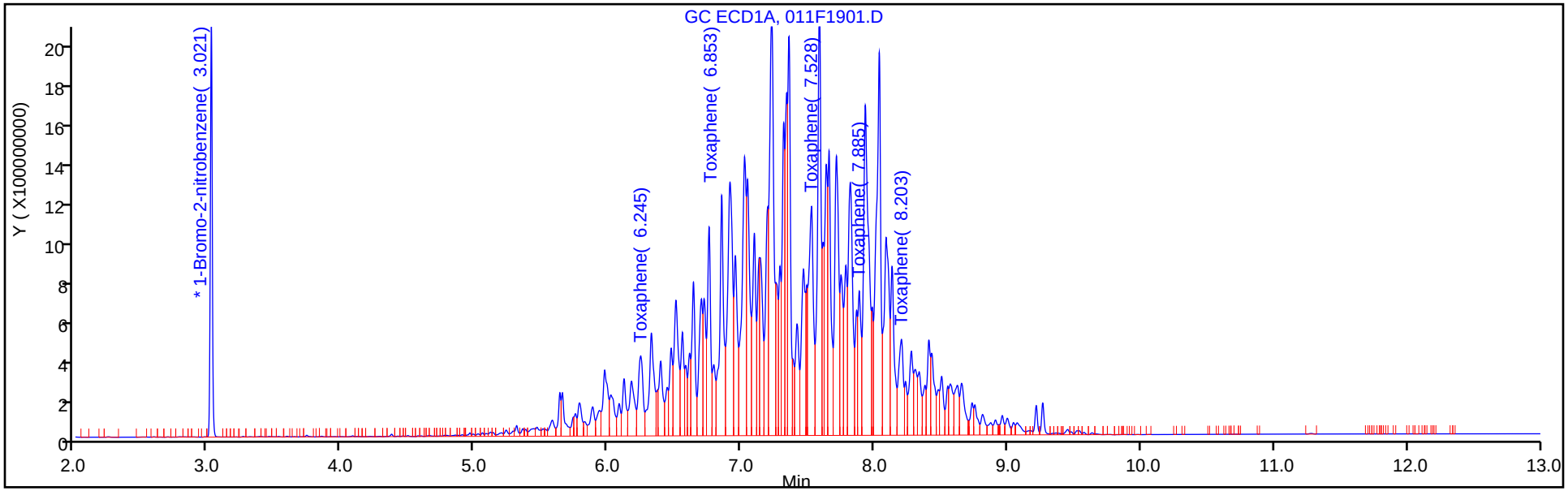
Report Date: 14-Oct-2018 22:11:14 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

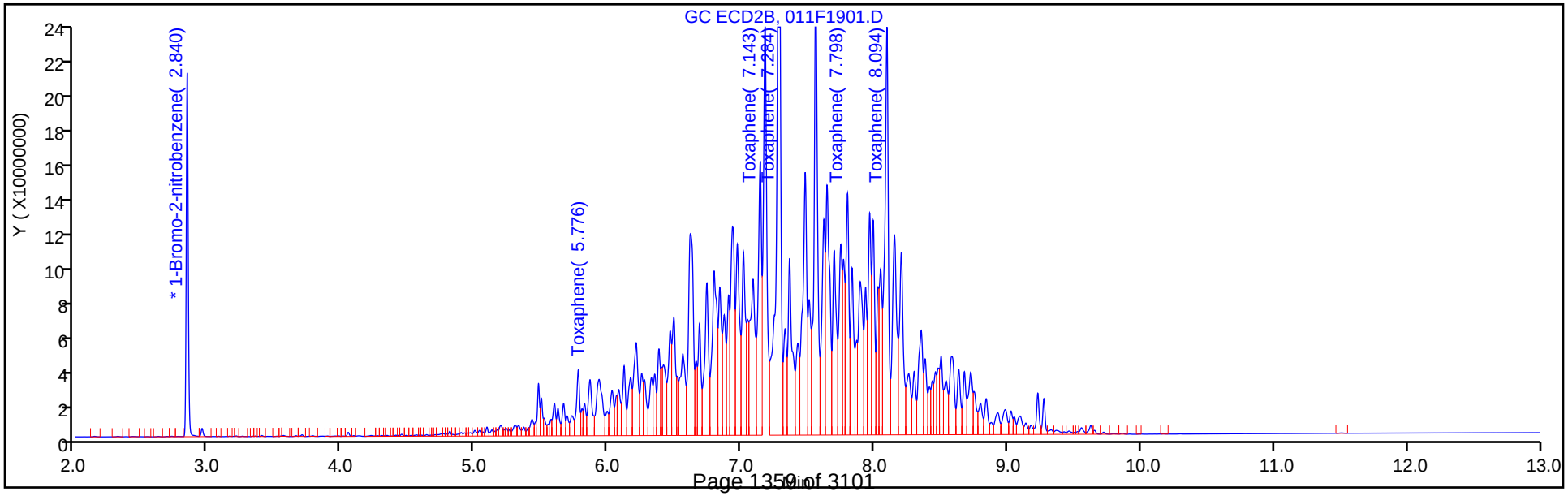
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\011F1901.D

Injection Date:	13-Oct-2018 16:10:51	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD6 TOX			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Report Date: 14-Oct-2018 22:11:14 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\011F1901.D

Injection Date: 13-Oct-2018 16:10:51 Instrument ID: SGC_P2

Lims ID: STD6 TOX

Client ID:

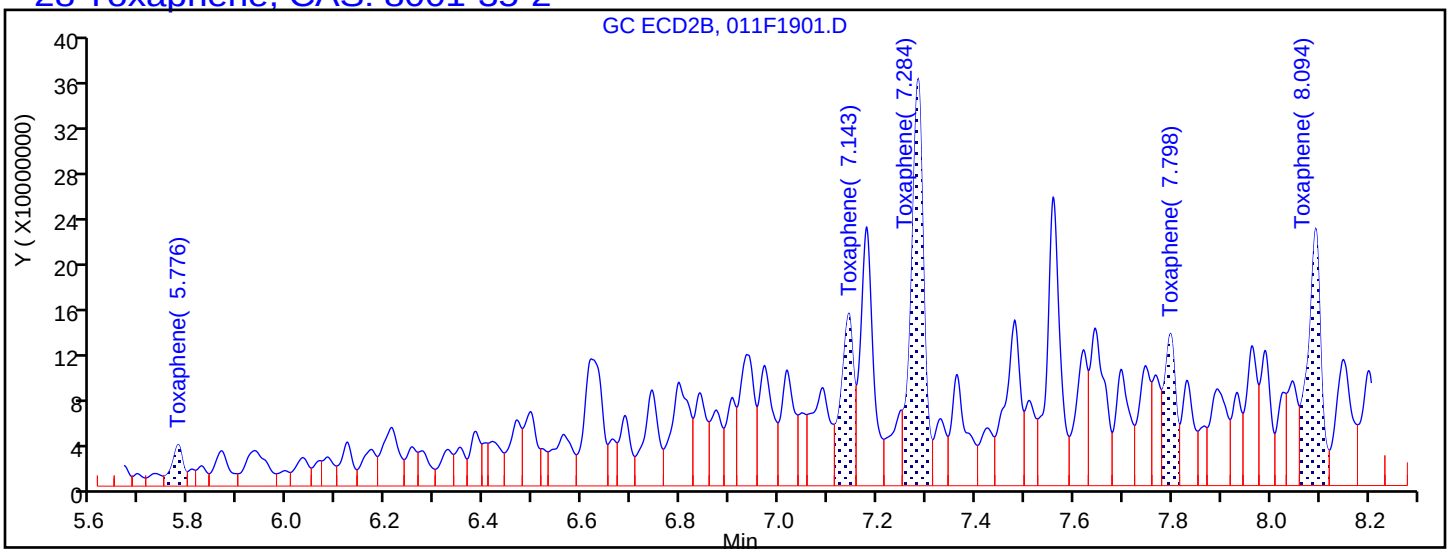
Operator ID: TEM ALS Bottle#: 11 Worklist Smp#: 16

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

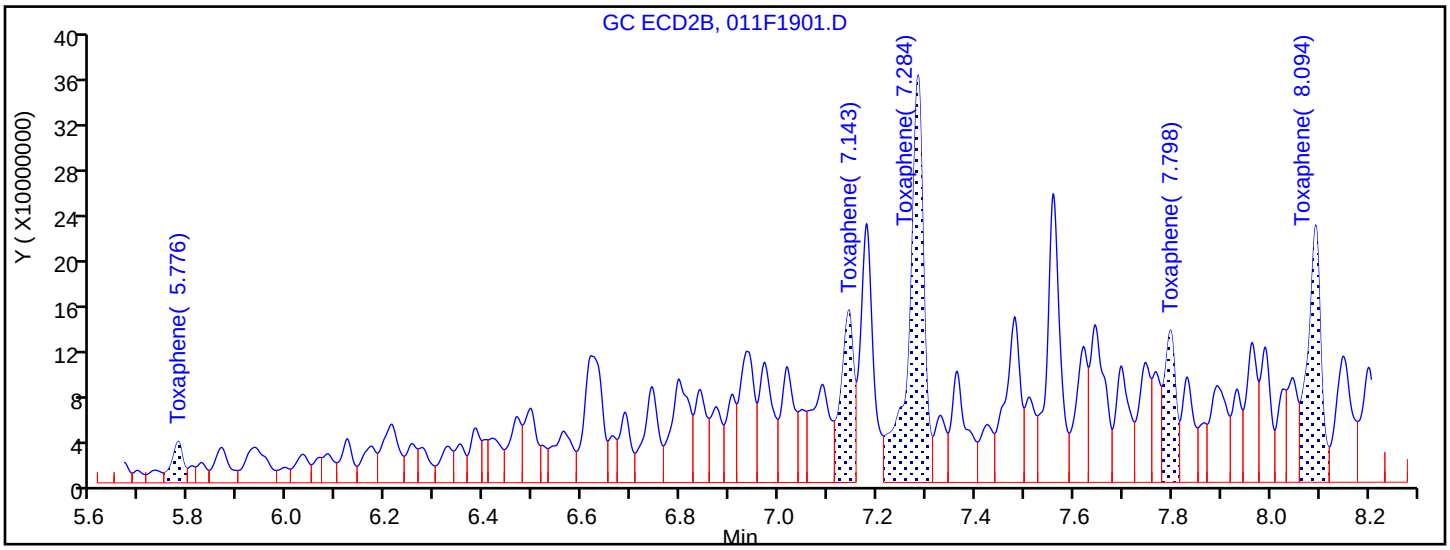
Column: CLP2 (0.32 mm) Detector GC ECD2B

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

5.776	Response = 60552821
7.143	Response = 273886955
7.284	Response = 640399513
7.798	Response = 219597728
8.094	Response = 429322900



Manual Integration Results

5.776	Response = 60549286	M
7.143	Response = 273869350	M
7.284	Response = 756947570	M
7.798	Response = 219585664	M
8.094	Response = 429283014	M

Reviewer: mooret, 14-Oct-2018 21:36:53

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\012F2001.D
Lims ID: STD5 TOX
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 13-Oct-2018 16:28:15 ALS Bottle#: 12 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD5
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:15 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.020	0.001	1887409806	150.0	150.0	
2	2.840	2.839	0.001	194682264	150.0	150.0	
28 Toxaphene							
1	6.246	6.246	0.000	444953077	5000.0	5116.5	
1	6.853	6.854	-0.001	1162405972	5000.0	5203.9	
1	7.526	7.528	-0.002	1283190101	5000.0	5124.6	
1	7.886	7.886	0.000	519294161	5000.0	5149.2	
1	8.204	8.204	0.000	541962755	5000.0	5314.1	
		Average of Peak Amounts =				5181.6	
2	5.777	5.778	-0.001	30052469	5000.0	5094.6	
2	7.143	7.145	-0.002	136167822	5000.0	5072.1	
2	7.284	7.286	-0.002	377922017	5000.0	5079.7	
2	7.799	7.800	-0.001	110390772	5000.0	5177.3	
2	8.095	8.096	-0.001	210568110	5000.0	5070.0	
		Average of Peak Amounts =				5098.7	
						RPD = 1.61	

Reagents:

8081ToxL5_00021 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

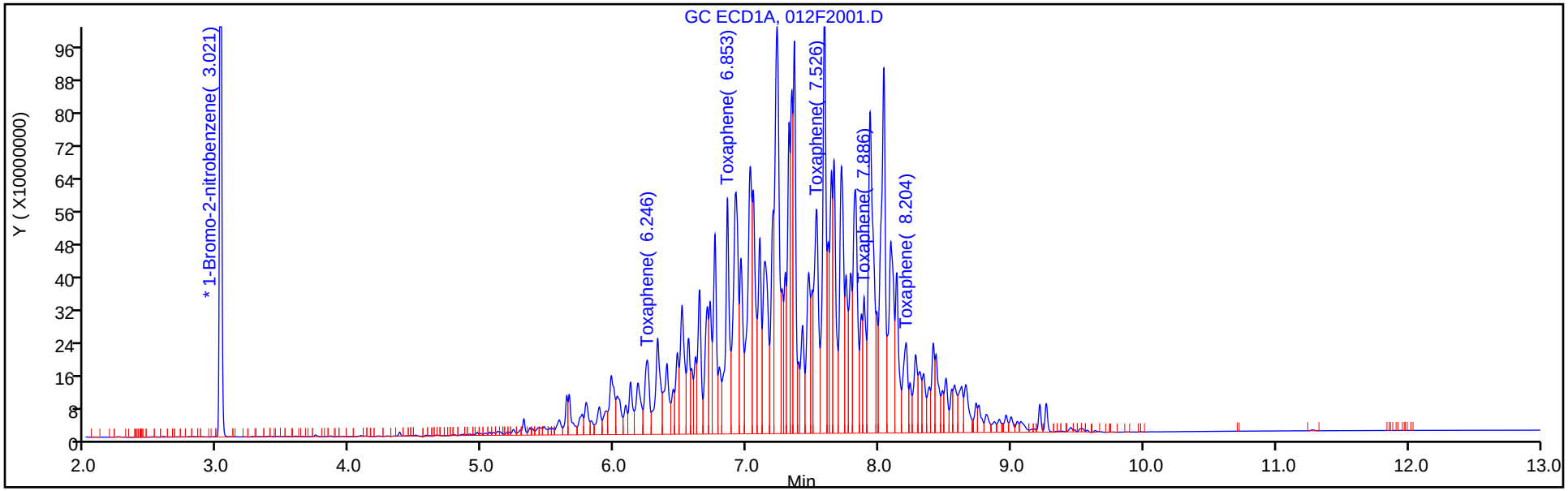
Report Date: 14-Oct-2018 22:11:17 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

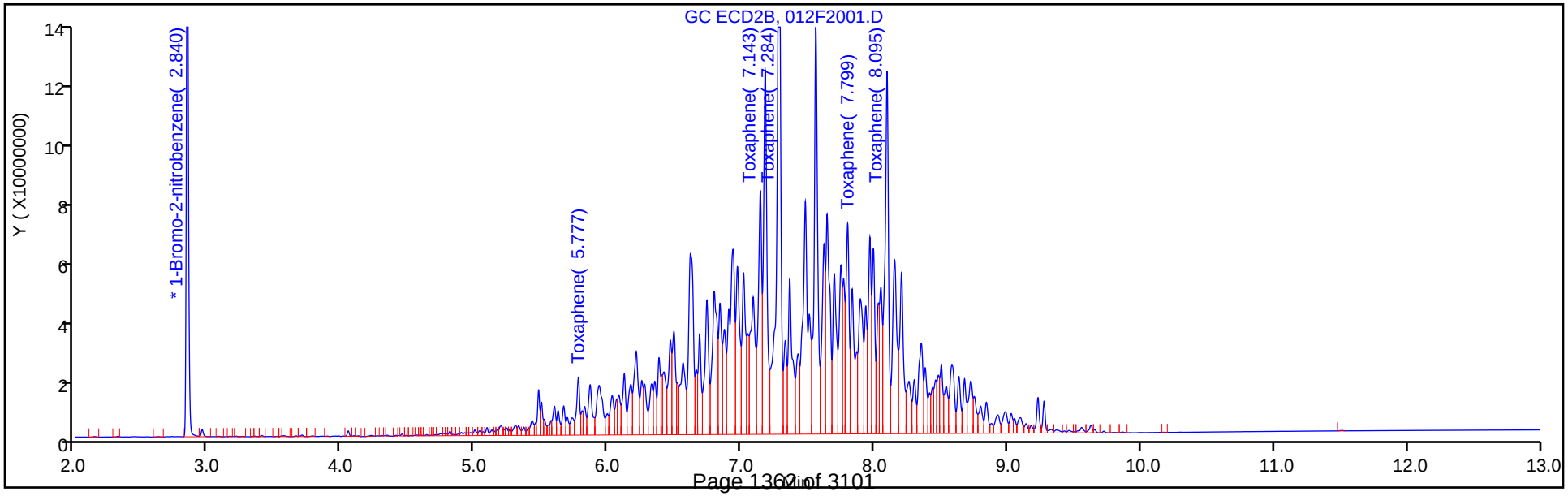
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\012F2001.D

Injection Date:	13-Oct-2018 16:28:15	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD5 TOX			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\013F2101.D
Lims ID: STD4 TOX
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 13-Oct-2018 16:45:38 ALS Bottle#: 13 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD4
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:18 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:28:32

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.021	0.000	1744551294	150.0	150.0	
2	2.841	2.841	0.000	183459712	150.0	150.0	
28 Toxaphene							M
1	6.246	6.246	0.000	157400259	2000.0	1979.4	M
1	6.854	6.854	0.000	408359221	2000.0	2006.3	M
1	7.528	7.528	0.000	466543962	2000.0	2055.4	M
1	7.886	7.886	0.000	184785693	2000.0	2028.0	M
1	8.204	8.204	0.000	182989462	2000.0	2005.7	M
		Average of Peak Amounts =				2015.0	
2	5.778	5.778	0.000	12064651	2000.0	2140.2	M
2	7.145	7.145	0.000	52352055	2000.0	2063.3	M
2	7.286	7.286	0.000	145561454	2000.0	2077.1	M
2	7.800	7.800	0.000	41885928	2000.0	2089.7	M
2	8.096	8.096	0.000	80317017	2000.0	2053.4	M
		Average of Peak Amounts =				2084.7	
						RPD = 3.40	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081TOXCCVL4_00014 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

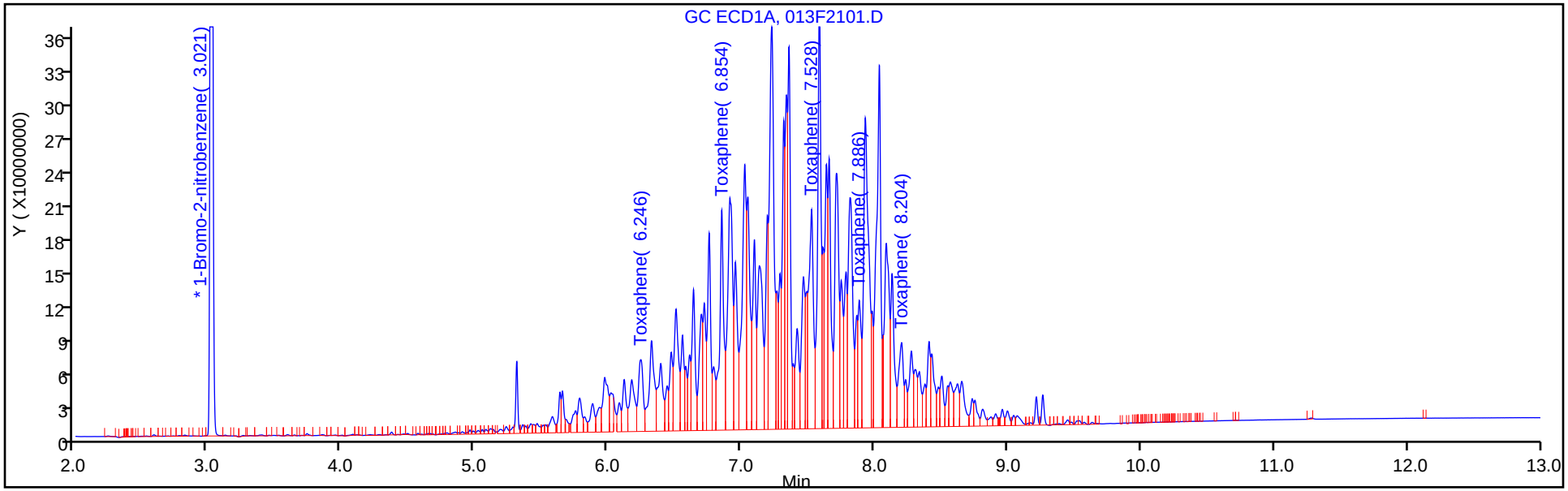
Report Date: 14-Oct-2018 22:11:20 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

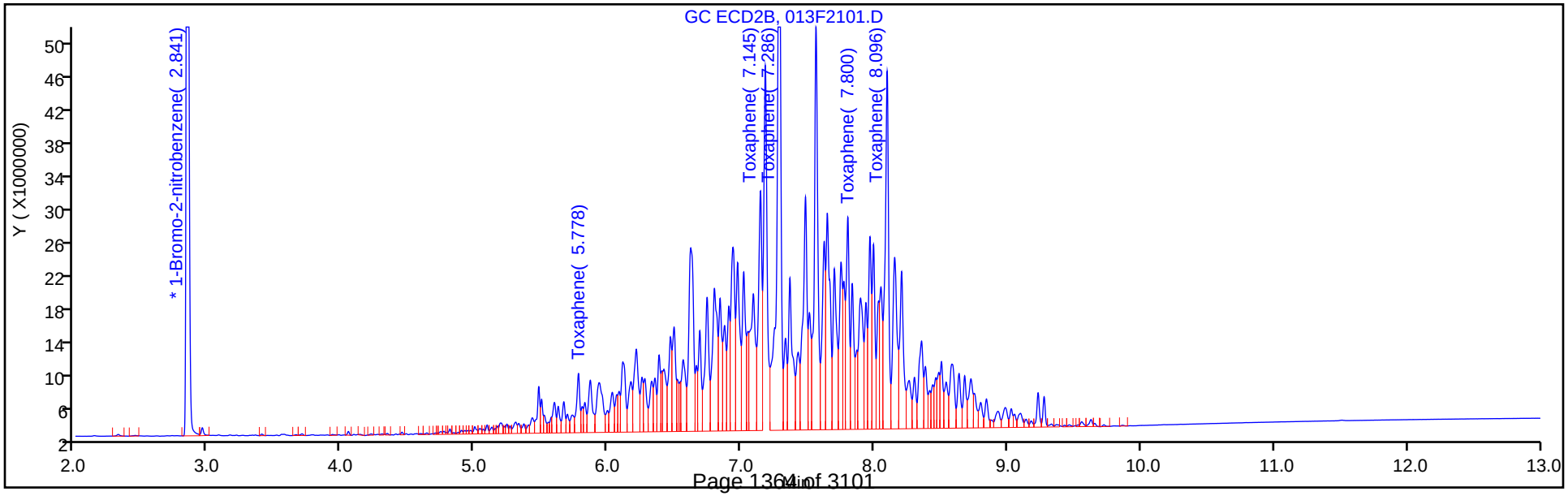
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\013F2101.D

Injection Date:	13-Oct-2018 16:45:38	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD4 TOX			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Report Date: 14-Oct-2018 22:11:20 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\013F2101.D

Injection Date: 13-Oct-2018 16:45:38 Instrument ID: SGC_P2

Lims ID: STD4 TOX

Client ID:

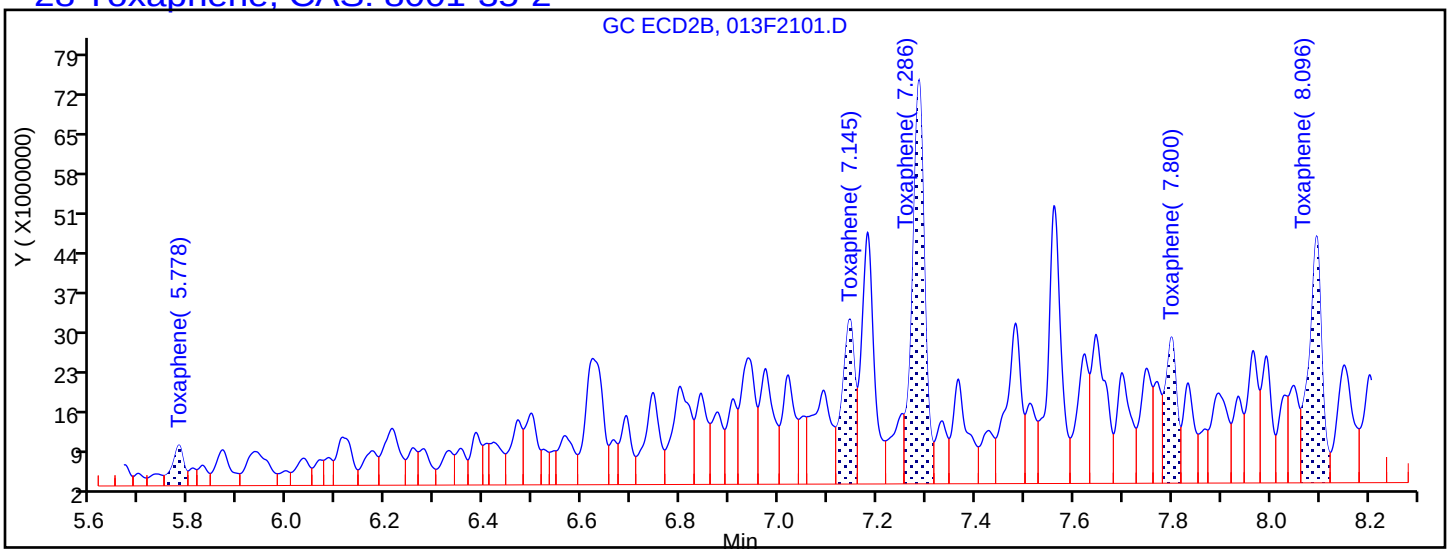
Operator ID: TEM ALS Bottle#: 13 Worklist Smp#: 18

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

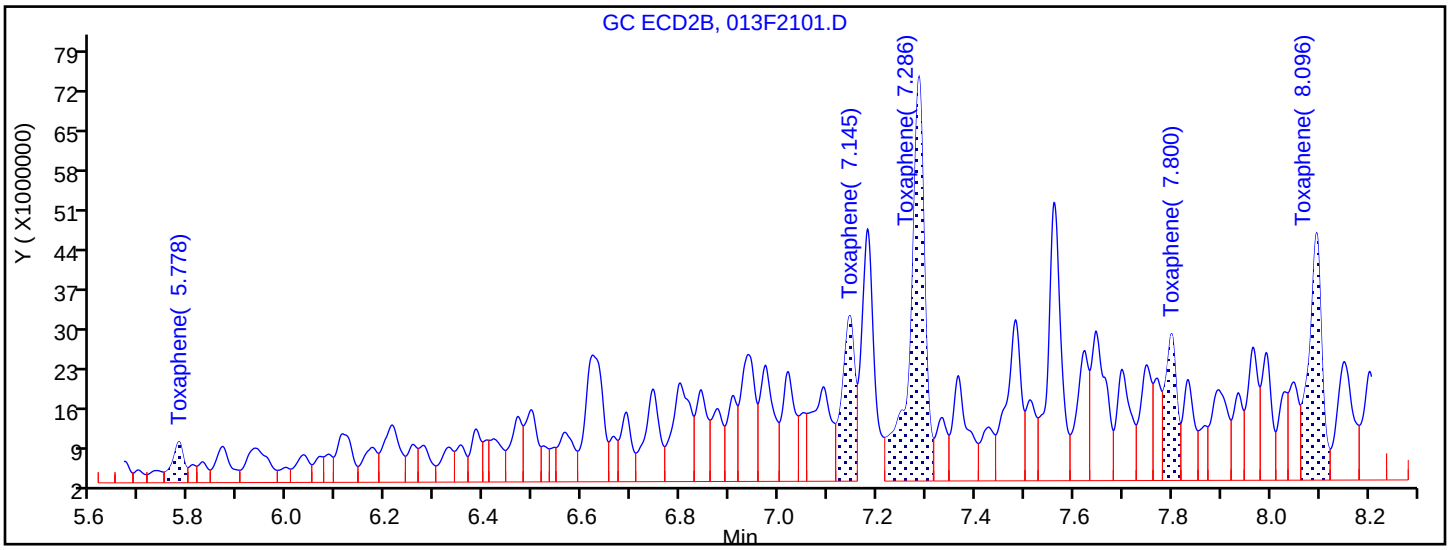
Column: CLP2 (0.32 mm) Detector GC ECD2B

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

5.778	Response = 11889868
7.145	Response = 52091638
7.286	Response = 122916584
7.800	Response = 41613365
8.096	Response = 79867523



Manual Integration Results

5.778	Response = 12064651	M
7.145	Response = 52352055	M
7.286	Response = 145561454	M
7.800	Response = 41885928	M
8.096	Response = 80317017	M

Reviewer: mooret, 14-Oct-2018 21:37:56

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\014F2201.D
Lims ID: STD3 TOX
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 13-Oct-2018 17:03:01 ALS Bottle#: 14 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD3
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:21 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:33:24

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.021	-0.001	1741058857	150.0	150.0	
2	2.841	2.841	-0.001	184005886	150.0	150.0	
28 Toxaphene							M
1	6.244	6.246	-0.002	77218443	1000.0	990.5	M
1	6.854	6.854	0.000	193181281	1000.0	975.2	M
1	7.527	7.528	-0.001	207813969	1000.0	953.6	M
1	7.887	7.886	0.001	84522297	1000.0	969.8	M
1	8.204	8.204	0.000	82441591	1000.0	961.2	M
		Average of Peak Amounts =				970.0	
2	5.777	5.778	-0.001	5366684	1000.0	919.9	
2	7.143	7.145	-0.002	26089503	1000.0	1020.0	
2	7.285	7.286	-0.001	72036294	1000.0	1025.7	
2	7.800	7.800	0.000	19681560	1000.0	983.5	
2	8.095	8.096	-0.001	40124523	1000.0	1023.9	
		Average of Peak Amounts =				994.6	
						RPD = 2.50	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081ToxL3_00020	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

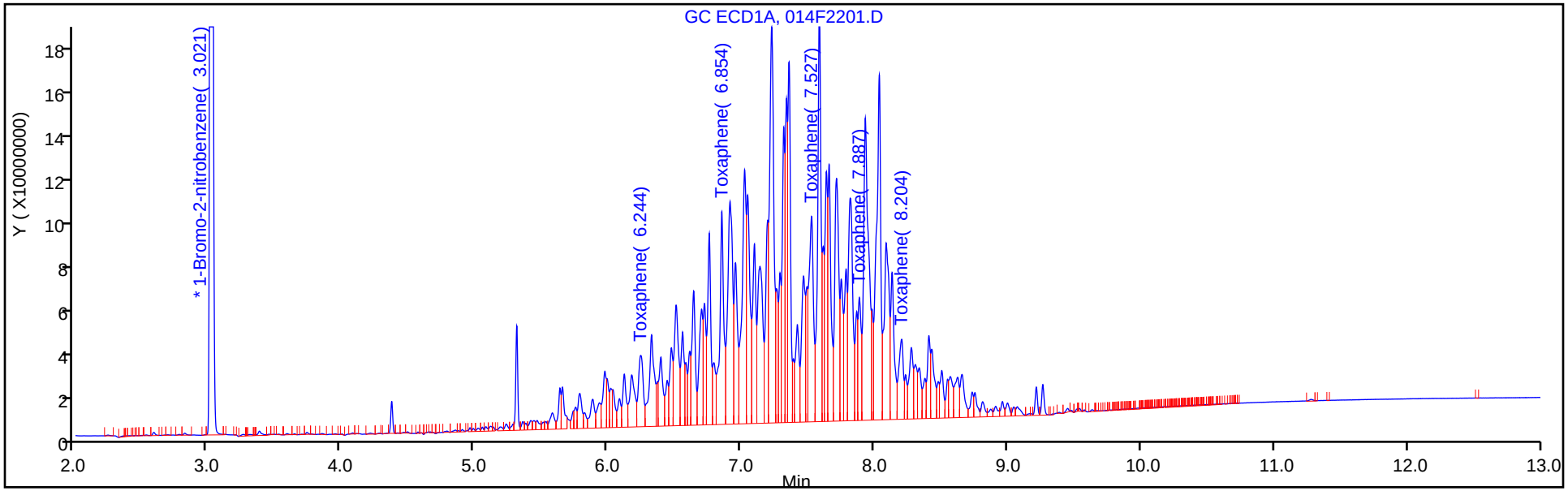
Report Date: 14-Oct-2018 22:11:23 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

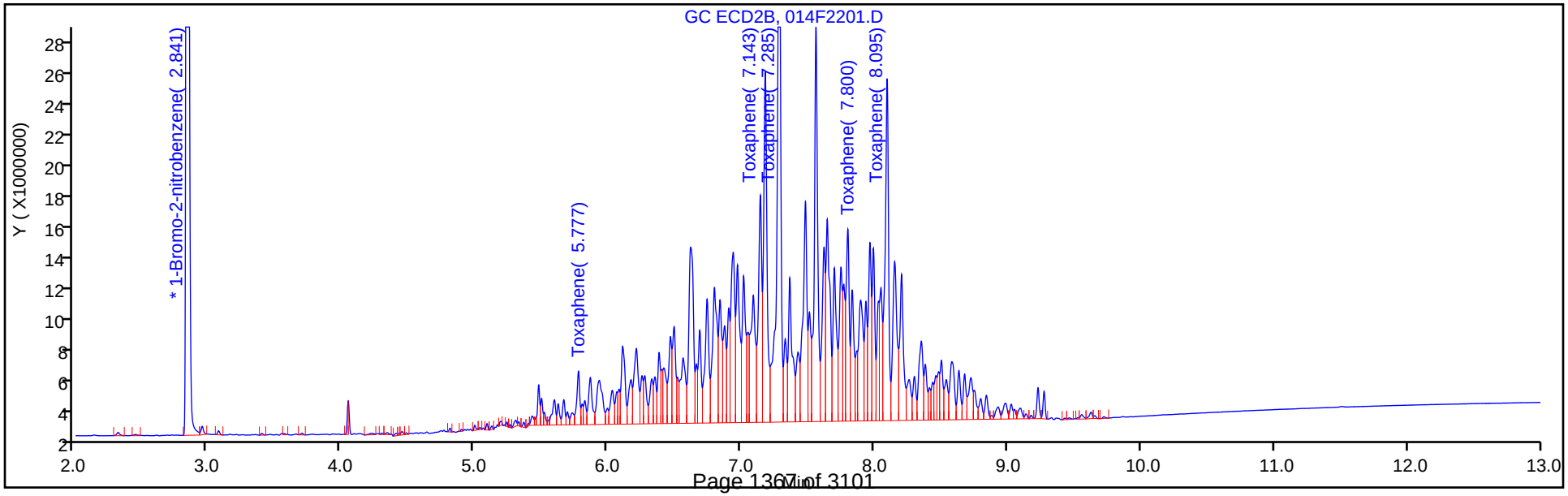
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\014F2201.D

Injection Date:	13-Oct-2018 17:03:01	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD3 TOX			Worklist Smp#:	19
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\015F2301.D
Lims ID: STD2 TOX
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 13-Oct-2018 17:20:32 ALS Bottle#: 15 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD2
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:24 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:33:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.022	3.021	0.000	1773925252	150.0	150.0	
2	2.841	2.841	0.000	187588077	150.0	150.0	
28 Toxaphene							M
1	6.244	6.246	-0.002	36757841	500.0	481.1	M
1	6.854	6.854	0.000	89263703	500.0	467.4	M
1	7.528	7.528	0.000	96759589	500.0	471.3	M
1	7.887	7.886	0.001	36941603	500.0	458.5	M
1	8.204	8.204	0.000	33168067	500.0	441.0	M
		Average of Peak Amounts =				463.8	
2	5.778	5.778	0.000	3239492	500.0	523.2	M
2	7.144	7.145	-0.001	13088271	500.0	496.7	M
2	7.284	7.286	-0.002	34980187	500.0	489.4	M
2	7.799	7.800	-0.001	9872826	500.0	488.2	M
2	8.095	8.096	-0.001	19482419	500.0	488.8	M
		Average of Peak Amounts =				497.3	
						RPD = 6.96	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081ToxL2_00021	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

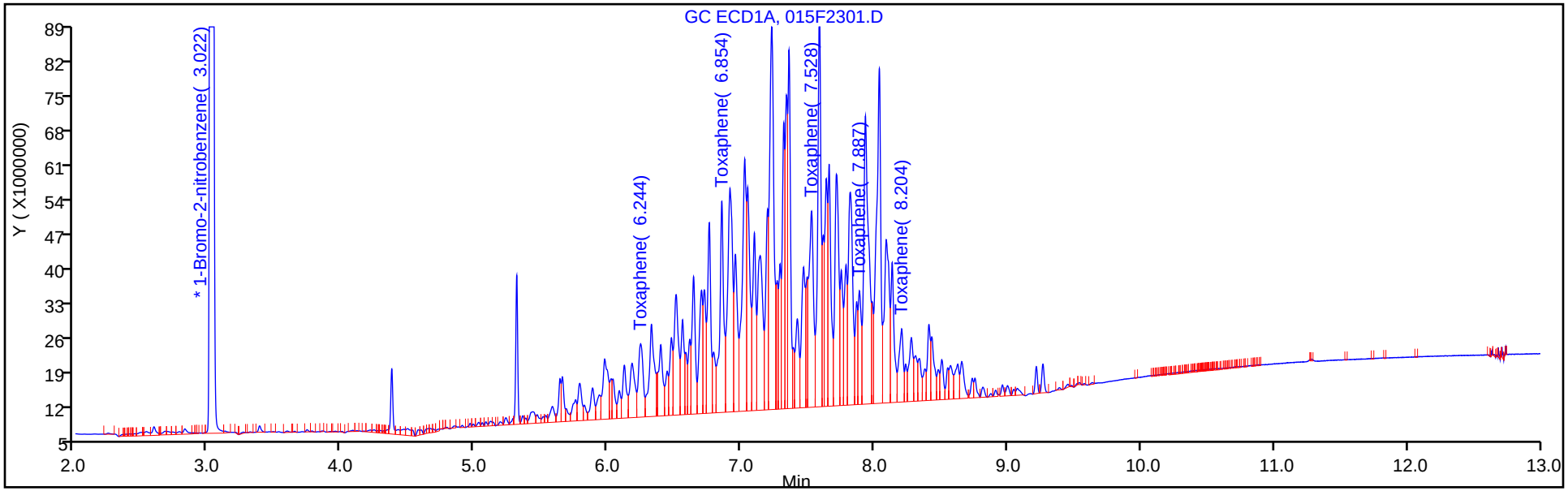
Report Date: 14-Oct-2018 22:11:26 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

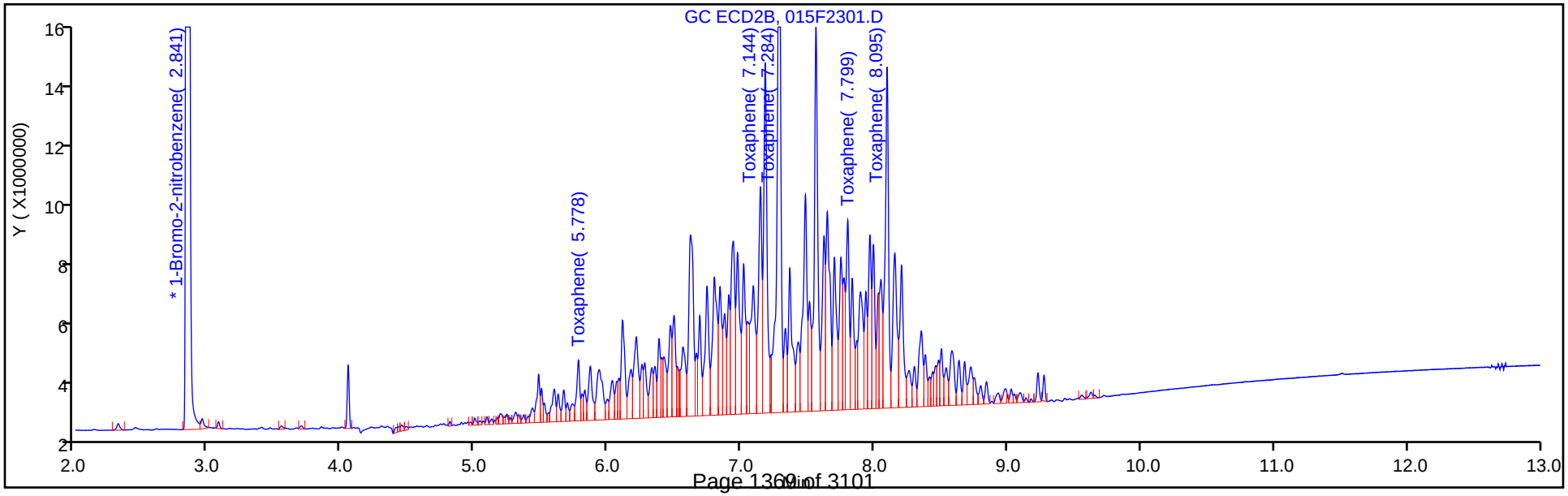
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\015F2301.D

Injection Date:	13-Oct-2018 17:20:32	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD2 TOX			Worklist Smp#:	20
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Report Date: 14-Oct-2018 22:11:26 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\015F2301.D

Injection Date: 13-Oct-2018 17:20:32 Instrument ID: SGC_P2

Lims ID: STD2 TOX

Client ID:

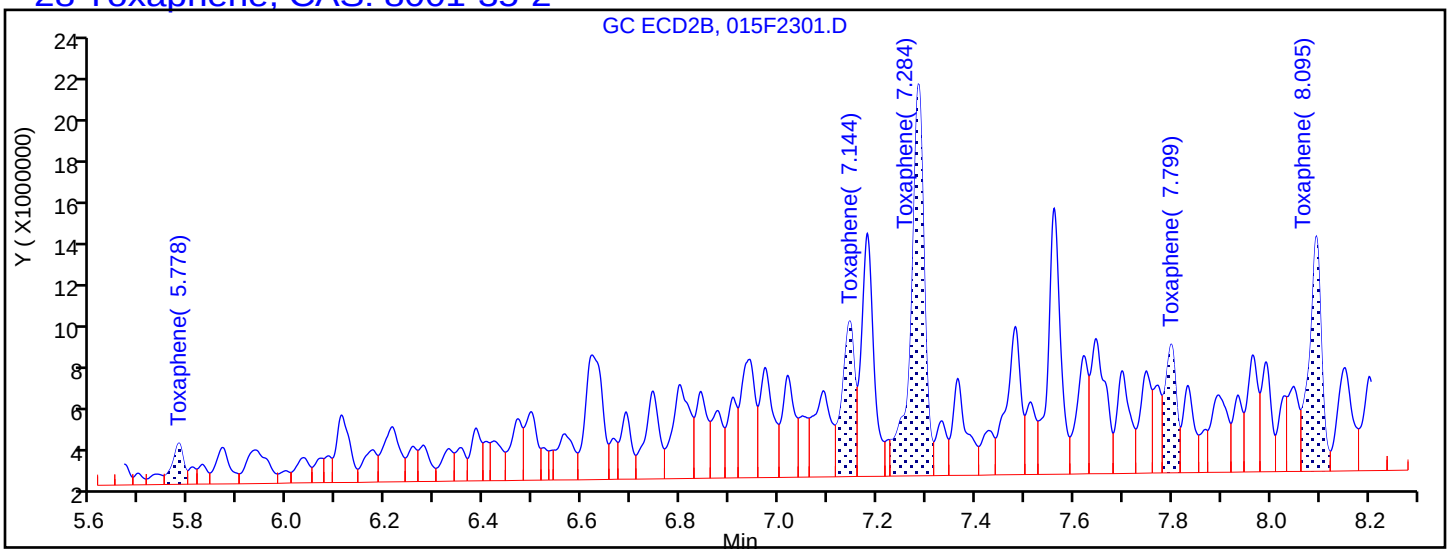
Operator ID: TEM ALS Bottle#: 15 Worklist Smp#: 20

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

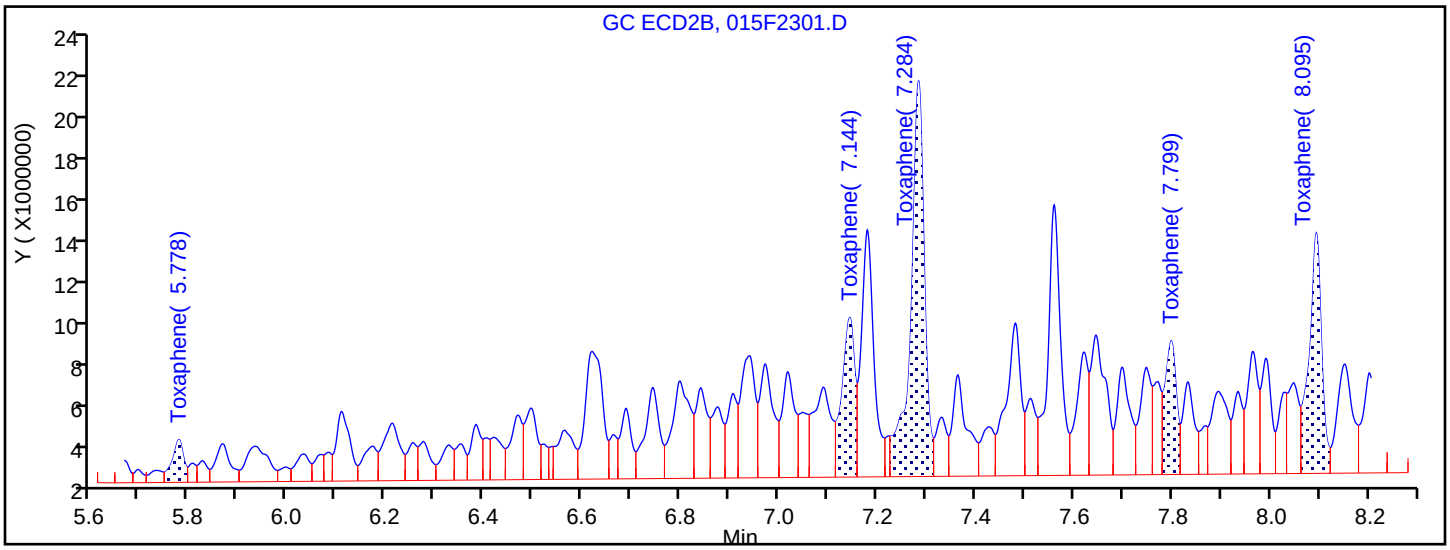
Column: CLP2 (0.32 mm) Detector GC ECD2B

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

5.778	Response = 3020122
7.144	Response = 12594706
7.284	Response = 33926133
7.799	Response = 9338992
8.095	Response = 18544525



Manual Integration Results

5.778	Response = 3239492	M
7.144	Response = 13088271	M
7.284	Response = 34980187	M
7.799	Response = 9872826	M
8.095	Response = 19482419	M

Reviewer: mooret, 14-Oct-2018 21:33:47

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\016F2401.D
Lims ID: STD1 TOX
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 13-Oct-2018 17:37:55 ALS Bottle#: 16 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD1
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:27 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:34:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.022	3.021	0.001	1720287810	150.0	150.0	
2	2.842	2.841	0.001	182087225	150.0	150.0	
28 Toxaphene							M
1	6.245	6.246	-0.001	13484316	200.0	203.4	M
1	6.854	6.854	0.000	32829722	200.0	205.8	M
1	7.528	7.528	0.000	32415828	200.0	205.6	M
1	7.887	7.886	0.001	12391302	200.0	207.2	M
1	8.204	8.204	0.000	10296721	200.0	210.3	M
		Average of Peak Amounts =				206.4	
2	5.778	5.778	0.000	1369118	200.0	198.1	M
2	7.144	7.145	-0.001	5249471	200.0	199.2	M
2	7.284	7.286	-0.002	13813356	200.0	200.0	M
2	7.800	7.800	0.000	3856571	200.0	201.6	M
2	8.095	8.096	-0.001	7701963	200.0	200.4	M
		Average of Peak Amounts =				199.8	
						RPD = 3.24	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081ToxL1_00020	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

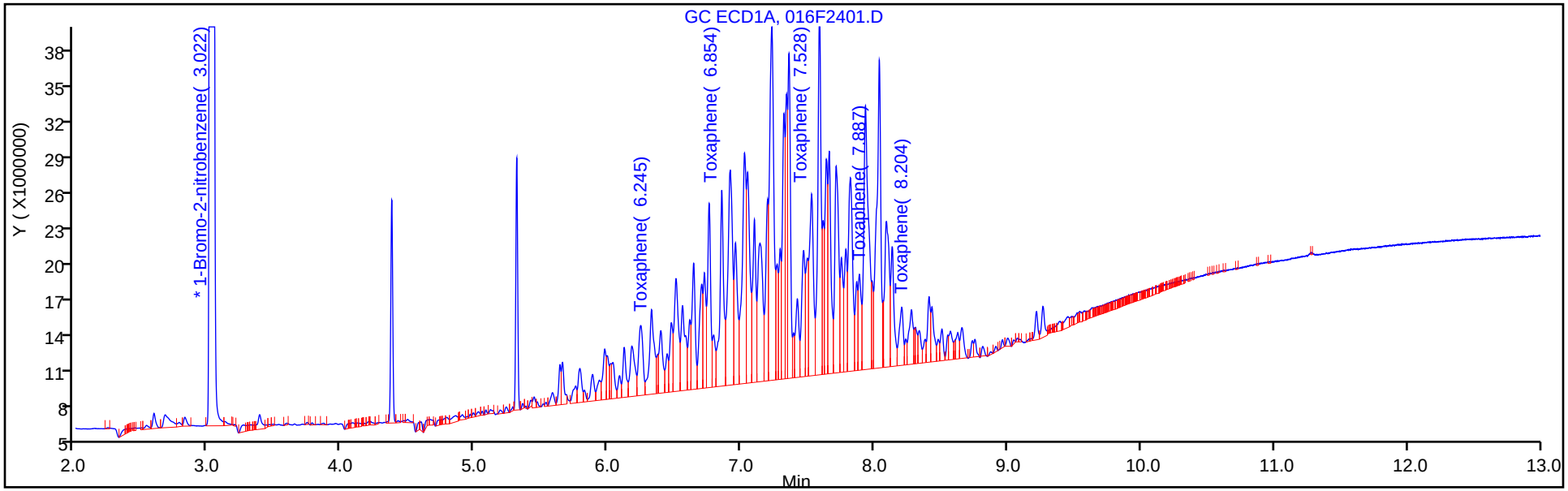
Report Date: 14-Oct-2018 22:11:29 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

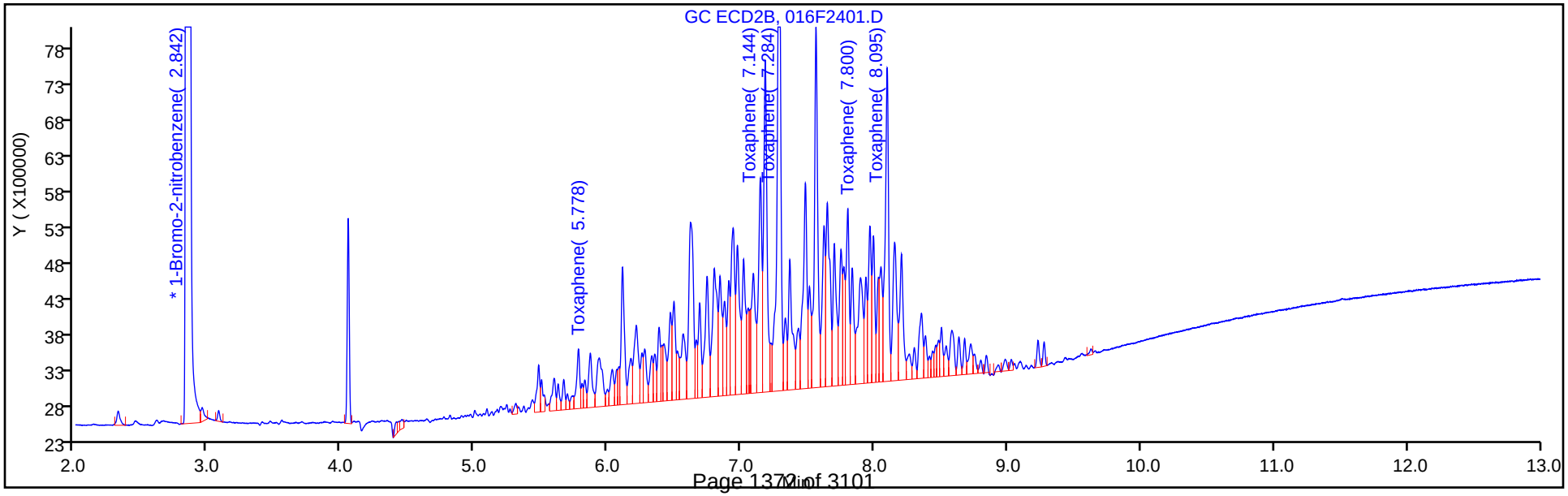
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\016F2401.D

Injection Date:	13-Oct-2018 17:37:55	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD1 TOX			Worklist Smp#:	21
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



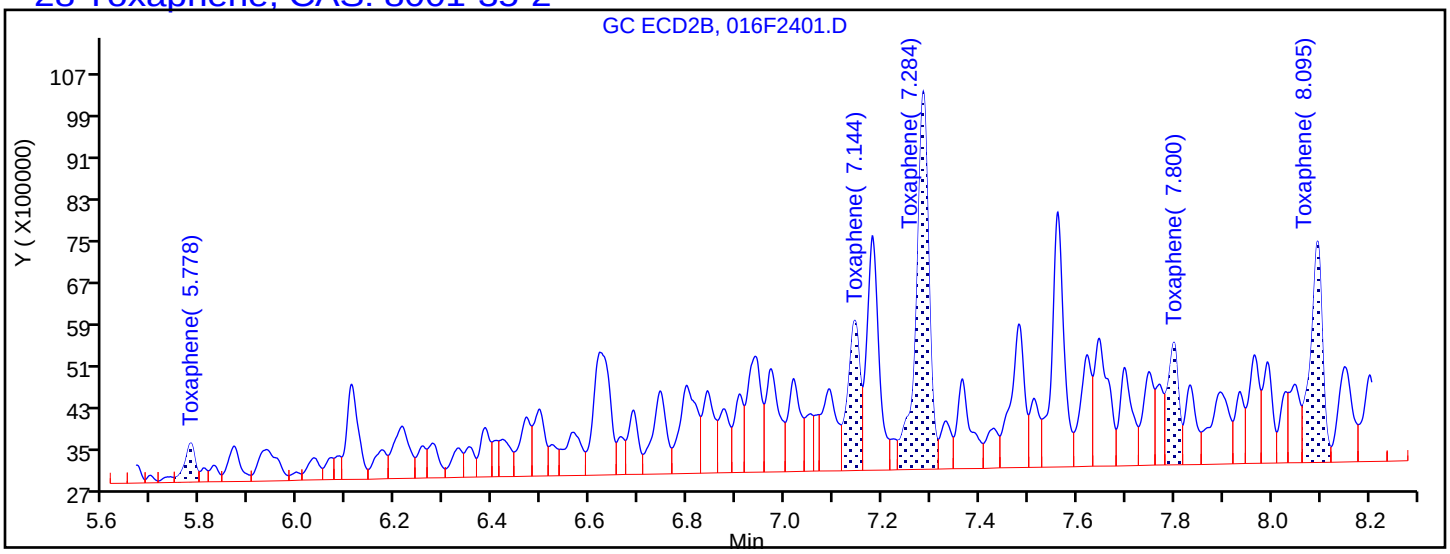
Report Date: 14-Oct-2018 22:11:29 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\016F2401.D

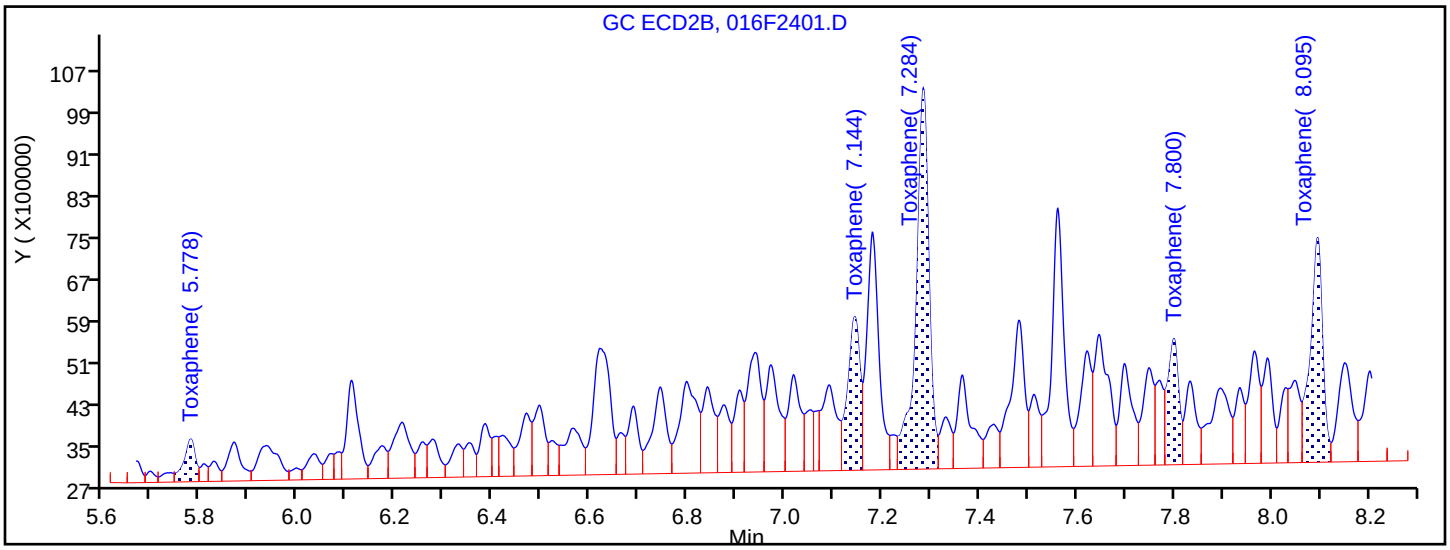
Injection Date:	13-Oct-2018 17:37:55	Instrument ID:	SGC_P2		
Lims ID:	STD1 TOX				
Client ID:					
Operator ID:	TEM	ALS Bottle#:	16	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

5.778	Response = 1148796
7.144	Response = 5058493
7.284	Response = 13437843
7.800	Response = 3687052
8.095	Response = 7436624



Manual Integration Results

5.778	Response = 1369118	M
7.144	Response = 5249471	M
7.284	Response = 13813356	M
7.800	Response = 3856571	M
8.095	Response = 7701963	M

Reviewer: mooret, 14-Oct-2018 21:34:13

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 19:22 Calibration End Date: 10/13/2018 20:49 Calibration ID: 33989

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-433303/32	027F3501.D
Level 2	STD2 280-433303/31	026F3401.D
Level 3	STD3 280-433303/30	025F3301.D
Level 4	STD4 280-433303/29	024F3201.D
Level 5	STD5 280-433303/28	023F3101.D
Level 6	STD6 280-433303/27	022F3001.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Hexachlorobenzene	1.0899 1.1788	1.0948	1.1161	1.1873	1.1486	Lin2	-0.340	1.1605							0.9990		0.9900
alpha-BHC	1.4325 1.7413	1.5151	1.5784	1.6732	1.7082	Lin2	-1.160	1.6919							0.9990		0.9900
gamma-BHC (Lindane)	1.2873 1.4841	1.3050	1.3541	1.4304	1.4566	Lin2	-0.721	1.4383							0.9980		0.9900
beta-BHC	0.6083 0.5624	0.5533	0.5269	0.5489	0.5547	Lin2	0.2347	0.5421							0.9990		0.9900
delta-BHC	1.2688 1.5059	1.3116	1.3789	1.4639	1.4777	Lin2	-0.911	1.4669							0.9990		0.9900
Heptachlor	1.1423 1.2700	1.1822	1.2288	1.2809	1.2874	Lin2	-0.584	1.2741							1.0000		0.9900
Aldrin	1.2062 1.3690	1.2570	1.3026	1.3742	1.3613	Lin2	-0.684	1.3611							0.9990		0.9900
Heptachlor epoxide	1.0838 1.1495	1.1012	1.1263	1.1655	1.1463	Lin2	-0.297	1.1502							1.0000		0.9900
gamma-Chlordane	1.1384 1.2781	1.1281	1.1791	1.2485	1.2502	Lin2	-0.520	1.2413							0.9980		0.9900
alpha-Chlordane	1.0735 1.2119	1.0963	1.1287	1.1934	1.1895	Lin2	-0.525	1.1868							0.9990		0.9900
4,4'-DDE	1.1109 1.2600	1.1411	1.1961	1.2683	1.2373	Lin2	-0.618	1.2469							0.9990		0.9900
Endosulfan I	1.0381 1.0827	1.0434	1.0691	1.1110	1.0759	Lin2	-0.222	1.0861							1.0000		0.9900
Dieldrin	1.1146 1.2115	1.1397	1.1784	1.2379	1.1993	Lin2	-0.433	1.2115							1.0000		0.9900
Endrin	0.9402 1.0666	0.9630	1.0117	1.0737	1.0470	Lin2	-0.524	1.0549							0.9990		0.9900
4,4'-DDD	0.8803 1.0077	0.8683	0.9102	0.9844	0.9556	Lin2	-0.439	0.9661							0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 19:22 Calibration End Date: 10/13/2018 20:49 Calibration ID: 33989

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Endosulfan II	0.9353 0.9815	0.9307	0.9610	1.0302	0.9720	Lin2	-0.252	0.9867							0.9990		0.9900
4,4'-DDT	0.7293 0.8991	0.7495	0.8019	0.8780	0.8772	Lin2	-0.663	0.8704							0.9970		0.9900
Endrin aldehyde	0.7328 0.7638	0.7096	0.7263	0.7800	0.7505	Lin2	-0.135	0.7536							0.9990		0.9900
Methoxychlor	0.3876 0.3901	0.3754	0.3827	0.4082	0.3892	Lin2	-0.035	0.3914							0.9990		0.9900
Endosulfan sulfate	0.8217 0.8872	0.8075	0.8371	0.9081	0.8647	Lin2	-0.276	0.8743							0.9980		0.9900
Endrin ketone	0.8782 0.9231	0.8495	0.8861	0.9671	0.9038	Lin2	-0.230	0.9179							0.9980		0.9900
Tetrachloro-m-xylene	1.0173 1.1251	1.0386	1.0634	1.1370	1.0977	Lin2	-0.428	1.1107							0.9990		0.9900
DCB Decachlorobiphenyl	0.6003 0.5770	0.5495	0.5594	0.5991	0.5570	Lin2	0.0911	0.5671							0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 19:22 Calibration End Date: 10/13/2018 20:49 Calibration ID: 33989

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-433303/32	027F3501.D
Level 2	STD2 280-433303/31	026F3401.D
Level 3	STD3 280-433303/30	025F3301.D
Level 4	STD4 280-433303/29	024F3201.D
Level 5	STD5 280-433303/28	023F3101.D
Level 6	STD6 280-433303/27	022F3001.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Hexachlorobenzene	BNB	Lin2	47816993 1380707359	126156548	317851410	649000706	1019295562	4.00 100	10.0	25.0	50.0	75.0
alpha-BHC	BNB	Lin2	62852215 2039469973	174586944	449507972	914630685	1515867171	4.00 100	10.0	25.0	50.0	75.0
gamma-BHC (Lindane)	BNB	Lin2	56481667 1738294623	150377013	385635283	781888254	1292559350	4.00 100	10.0	25.0	50.0	75.0
beta-BHC	BNB	Lin2	26687989 658730126	63756954	150050051	300049327	492255043	4.00 100	10.0	25.0	50.0	75.0
delta-BHC	BNB	Lin2	55669358 1763800464	151129545	392697114	800211131	1311307456	4.00 100	10.0	25.0	50.0	75.0
Heptachlor	BNB	Lin2	50118465 1487484474	136220069	349955154	700142171	1142416982	4.00 100	10.0	25.0	50.0	75.0
Aldrin	BNB	Lin2	52919960 1603385174	144846582	370973392	751162048	1208042264	4.00 100	10.0	25.0	50.0	75.0
Heptachlor epoxide	BNB	Lin2	47553101 1346353314	126886425	320747071	637075296	1017236841	4.00 100	10.0	25.0	50.0	75.0
gamma-Chlordane	BNB	Lin2	49944652 1496975406	129991480	335790425	682439750	1109387779	4.00 100	10.0	25.0	50.0	75.0
alpha-Chlordane	BNB	Lin2	47100490 1419377556	126327949	321433079	652320568	1055599184	4.00 100	10.0	25.0	50.0	75.0
4,4'-DDE	BNB	Lin2	48738148 1475769541	131488025	340651862	693292530	1097991084	4.00 100	10.0	25.0	50.0	75.0
Endosulfan I	BNB	Lin2	45543940 1268053177	120234528	304465713	607276774	954735604	4.00 100	10.0	25.0	50.0	75.0
Dieldrin	BNB	Lin2	48904591 1418985077	131325618	335595524	676681392	1064216521	4.00 100	10.0	25.0	50.0	75.0
Endrin	BNB	Lin2	41251930 1249259754	110965652	288123020	586918822	929144470	4.00 100	10.0	25.0	50.0	75.0
4,4'-DDD	BNB	Lin2	38622027 1180309263	100049743	259223669	538092520	848012397	4.00 100	10.0	25.0	50.0	75.0
Endosulfan II	BNB	Lin2	41034933 1149629449	107239359	273685389	563151672	862538061	4.00 100	10.0	25.0	50.0	75.0

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 19:22 Calibration End Date: 10/13/2018 20:49 Calibration ID: 33989

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
4,4'-DDT	BNB	Lin2	31997998 1053113637	86360678	228369137	479927441	778459968	4.00 100	10.0	25.0	50.0	75.0
Endrin aldehyde	BNB	Lin2	32150414 894620553	81761942	206854248	426357889	665966546	4.00 100	10.0	25.0	50.0	75.0
Methoxychlor	BNB	Lin2	17004835 456885819	43260093	108979408	223151920	345420332	4.00 100	10.0	25.0	50.0	75.0
Endosulfan sulfate	BNB	Lin2	36051087 1039104153	93045319	238398480	496366994	767321325	4.00 100	10.0	25.0	50.0	75.0
Endrin ketone	BNB	Lin2	38530653 1081196479	97881347	252349419	528619675	802034011	4.00 100	10.0	25.0	50.0	75.0
Tetrachloro-m-xylene	BNB	Lin2	44633037 1317820866	119672981	302832702	621494359	974117175	4.00 100	10.0	25.0	50.0	75.0
DCB Decachlorobiphenyl	BNB	Lin2	26336210 675825077	63321098	159322167	327463502	494311523	4.00 100	10.0	25.0	50.0	75.0

Curve Type Legend:
Lin2 = Linear 1/conc^2 ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\022F3001.D
Lims ID: STD6 AB
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 13-Oct-2018 19:22:28 ALS Bottle#: 22 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD6 AB
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:46 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:21:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						413.9	
2						393.8	
						RPD = 4.96	
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.023	-0.002	1756870840	150.0	150.0	
2	2.840	2.842	-0.002	195021437	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.921	3.919	0.002	1317820866	100.0	101.7	
2	3.823	3.823	0.000	151651222	100.0	96.2	
						RPD = 5.52	
5 Hexachlorobenzene							
1	4.327	4.326	0.001	1380707359	100.0	101.9	
2	4.302	4.302	0.000	160717643	100.0	96.5	
						RPD = 5.38	
8 alpha-BHC							
1	4.498	4.497	0.001	2039469973	100.0	103.6	
2	4.447	4.448	-0.001	213039488	100.0	98.9	
						RPD = 4.64	
9 gamma-BHC (Lindane)							
1	4.787	4.785	0.002	1738294623	100.0	103.7	
2	4.762	4.761	0.001	184996515	100.0	98.6	
						RPD = 4.99	
10 beta-BHC							
1	4.863	4.862	0.001	658730126	100.0	103.3	
2	4.837	4.837	0.000	77780555	100.0	97.6	
						RPD = 5.72	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.012	5.010	0.002	1763800464	100.0	103.3	
2	5.070	5.069	0.001	187730350	100.0	98.7	
						RPD = 4.51	
15 Heptachlor							
1	5.188	5.187	0.001	1487484474	100.0	100.1	
2	5.112	5.112	0.000	157743006	100.0	97.5	
						RPD = 2.69	
16 Aldrin							
1	5.458	5.457	0.001	1603385174	100.0	101.1	
2	5.384	5.383	0.001	171135300	100.0	98.1	
						RPD = 3.03	
18 Isodrin							
1	5.785	5.783	0.002	1276942983	100.0	101.0	
2	5.749	5.749	0.000	144685541	100.0	97.8	
						RPD = 3.17	
21 Heptachlor epoxide							
1	6.073	6.072	0.001	1346353314	100.0	100.2	
2	5.932	5.931	0.001	153345134	100.0	96.9	
						RPD = 3.39	
22 trans-Chlordane							
1	6.204	6.204	0.000	1496975406	100.0	103.4	
2	6.131	6.130	0.001	163709394	100.0	98.3	
						RPD = 5.07	
23 cis-Chlordane							
1	6.346	6.344	0.002	1419377556	100.0	102.6	
2	6.287	6.286	0.001	154077138	100.0	97.9	
						RPD = 4.60	
24 4,4'-DDE							
1	6.422	6.421	0.001	1475769541	100.0	101.5	
2	6.470	6.469	0.001	160552956	100.0	97.9	
						RPD = 3.65	
25 Endosulfan I							
1	6.495	6.494	0.001	1268053177	100.0	99.9	
2	6.347	6.346	0.001	144373306	100.0	96.8	
						RPD = 3.18	
27 Dieldrin							
1	6.750	6.748	0.002	1418985077	100.0	100.4	
2	6.640	6.639	0.001	161178584	100.0	97.7	
						RPD = 2.73	
30 Endrin							
1	6.998	6.997	0.001	1249259754	100.0	101.6	
2	6.964	6.963	0.001	142775347	100.0	97.9	
						RPD = 3.71	
32 4,4'-DDD							
1	7.059	7.058	0.001	1180309263	100.0	104.8	
2	7.089	7.089	0.000	131149227	100.0	98.3	
						RPD = 6.34	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.235	7.234	0.001	1149629449	100.0	99.7	
2	7.191	7.190	0.001	134900820	100.0	95.9	
						RPD = 3.88	
35 4,4'-DDT							
1	7.353	7.352	0.001	1053113637	100.0	104.1	
2	7.420	7.419	0.001	115525218	100.0	99.4	
						RPD = 4.57	
36 Endrin aldehyde							
1	7.680	7.679	0.001	894620553	100.0	101.5	
2	7.551	7.550	0.001	109276534	100.0	96.9	
						RPD = 4.65	
37 Methoxychlor							
1	7.857	7.857	0.000	456885819	100.0	99.8	
2	8.151	8.150	0.001	54922574	100.0	96.4	
						RPD = 3.44	
38 Mirex							
1	8.017	8.016	0.001	761678556	100.0	103.8	
2	8.346	8.344	0.002	90852521	100.0	95.7	
						RPD = 8.10	
39 Endosulfan sulfate							
1	8.138	8.138	0.000	1039104153	100.0	101.8	
2	7.842	7.841	0.001	124525276	100.0	96.7	
						RPD = 5.17	
40 Endrin ketone							
1	8.431	8.429	0.002	1081196479	100.0	100.8	
2	8.398	8.396	0.002	136381981	100.0	96.1	
						RPD = 4.74	
$ 41 DCB Decachlorobiphenyl							
1	9.447	9.446	0.001	675825077	100.0	101.6	
2	9.669	9.668	0.001	88747472	100.0	95.6	
						RPD = 6.08	
S 3 Endosulfan, Total							
1						301.4	
2						289.4	
						RPD = 4.08	

Reagents:

8081IcalL6_00025	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

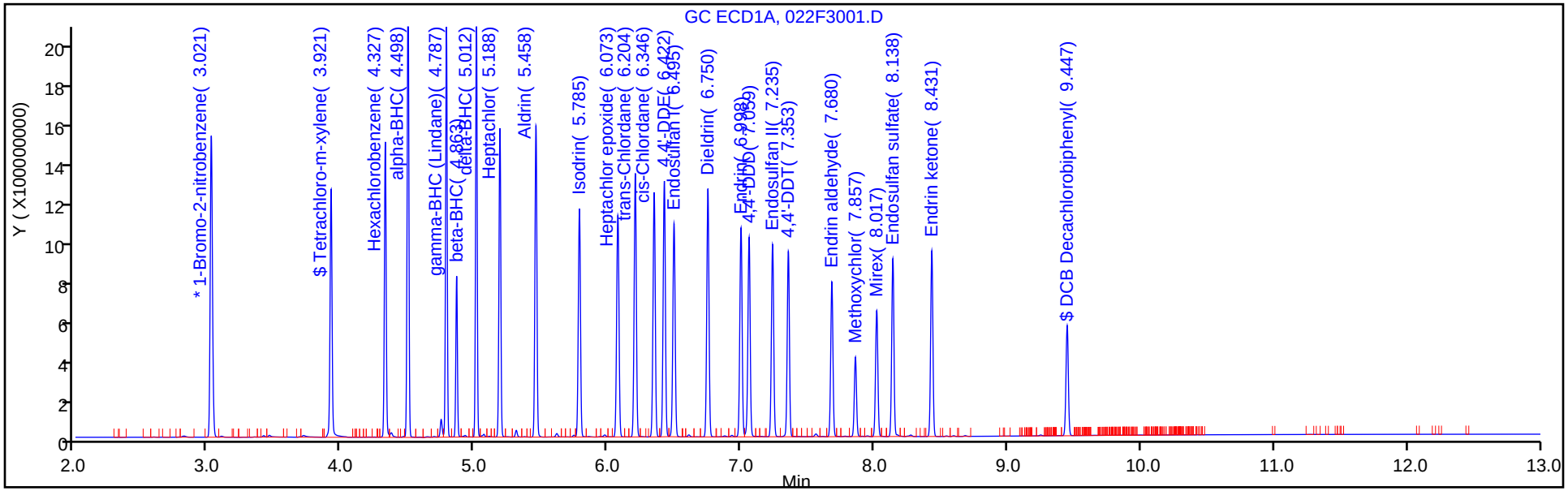
Report Date: 14-Oct-2018 22:11:48 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

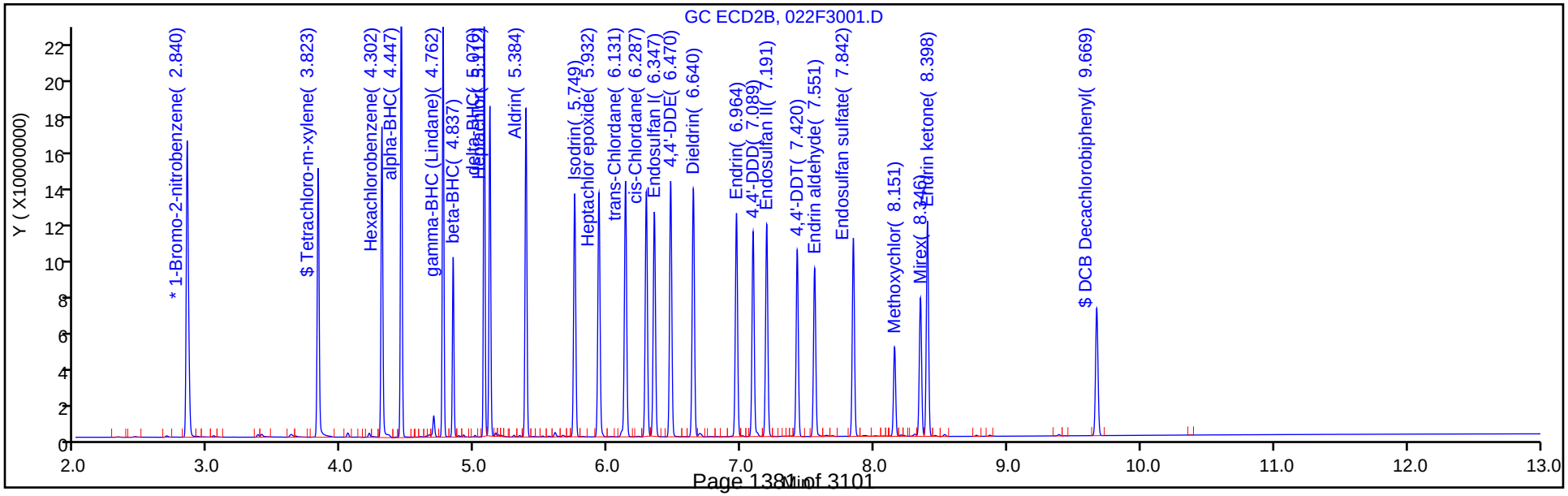
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\022F3001.D

Injection Date:	13-Oct-2018 19:22:28	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD6 AB			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\023F3101.D
Lims ID: STD5 AB
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 13-Oct-2018 19:39:58 ALS Bottle#: 23 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD5
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:49 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						305.3	
2						297.4	
						RPD = 2.65	
* 2 1-Bromo-2-nitrobenzene							
1	3.020	3.023	-0.002	1774800139	150.0	150.0	
2	2.840	2.842	-0.002	196975139	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.920	3.919	0.001	974117175	75.0	74.5	
2	3.823	3.823	0.000	115355955	75.0	72.3	
						RPD = 2.99	
5 Hexachlorobenzene							
1	4.328	4.326	0.002	1019295562	75.0	74.5	
2	4.302	4.302	0.000	120451736	75.0	71.5	
						RPD = 4.17	
8 alpha-BHC							
1	4.498	4.497	0.001	1515867171	75.0	76.4	
2	4.448	4.448	0.000	162579162	75.0	74.7	
						RPD = 2.33	
9 gamma-BHC (Lindane)							
1	4.786	4.785	0.001	1292559350	75.0	76.5	
2	4.761	4.761	0.000	141300627	75.0	74.5	
						RPD = 2.52	
10 beta-BHC							
1	4.862	4.862	0.000	492255043	75.0	76.3	
2	4.837	4.837	0.000	59596054	75.0	73.8	
						RPD = 3.31	
12 delta-BHC							
1	5.011	5.010	0.001	1311307456	75.0	76.2	
2	5.070	5.069	0.001	142822500	75.0	74.3	
						RPD = 2.45	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
15 Heptachlor							
1	5.188	5.187	0.001	1142416982	75.0	76.2	
2	5.113	5.112	0.001	122155556	75.0	74.7	
						RPD = 2.10	
16 Aldrin							
1	5.458	5.457	0.001	1208042264	75.0	75.5	
2	5.384	5.383	0.001	130679943	75.0	74.1	
						RPD = 1.93	
18 Isodrin							
1	5.785	5.783	0.002	961672330	75.0	75.3	
2	5.750	5.749	0.001	109763292	75.0	73.3	
						RPD = 2.72	
21 Heptachlor epoxide							
1	6.074	6.072	0.002	1017236841	75.0	75.0	
2	5.932	5.931	0.001	117794987	75.0	73.5	
						RPD = 1.98	
22 trans-Chlordane							
1	6.205	6.204	0.001	1109387779	75.0	76.0	
2	6.131	6.130	0.001	123500639	75.0	73.3	
						RPD = 3.54	
23 cis-Chlordane							
1	6.346	6.344	0.002	1055599184	75.0	75.6	
2	6.288	6.286	0.002	116906799	75.0	73.4	
						RPD = 2.90	
24 4,4'-DDE							
1	6.422	6.421	0.001	1097991084	75.0	74.9	
2	6.470	6.469	0.001	121439906	75.0	73.3	
						RPD = 2.23	
25 Endosulfan I							
1	6.495	6.494	0.001	954735604	75.0	74.5	
2	6.348	6.346	0.002	110310449	75.0	73.0	
						RPD = 1.99	
27 Dieldrin							
1	6.750	6.748	0.002	1064216521	75.0	74.6	
2	6.640	6.639	0.001	122303746	75.0	73.3	
						RPD = 1.77	
30 Endrin							
1	6.998	6.997	0.001	929144470	75.0	74.9	
2	6.965	6.963	0.002	108615513	75.0	73.7	
						RPD = 1.66	
32 4,4'-DDD							
1	7.059	7.058	0.001	848012397	75.0	74.6	
2	7.090	7.089	0.001	98409444	75.0	73.0	
						RPD = 2.25	
34 Endosulfan II							
1	7.235	7.234	0.001	862538061	75.0	74.1	
2	7.191	7.190	0.001	103131602	75.0	72.4	
						RPD = 2.33	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
35 4,4'-DDT							
1	7.353	7.352	0.001	778459968	75.0	76.4	
2	7.420	7.419	0.001	88104638	75.0	75.1	
						RPD = 1.66	
36 Endrin aldehyde							
1	7.680	7.679	0.001	665966546	75.0	74.9	
2	7.551	7.550	0.001	82965198	75.0	72.7	
						RPD = 2.96	
37 Methoxychlor							
1	7.857	7.857	0.000	345420332	75.0	74.7	
2	8.151	8.150	0.001	42337805	75.0	73.5	
						RPD = 1.63	
38 Mirex							
1	8.016	8.016	0.000	537010702	75.0	72.4	
2	8.345	8.344	0.001	69265800	75.0	71.9	
						RPD = 0.66	
39 Endosulfan sulfate							
1	8.138	8.138	0.000	767321325	75.0	74.5	
2	7.843	7.841	0.002	94443160	75.0	72.4	
						RPD = 2.83	
40 Endrin ketone							
1	8.430	8.429	0.001	802034011	75.0	74.1	
2	8.398	8.396	0.002	103818155	75.0	72.3	
						RPD = 2.42	
$ 41 DCB Decachlorobiphenyl							
1	9.446	9.446	0.000	494311523	75.0	73.5	
2	9.669	9.668	0.001	67193439	75.0	71.4	
						RPD = 2.91	
S 3 Endosulfan, Total							
1						223.1	
2						217.9	
						RPD = 2.38	

Reagents:

8081IcalL5_00026	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

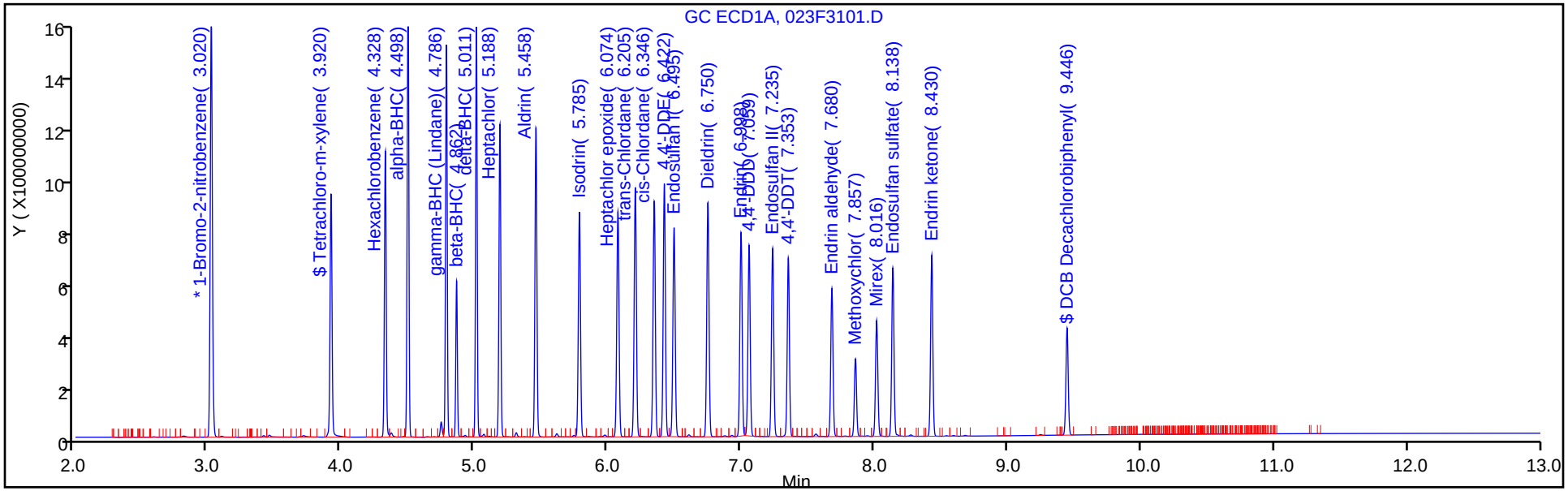
Report Date: 14-Oct-2018 22:11:51 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

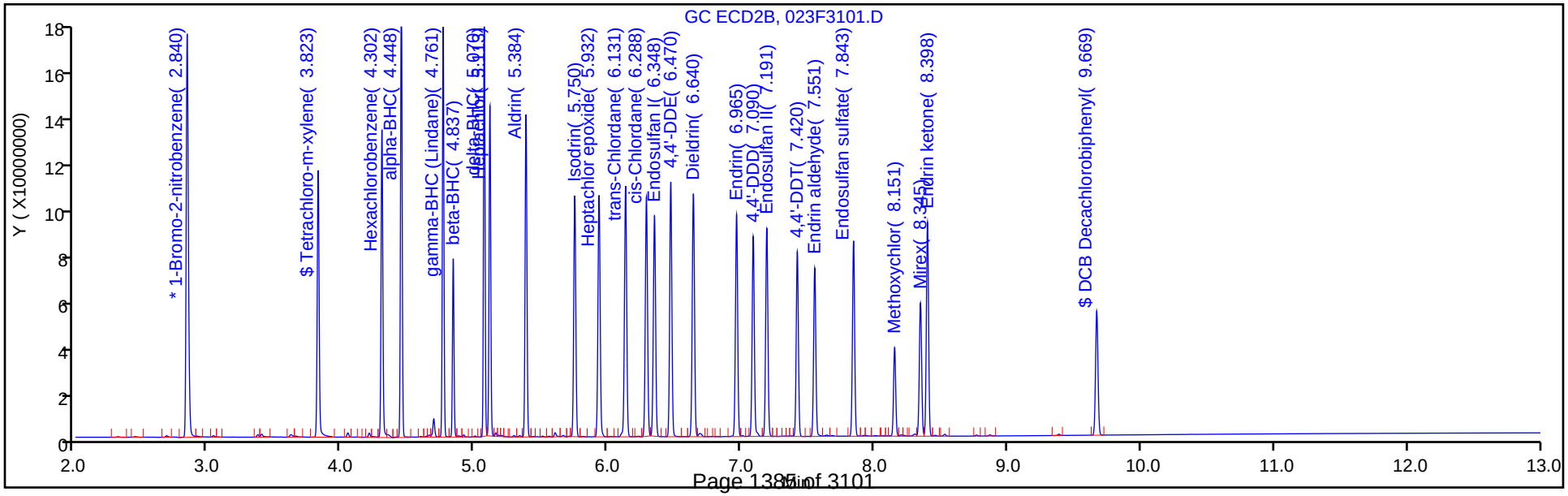
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\023F3101.D

Injection Date:	13-Oct-2018 19:39:58	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD5 AB			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\024F3201.D
Lims ID: STD4 AB
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 13-Oct-2018 19:57:23 ALS Bottle#: 24 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD4
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:53 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:15:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.019	3.019	0.000	1639866372	150.0	150.0	
2	2.839	2.839	0.000	184249474	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.919	3.919	0.000	621494359	50.0	51.6	
2	3.823	3.823	0.000	77802319	50.0	52.0	
						RPD = 0.76	
5 Hexachlorobenzene							
1	4.326	4.326	0.000	649000706	50.0	51.4	
2	4.302	4.302	0.000	82080999	50.0	51.9	
						RPD = 0.91	
8 alpha-BHC							
1	4.497	4.497	0.000	914630685	50.0	50.1	
2	4.448	4.448	0.000	102825287	50.0	50.4	
						RPD = 0.46	
9 gamma-BHC (Lindane)							
1	4.785	4.785	0.000	781888254	50.0	50.2	
2	4.761	4.761	0.000	89108339	50.0	50.2	
						RPD = 0.06	
10 beta-BHC							
1	4.862	4.862	0.000	300049327	50.0	50.2	
2	4.837	4.837	0.000	38193156	50.0	50.3	
						RPD = 0.27	
12 delta-BHC							
1	5.010	5.010	0.000	800211131	50.0	50.5	
2	5.069	5.069	0.000	90510020	50.0	50.3	
						RPD = 0.39	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
15 Heptachlor							
1	5.187	5.187	0.000	700142171	50.0	50.7	
2	5.112	5.112	0.000	76652553	50.0	50.0	
						RPD = 1.50	
16 Aldrin							
1	5.457	5.457	0.000	751162048	50.0	51.0	
2	5.383	5.383	0.000	83229214	50.0	50.3	
						RPD = 1.26	
18 Isodrin							
1	5.783	5.783	0.000	601057788	50.0	51.1	
2	5.749	5.749	0.000	70720524	50.0	50.3	
						RPD = 1.47	
21 Heptachlor epoxide							
1	6.072	6.072	0.000	637075296	50.0	50.9	
2	5.931	5.931	0.000	75919068	50.0	50.5	
						RPD = 0.86	
22 trans-Chlordane							
1	6.204	6.204	0.000	682439750	50.0	50.7	
2	6.130	6.130	0.000	79344564	50.0	50.2	
						RPD = 0.91	
23 cis-Chlordane							
1	6.344	6.344	0.000	652320568	50.0	50.7	
2	6.286	6.286	0.000	75318619	50.0	50.4	
						RPD = 0.57	
24 4,4'-DDE							
1	6.421	6.421	0.000	693292530	50.0	51.4	
2	6.469	6.469	0.000	79191054	50.0	51.0	
						RPD = 0.68	
25 Endosulfan I							
1	6.494	6.494	0.000	607276774	50.0	51.4	
2	6.346	6.346	0.000	71761841	50.0	50.6	
						RPD = 1.49	
27 Dieldrin							
1	6.748	6.748	0.000	676681392	50.0	51.4	
2	6.639	6.639	0.000	79630835	50.0	50.9	
						RPD = 1.01	
30 Endrin							
1	6.997	6.997	0.000	586918822	50.0	51.4	
2	6.963	6.963	0.000	70123187	50.0	50.8	
						RPD = 1.13	
32 4,4'-DDD							
1	7.058	7.058	0.000	538092520	50.0	51.4	
2	7.089	7.089	0.000	64688838	50.0	51.2	
						RPD = 0.39	
34 Endosulfan II							
1	7.234	7.234	0.000	563151672	50.0	52.5	
2	7.190	7.190	0.000	69296907	50.0	51.8	
						RPD = 1.25	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
35 4,4'-DDT							
1	7.352	7.352	0.000	479927441	50.0	51.2	
2	7.419	7.419	0.000	55899373	50.0	51.0	
						RPD = 0.42	
36 Endrin aldehyde							
1	7.679	7.679	0.000	426357889	50.0	51.9	
2	7.550	7.550	0.000	55206907	50.0	51.5	
						RPD = 0.80	
37 Methoxychlor							
1	7.857	7.857	0.000	223151920	50.0	52.2	
2	8.150	8.150	0.000	27972236	50.0	51.8	
						RPD = 0.89	
38 Mirex							
1	8.016	8.016	0.000	349932979	50.0	51.1	
2	8.344	8.344	0.000	46808816	50.0	51.7	
						RPD = 1.13	
39 Endosulfan sulfate							
1	8.138	8.138	0.000	496366994	50.0	52.2	
2	7.841	7.841	0.000	63414174	50.0	51.8	
						RPD = 0.87	
40 Endrin ketone							
1	8.429	8.429	0.000	528619675	50.0	52.9	
2	8.396	8.396	0.000	70279476	50.0	52.2	
						RPD = 1.42	
$ 41 DCB Decachlorobiphenyl							
1	9.446	9.446	0.000	327463502	50.0	52.7	
2	9.668	9.668	0.000	46374378	50.0	52.4	
						RPD = 0.46	

Reagents:

8081IcalL4_00031	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

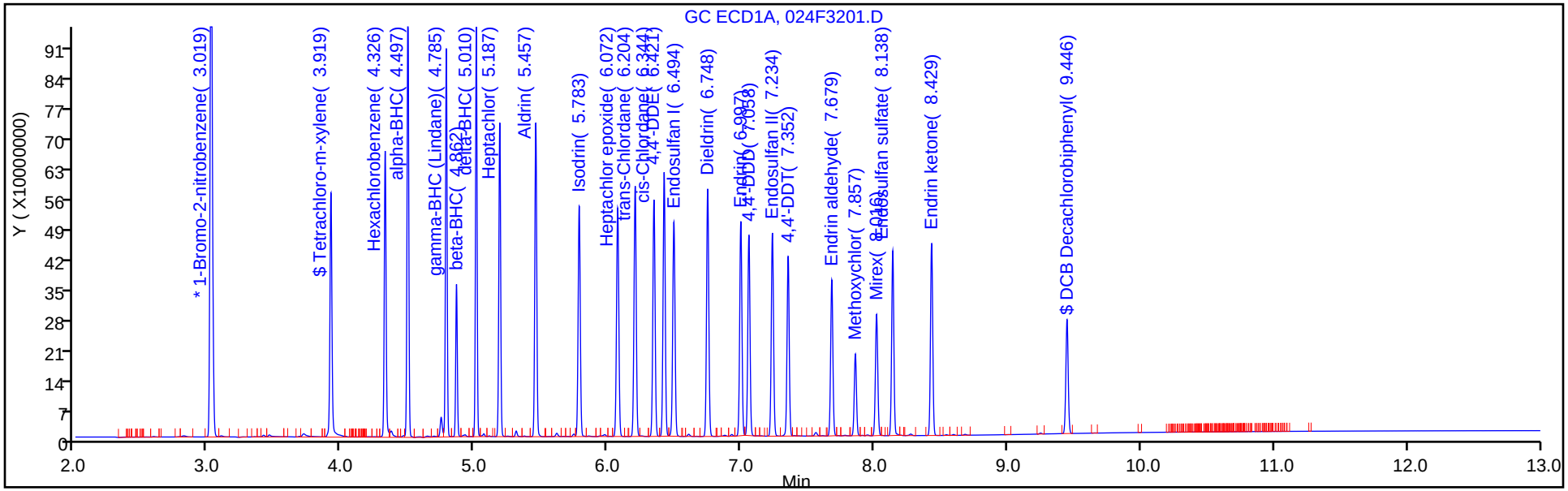
Report Date: 14-Oct-2018 22:11:55 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

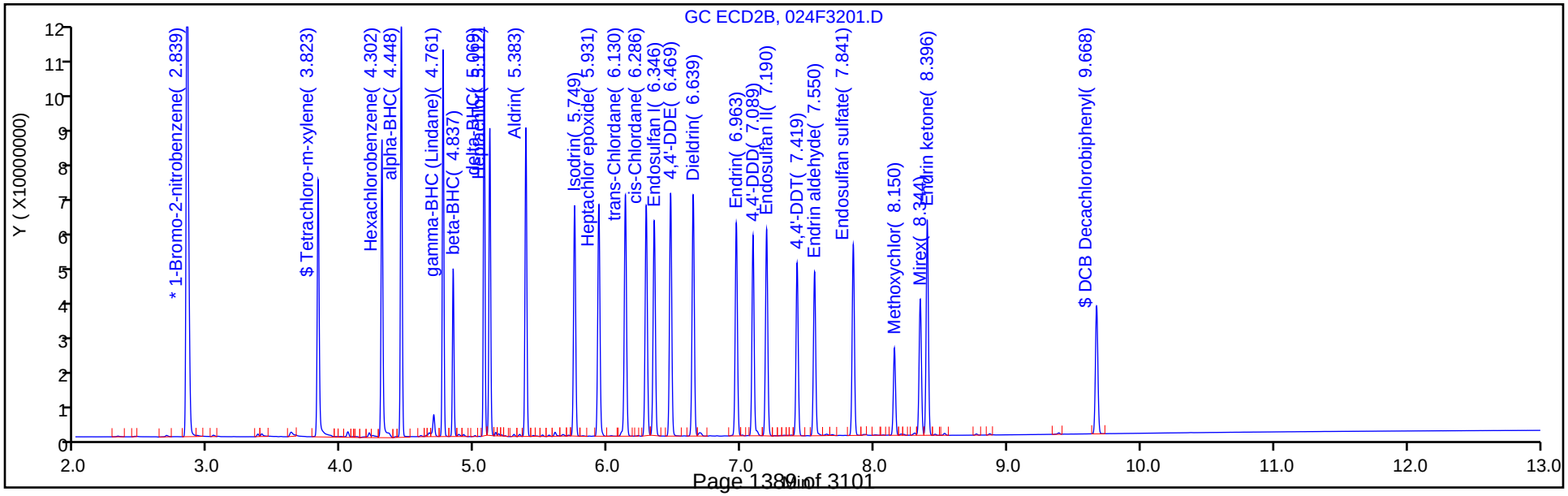
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\024F3201.D

Injection Date:	13-Oct-2018 19:57:23	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD4 AB			Worklist Smp#:	29
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\025F3301.D
Lims ID: STD3 AB
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 13-Oct-2018 20:14:49 ALS Bottle#: 25 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD3
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:56 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:17:21

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						96.0	
2						100.5	
						RPD = 4.51	
* 2 1-Bromo-2-nitrobenzene							
1	3.020	3.019	0.001	1708743357	150.0	150.0	
2	2.839	2.839	0.000	189250238	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.919	3.919	0.000	302832702	25.0	24.3	
2	3.823	3.823	0.000	39633690	25.0	25.4	
						RPD = 4.54	
5 Hexachlorobenzene							
1	4.326	4.326	0.000	317851410	25.0	24.3	
2	4.301	4.302	-0.001	42722842	25.0	26.0	
						RPD = 6.71	
8 alpha-BHC							
1	4.497	4.497	0.000	449507972	25.0	24.0	
2	4.447	4.448	-0.001	52885133	25.0	25.1	
						RPD = 4.26	
9 gamma-BHC (Lindane)							
1	4.785	4.785	0.000	385635283	25.0	24.0	
2	4.761	4.761	0.000	45850109	25.0	25.1	
						RPD = 4.13	
10 beta-BHC							
1	4.862	4.862	0.000	150050051	25.0	23.9	
2	4.836	4.837	-0.001	19996794	25.0	25.3	
						RPD = 5.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.010	5.010	0.000	392697114	25.0	24.1	
2	5.069	5.069	0.000	46474767	25.0	25.1	
						RPD = 3.96	
15 Heptachlor							
1	5.187	5.187	0.000	349955154	25.0	24.6	
2	5.111	5.112	-0.001	40161455	25.0	25.3	
						RPD = 3.00	
16 Aldrin							
1	5.457	5.457	0.000	370973392	25.0	24.4	
2	5.383	5.383	0.000	42909032	25.0	25.1	
						RPD = 2.83	
18 Isodrin							
1	5.783	5.783	0.000	298789524	25.0	24.5	
2	5.748	5.749	-0.001	36890552	25.0	25.3	
						RPD = 3.01	
21 Heptachlor epoxide							
1	6.073	6.072	0.001	320747071	25.0	24.7	
2	5.930	5.931	-0.001	39660540	25.0	25.4	
						RPD = 2.64	
22 trans-Chlordane							
1	6.203	6.204	-0.001	335790425	25.0	24.2	
2	6.129	6.130	-0.001	41653596	25.0	25.5	
						RPD = 5.41	
23 cis-Chlordane							
1	6.344	6.344	0.000	321433079	25.0	24.2	
2	6.285	6.286	-0.001	39100281	25.0	25.2	
						RPD = 4.13	
24 4,4'-DDE							
1	6.421	6.421	0.000	340651862	25.0	24.5	
2	6.469	6.469	0.000	40427222	25.0	25.2	
						RPD = 3.05	
25 Endosulfan I							
1	6.494	6.494	0.000	304465713	25.0	24.8	
2	6.346	6.346	0.000	37660075	25.0	25.5	
						RPD = 2.80	
27 Dieldrin							
1	6.748	6.748	0.000	335595524	25.0	24.7	
2	6.638	6.639	-0.001	40874216	25.0	25.3	
						RPD = 2.54	
30 Endrin							
1	6.997	6.997	0.000	288123020	25.0	24.5	
2	6.963	6.963	0.000	35861993	25.0	25.2	
						RPD = 2.96	
32 4,4'-DDD							
1	7.058	7.058	0.000	259223669	25.0	24.0	
2	7.088	7.089	-0.001	32918226	25.0	25.2	
						RPD = 4.95	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.233	7.234	-0.001	273685389	25.0	24.6	
2	7.190	7.190	0.000	35501572	25.0	25.5	
						RPD = 3.40	
35 4,4'-DDT							
1	7.352	7.352	0.000	228369137	25.0	23.8	
2	7.419	7.419	0.000	27647840	25.0	24.6	
						RPD = 3.42	
36 Endrin aldehyde							
1	7.679	7.679	0.000	206854248	25.0	24.3	
2	7.550	7.550	0.000	28263198	25.0	25.3	
						RPD = 4.30	
37 Methoxychlor							
1	7.856	7.857	-0.001	108979408	25.0	24.5	
2	8.150	8.150	0.000	14155118	25.0	25.3	
						RPD = 3.13	
38 Mirex							
1	8.015	8.016	-0.001	172426127	25.0	24.2	
2	8.344	8.344	0.000	24325156	25.0	25.6	
						RPD = 5.67	
39 Endosulfan sulfate							
1	8.137	8.138	-0.001	238398480	25.0	24.3	
2	7.841	7.841	0.000	32381376	25.0	25.4	
						RPD = 4.66	
40 Endrin ketone							
1	8.429	8.429	0.000	252349419	25.0	24.4	
2	8.396	8.396	0.000	35593065	25.0	25.4	
						RPD = 4.25	
$ 41 DCB Decachlorobiphenyl							
1	9.445	9.446	-0.001	159322167	25.0	24.5	
2	9.668	9.668	0.000	23709545	25.0	25.6	
						RPD = 4.30	
S 3 Endosulfan, Total							
1						73.7	
2						76.4	
						RPD = 3.61	

Reagents:

8081IcalL3_00028	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

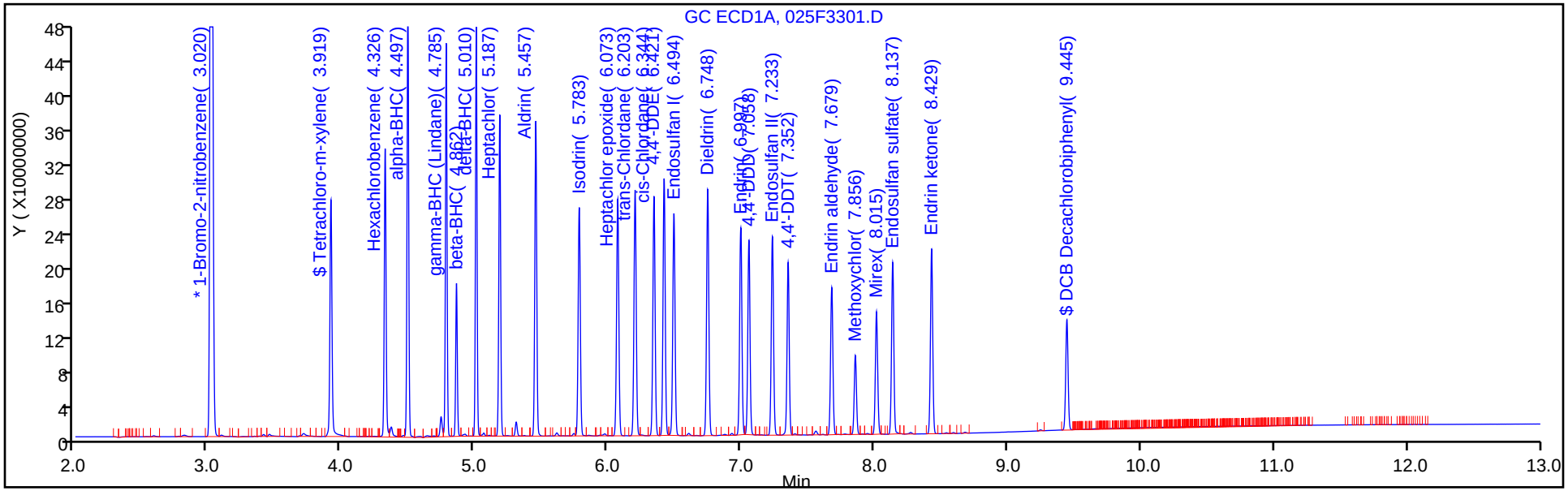
Report Date: 14-Oct-2018 22:11:58 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

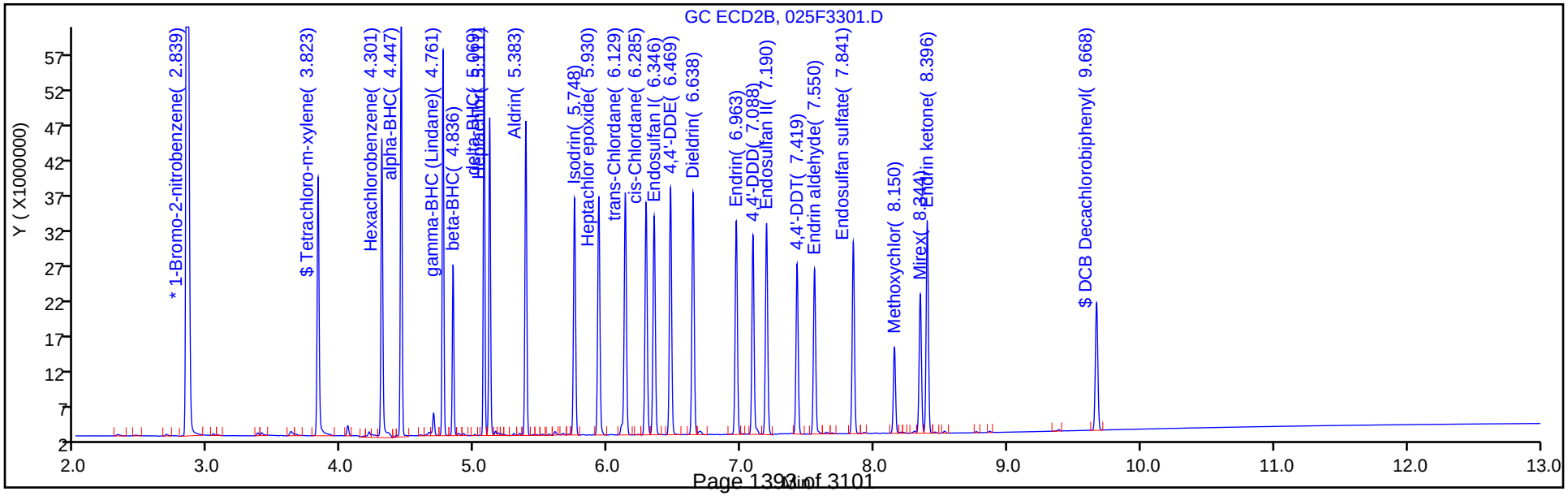
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\025F3301.D

Injection Date:	13-Oct-2018 20:14:49	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD3 AB			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\026F3401.D
Lims ID: STD2 AB
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 13-Oct-2018 20:32:15 ALS Bottle#: 26 Worklist Smp#: 31
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD2
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:12:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:17:42

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						38.6	
2						40.9	
						RPD = 5.94	
* 2 1-Bromo-2-nitrobenzene							
1	3.020	3.019	0.001	1728425275	150.0	150.0	
2	2.839	2.839	0.000	187345459	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.918	3.919	-0.001	119672981	10.0	9.74	
2	3.822	3.823	-0.001	16477394	10.0	10.3	
						RPD = 5.80	
5 Hexachlorobenzene							
1	4.325	4.326	-0.001	126156548	10.0	9.73	
2	4.301	4.302	-0.001	17019247	10.0	10.1	
						RPD = 4.06	
8 alpha-BHC							
1	4.496	4.497	-0.001	174586944	10.0	9.64	
2	4.446	4.448	-0.002	21525266	10.0	10.1	
						RPD = 4.69	
9 gamma-BHC (Lindane)							
1	4.784	4.785	-0.001	150377013	10.0	9.57	
2	4.760	4.761	-0.001	18724325	10.0	10.2	
						RPD = 6.55	
10 beta-BHC							
1	4.861	4.862	-0.001	63756954	10.0	9.77	
2	4.836	4.837	-0.001	8495816	10.0	10.4	
						RPD = 6.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.010	5.010	0.000	151129545	10.0	9.56	
2	5.068	5.069	-0.001	18818212	10.0	10.2	
						RPD = 6.40	
15 Heptachlor							
1	5.186	5.187	-0.001	136220069	10.0	9.74	
2	5.111	5.112	-0.001	16505122	10.0	10.3	
						RPD = 5.70	
16 Aldrin							
1	5.456	5.457	-0.001	144846582	10.0	9.74	
2	5.382	5.383	-0.001	17731926	10.0	10.3	
						RPD = 5.89	
18 Isodrin							
1	5.783	5.783	0.000	117749615	10.0	9.72	
2	5.748	5.749	-0.001	15625487	10.0	10.5	
						RPD = 7.33	
21 Heptachlor epoxide							M
1	6.071	6.072	-0.001	126886425	10.0	9.83	
2	5.929	5.931	-0.002	16641254	10.0	10.4	M
						RPD = 5.98	
22 trans-Chlordane							
1	6.202	6.204	-0.002	129991480	10.0	9.51	
2	6.129	6.130	-0.001	16929113	10.0	10.3	
						RPD = 7.70	
23 cis-Chlordane							
1	6.344	6.344	0.000	126327949	10.0	9.68	
2	6.286	6.286	0.000	16380093	10.0	10.4	
						RPD = 7.07	
24 4,4'-DDE							
1	6.420	6.421	-0.001	131488025	10.0	9.65	
2	6.468	6.469	-0.001	16485248	10.0	10.3	
						RPD = 6.16	
25 Endosulfan I							
1	6.493	6.494	-0.001	120234528	10.0	9.81	
2	6.346	6.346	0.000	15849043	10.0	10.5	
						RPD = 6.40	
27 Dieldrin							
1	6.747	6.748	-0.001	131325618	10.0	9.76	
2	6.638	6.639	-0.001	16696805	10.0	10.3	
						RPD = 5.11	
30 Endrin							
1	6.996	6.997	-0.001	110965652	10.0	9.63	
2	6.962	6.963	-0.001	14572762	10.0	10.2	
						RPD = 6.20	
32 4,4'-DDD							
1	7.057	7.058	-0.001	100049743	10.0	9.44	
2	7.088	7.089	-0.001	13387732	10.0	10.2	
						RPD = 7.73	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.233	7.234	-0.001	107239359	10.0	9.69	
2	7.189	7.190	-0.001	14939909	10.0	10.4	
						RPD = 6.87	
35 4,4'-DDT							
1	7.352	7.352	0.000	86360678	10.0	9.37	
2	7.418	7.419	-0.001	11005760	10.0	9.98	
						RPD = 6.32	
36 Endrin aldehyde							
1	7.679	7.679	0.000	81761942	10.0	9.60	
2	7.550	7.550	0.000	11820141	10.0	10.3	
						RPD = 7.30	
37 Methoxychlor							
1	7.856	7.857	-0.001	43260093	10.0	9.68	
2	8.149	8.150	-0.001	5763013	10.0	10.2	
						RPD = 5.03	
38 Mirex							
1	8.015	8.016	-0.001	69898898	10.0	9.68	
2	8.343	8.344	-0.001	10513875	10.0	10.5	
						RPD = 8.20	
39 Endosulfan sulfate							
1	8.137	8.138	-0.001	93045319	10.0	9.55	
2	7.840	7.841	-0.001	13487473	10.0	10.3	
						RPD = 7.54	
40 Endrin ketone							
1	8.428	8.429	-0.001	97881347	10.0	9.50	
2	8.396	8.396	0.000	14668648	10.0	10.3	
						RPD = 7.65	
$ 41 DCB Decachlorobiphenyl							
1	9.443	9.446	-0.003	63321098	10.0	9.53	
2	9.668	9.668	0.000	10078459	10.0	10.4	
						RPD = 8.76	
S 3 Endosulfan, Total							
1						29.1	
2						31.1	
						RPD = 6.93	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

8081IcalL2_00025	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

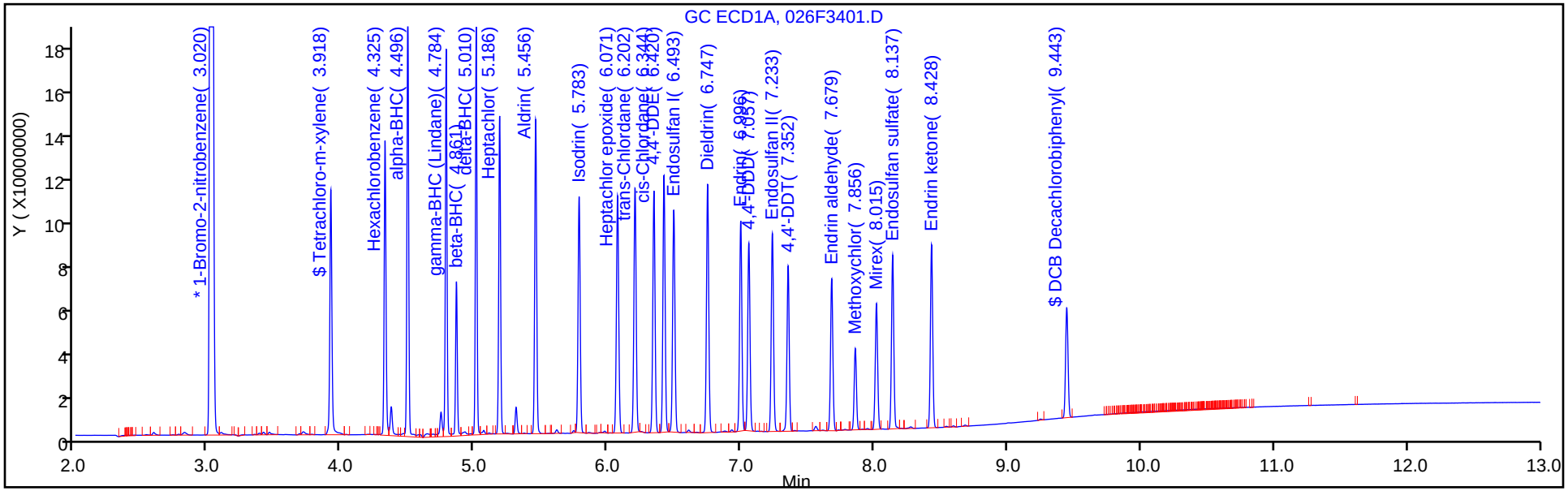
Report Date: 14-Oct-2018 22:12:01 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

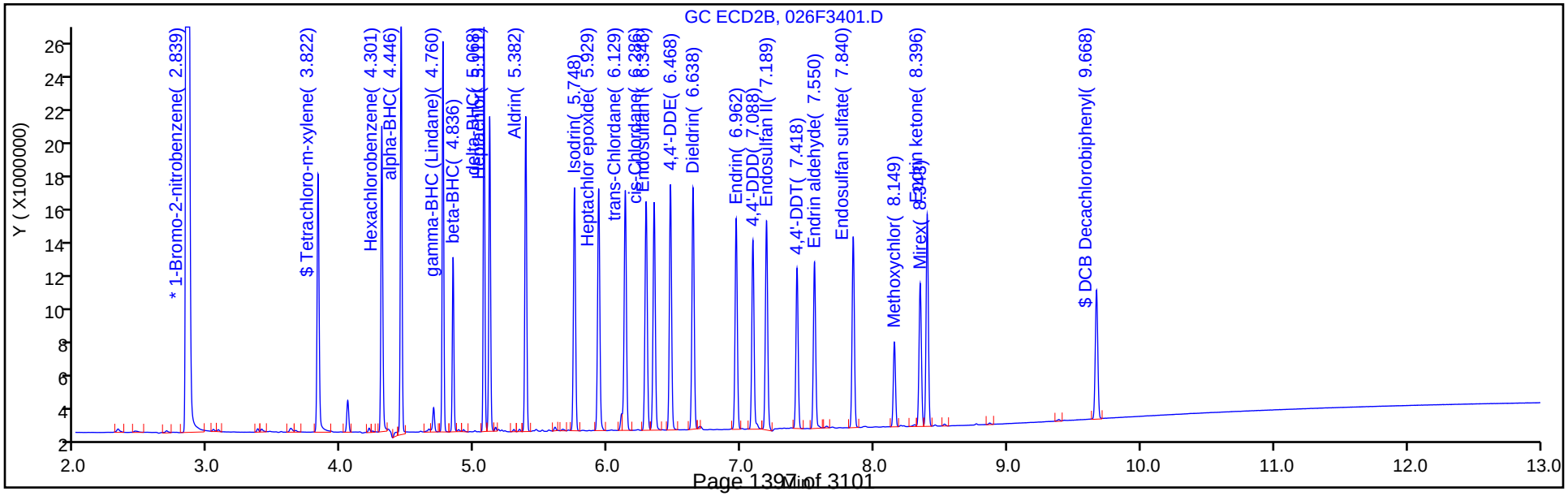
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\026F3401.D

Injection Date:	13-Oct-2018 20:32:15	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD2 AB			Worklist Smp#:	31
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D
Lims ID: STD1 AB
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 13-Oct-2018 20:49:46 ALS Bottle#: 27 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD1
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:12:04 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:19:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						16.3	
2						15.9	
						RPD = 2.72	
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.019	0.002	1645292180	150.0	150.0	
2	2.839	2.839	0.000	186440198	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.919	3.919	0.000	44633037	4.00	4.05	
2	3.823	3.823	0.000	6851543	4.00	3.94	
						RPD = 2.74	
5 Hexachlorobenzene							
1	4.326	4.326	0.000	47816993	4.00	4.05	
2	4.302	4.302	0.000	7168590	4.00	3.96	
						RPD = 2.34	
8 alpha-BHC							
1	4.497	4.497	0.000	62852215	4.00	4.07	
2	4.447	4.448	-0.001	8858523	4.00	3.98	
						RPD = 2.23	
9 gamma-BHC (Lindane)							
1	4.785	4.785	0.000	56481667	4.00	4.08	
2	4.761	4.761	0.000	7435354	4.00	3.97	
						RPD = 2.89	
10 beta-BHC							
1	4.862	4.862	0.000	26687989	4.00	4.06	
2	4.837	4.837	0.000	3576692	4.00	3.94	
						RPD = 2.98	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.010	5.010	0.000	55669358	4.00	4.08	
2	5.069	5.069	0.000	7424235	4.00	3.97	
						RPD = 2.79	
15 Heptachlor							
1	5.187	5.187	0.000	50118465	4.00	4.04	
2	5.112	5.112	0.000	6621110	4.00	3.95	
						RPD = 2.42	
16 Aldrin							
1	5.457	5.457	0.000	52919960	4.00	4.05	
2	5.383	5.383	0.000	7030048	4.00	3.95	
						RPD = 2.49	
18 Isodrin							
1	5.784	5.783	0.001	44705372	4.00	4.05	
2	5.748	5.749	-0.001	6366004	4.00	3.93	
						RPD = 3.06	
21 Heptachlor epoxide							
1	6.073	6.072	0.001	47553101	4.00	4.03	
2	5.930	5.931	-0.001	6762032	4.00	3.93	
						RPD = 2.56	
22 trans-Chlordane							
1	6.203	6.204	-0.001	49944652	4.00	4.09	
2	6.130	6.130	0.000	6819666	4.00	3.95	
						RPD = 3.42	
23 cis-Chlordane							
1	6.344	6.344	0.000	47100490	4.00	4.06	
2	6.286	6.286	0.000	6646251	4.00	3.94	
						RPD = 3.11	
24 4,4'-DDE							
1	6.421	6.421	0.000	48738148	4.00	4.06	
2	6.469	6.469	0.000	6542674	4.00	3.95	
						RPD = 2.61	
25 Endosulfan I							
1	6.494	6.494	0.000	45543940	4.00	4.03	
2	6.347	6.346	0.001	6507441	4.00	3.92	
						RPD = 2.71	
27 Dieldrin							
1	6.748	6.748	0.000	48904591	4.00	4.04	
2	6.638	6.639	-0.001	6664239	4.00	3.95	
						RPD = 2.17	
30 Endrin							
1	6.997	6.997	0.000	41251930	4.00	4.06	
2	6.963	6.963	0.000	5757882	4.00	3.96	
						RPD = 2.60	
32 4,4'-DDD							
1	7.058	7.058	0.000	38622027	4.00	4.10	
2	7.088	7.089	-0.001	5391187	4.00	3.96	
						RPD = 3.38	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.234	7.234	0.000	41034933	4.00	4.05	
2	7.191	7.190	0.001	6270548	4.00	3.93	
						RPD = 2.93	
35 4,4'-DDT							
1	7.352	7.352	0.000	31997998	4.00	4.11	
2	7.419	7.419	0.000	4302693	4.00	4.01	
						RPD = 2.63	
36 Endrin aldehyde							
1	7.678	7.679	-0.001	32150414	4.00	4.07	
2	7.551	7.550	0.001	4932964	4.00	3.94	
						RPD = 3.18	
37 Methoxychlor							
1	7.857	7.857	0.000	17004835	4.00	4.05	
2	8.150	8.150	0.000	2361021	4.00	3.96	
						RPD = 2.20	
38 Mirex							
1	8.016	8.016	0.000	28621709	4.00	4.16	
2	8.344	8.344	0.000	4546008	4.00	3.91	
						RPD = 6.31	
39 Endosulfan sulfate							
1	8.137	8.138	-0.001	36051087	4.00	4.08	
2	7.841	7.841	0.000	5646467	4.00	3.94	
						RPD = 3.30	
40 Endrin ketone							
1	8.429	8.429	0.000	38530653	4.00	4.08	
2	8.397	8.396	0.001	6086476	4.00	3.95	
						RPD = 3.26	
$ 41 DCB Decachlorobiphenyl							
1	9.446	9.446	0.000	26336210	4.00	4.07	
2	9.668	9.668	0.000	4339575	4.00	3.92	
						RPD = 3.76	
S 3 Endosulfan, Total							
1						12.1	
2						11.8	
						RPD = 2.98	

Reagents:

8081IcalL1_00025	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

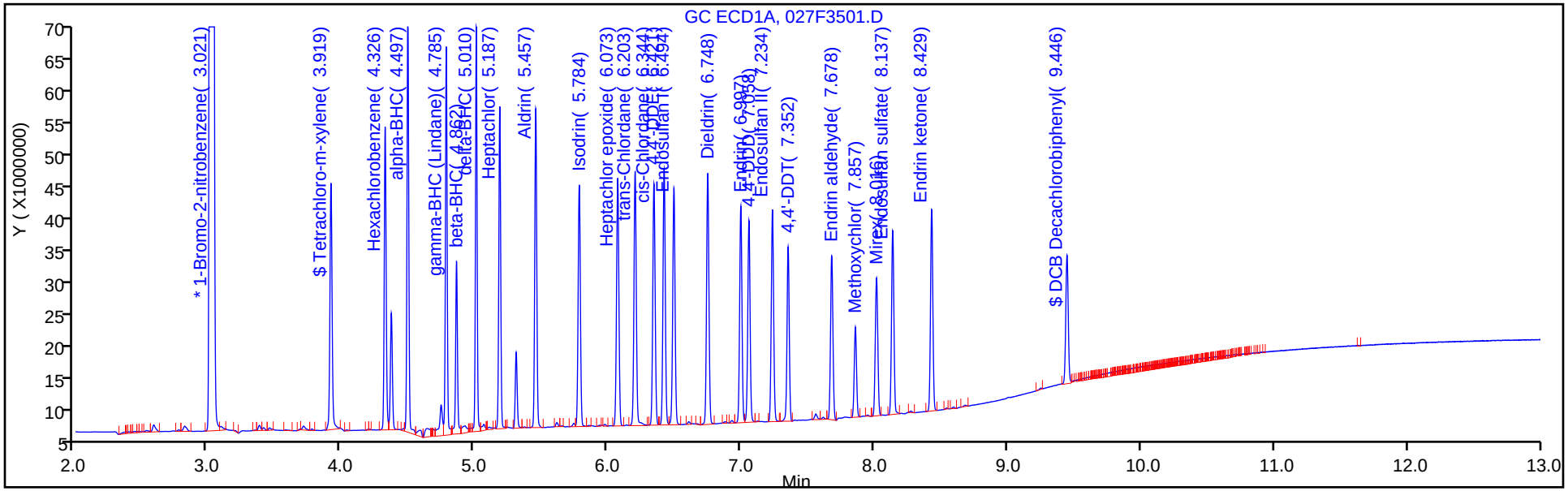
Report Date: 14-Oct-2018 22:12:06 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

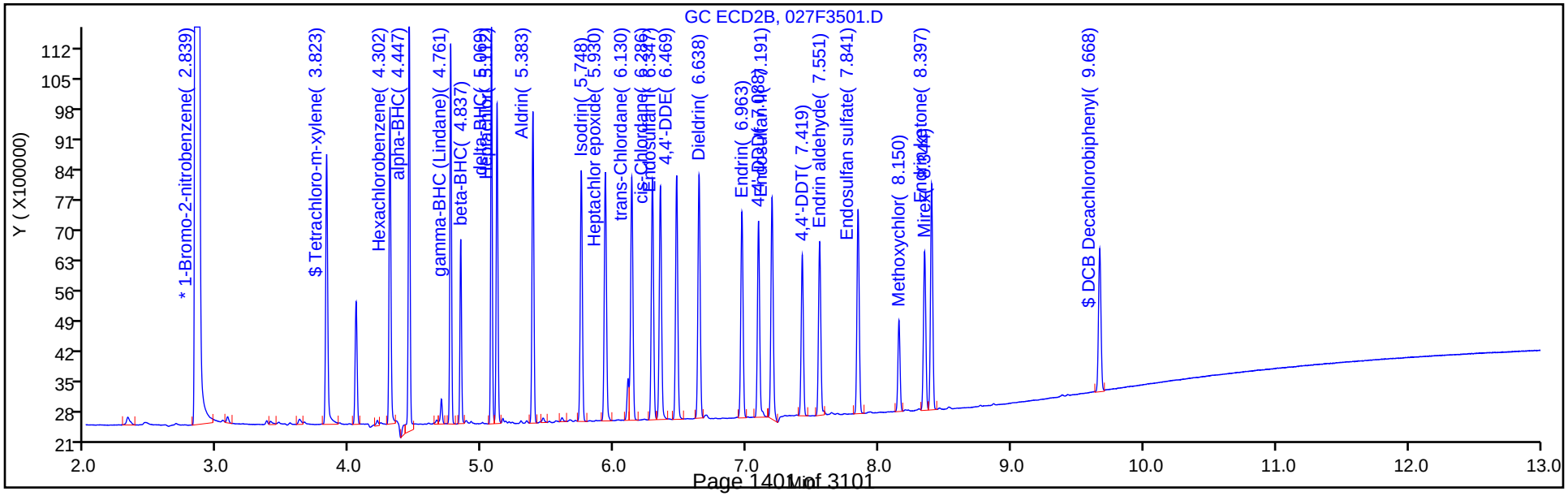
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Injection Date:	13-Oct-2018 20:49:46	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD1 AB			Worklist Smp#:	32
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 19:22 Calibration End Date: 10/13/2018 20:49 Calibration ID: 33990

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-433303/32	027F3501.D
Level 2	STD2 280-433303/31	026F3401.D
Level 3	STD3 280-433303/30	025F3301.D
Level 4	STD4 280-433303/29	024F3201.D
Level 5	STD5 280-433303/28	023F3101.D
Level 6	STD6 280-433303/27	022F3001.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Hexachlorobenzene	1.4419 1.2362	1.3627	1.3545	1.3365	1.2230	Lin2	0.7315	1.2729							0.9980		0.9900
alpha-BHC	1.7818 1.6386	1.7234	1.6767	1.6742	1.6508	Lin2	0.5521	1.6510							1.0000		0.9900
gamma-BHC (Lindane)	1.4955 1.4229	1.4992	1.4536	1.4509	1.4347	Lin2	0.2733	1.4397							1.0000		0.9900
beta-BHC	0.7194 0.5982	0.6802	0.6340	0.6219	0.6051	Lin2	0.4836	0.6082							0.9990		0.9900
delta-BHC	1.4933 1.4439	1.5067	1.4734	1.4737	1.4502	Lin2	0.1758	1.4608							1.0000		0.9900
Heptachlor	1.3317 1.2133	1.3215	1.2733	1.2481	1.2403	Lin2	0.4306	1.2403							0.9990		0.9900
Aldrin	1.4140 1.3163	1.4197	1.3604	1.3552	1.3269	Lin2	0.3719	1.3385							0.9990		0.9900
Heptachlor epoxide	1.3601 1.1794	1.3324	1.2574	1.2361	1.1960	Lin2	0.6880	1.2106							0.9990		0.9900
gamma-Chlordane	1.3717 1.2592	1.3554	1.3206	1.2919	1.2540	Lin2	0.4438	1.2767							0.9990		0.9900
alpha-Chlordane	1.3368 1.1851	1.3115	1.2396	1.2264	1.1870	Lin2	0.6085	1.2038							0.9990		0.9900
Endosulfan I	1.3089 1.1104	1.2690	1.1940	1.1684	1.1200	Lin2	0.7681	1.1397							0.9990		0.9900
4,4'-DDE	1.3160 1.2349	1.3199	1.2817	1.2894	1.2330	Lin2	0.2882	1.2583							0.9990		0.9900
Dieldrin	1.3404 1.2397	1.3368	1.2959	1.2966	1.2418	Lin2	0.3611	1.2658							0.9990		0.9900
Endrin	1.1581 1.0982	1.1668	1.1370	1.1418	1.1028	Lin2	0.2016	1.1195							0.9990		0.9900
4,4'-DDD	1.0844 1.0087	1.0719	1.0436	1.0533	0.9992	Lin2	0.2831	1.0231							0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 19:22 Calibration End Date: 10/13/2018 20:49 Calibration ID: 33990

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Endosulfan II	1.2612 1.0376	1.1962	1.1255	1.1283	1.0472	Lin2	0.8286	1.0728							0.9980		0.9900
4,4'-DDT	0.8654 0.8886	0.8812	0.8765	0.9102	0.8946	Lin2	-0.124	0.8951							1.0000		0.9900
Endrin aldehyde	0.9922 0.8405	0.9464	0.8961	0.8989	0.8424	Lin2	0.5740	0.8613							0.9990		0.9900
Endosulfan sulfate	1.1357 0.9578	1.0799	1.0266	1.0325	0.9589	Lin2	0.6631	0.9840							0.9990		0.9900
Methoxychlor	0.4749 0.4224	0.4614	0.4488	0.4555	0.4299	Lin2	0.1701	0.4365							0.9990		0.9900
Endrin ketone	1.2242 1.0490	1.1745	1.1284	1.1443	1.0541	Lin2	0.6163	1.0846							0.9980		0.9900
Tetrachloro-m-xylene	1.3781 1.1664	1.3193	1.2565	1.2668	1.1713	Lin2	0.7692	1.2042							0.9980		0.9900
DCB Decachlorobiphenyl	0.8728 0.6826	0.8069	0.7517	0.7551	0.6823	Lin2	0.7195	0.7066							0.9970		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 19:22 Calibration End Date: 10/13/2018 20:49 Calibration ID: 33990

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-433303/32	027F3501.D
Level 2	STD2 280-433303/31	026F3401.D
Level 3	STD3 280-433303/30	025F3301.D
Level 4	STD4 280-433303/29	024F3201.D
Level 5	STD5 280-433303/28	023F3101.D
Level 6	STD6 280-433303/27	022F3001.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Hexachlorobenzene	BNB	Lin2	7168590 160717643	17019247	42722842	82080999	120451736	4.00 100	10.0	25.0	50.0	75.0
alpha-BHC	BNB	Lin2	8858523 213039488	21525266	52885133	102825287	162579162	4.00 100	10.0	25.0	50.0	75.0
gamma-BHC (Lindane)	BNB	Lin2	7435354 184996515	18724325	45850109	89108339	141300627	4.00 100	10.0	25.0	50.0	75.0
beta-BHC	BNB	Lin2	3576692 77780555	8495816	19996794	38193156	59596054	4.00 100	10.0	25.0	50.0	75.0
delta-BHC	BNB	Lin2	7424235 187730350	18818212	46474767	90510020	142822500	4.00 100	10.0	25.0	50.0	75.0
Heptachlor	BNB	Lin2	6621110 157743006	16505122	40161455	76652553	122155556	4.00 100	10.0	25.0	50.0	75.0
Aldrin	BNB	Lin2	7030048 171135300	17731926	42909032	83229214	130679943	4.00 100	10.0	25.0	50.0	75.0
Heptachlor epoxide	BNB	Lin2	6762032 153345134	16641254	39660540	75919068	117794987	4.00 100	10.0	25.0	50.0	75.0
gamma-Chlordane	BNB	Lin2	6819666 163709394	16929113	41653596	79344564	123500639	4.00 100	10.0	25.0	50.0	75.0
alpha-Chlordane	BNB	Lin2	6646251 154077138	16380093	39100281	75318619	116906799	4.00 100	10.0	25.0	50.0	75.0
Endosulfan I	BNB	Lin2	6507441 144373306	15849043	37660075	71761841	110310449	4.00 100	10.0	25.0	50.0	75.0
4,4'-DDE	BNB	Lin2	6542674 160552956	16485248	40427222	79191054	121439906	4.00 100	10.0	25.0	50.0	75.0
Dieldrin	BNB	Lin2	6664239 161178584	16696805	40874216	79630835	122303746	4.00 100	10.0	25.0	50.0	75.0
Endrin	BNB	Lin2	5757882 142775347	14572762	35861993	70123187	108615513	4.00 100	10.0	25.0	50.0	75.0
4,4'-DDD	BNB	Lin2	5391187 131149227	13387732	32918226	64688838	98409444	4.00 100	10.0	25.0	50.0	75.0
Endosulfan II	BNB	Lin2	6270548 134900820	14939909	35501572	69296907	103131602	4.00 100	10.0	25.0	50.0	75.0

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 433303

SDG No.:

Instrument ID: SGC_P2 GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 19:22 Calibration End Date: 10/13/2018 20:49 Calibration ID: 33990

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
4,4'-DDT	BNB	Lin2	4302693 115525218	11005760	27647840	55899373	88104638	4.00 100	10.0	25.0	50.0	75.0
Endrin aldehyde	BNB	Lin2	4932964 109276534	11820141	28263198	55206907	82965198	4.00 100	10.0	25.0	50.0	75.0
Endosulfan sulfate	BNB	Lin2	5646467 124525276	13487473	32381376	63414174	94443160	4.00 100	10.0	25.0	50.0	75.0
Methoxychlor	BNB	Lin2	2361021 54922574	5763013	14155118	27972236	42337805	4.00 100	10.0	25.0	50.0	75.0
Endrin ketone	BNB	Lin2	6086476 136381981	14668648	35593065	70279476	103818155	4.00 100	10.0	25.0	50.0	75.0
Tetrachloro-m-xylene	BNB	Lin2	6851543 151651222	16477394	39633690	77802319	115355955	4.00 100	10.0	25.0	50.0	75.0
DCB Decachlorobiphenyl	BNB	Lin2	4339575 88747472	10078459	23709545	46374378	67193439	4.00 100	10.0	25.0	50.0	75.0

Curve Type Legend:
Lin2 = Linear 1/conc^2 ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\022F3001.D
Lims ID: STD6 AB
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 13-Oct-2018 19:22:28 ALS Bottle#: 22 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD6 AB
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:46 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:21:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						413.9	
2						393.8	
						RPD = 4.96	
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.023	-0.002	1756870840	150.0	150.0	
2	2.840	2.842	-0.002	195021437	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.921	3.919	0.002	1317820866	100.0	101.7	
2	3.823	3.823	0.000	151651222	100.0	96.2	
						RPD = 5.52	
5 Hexachlorobenzene							
1	4.327	4.326	0.001	1380707359	100.0	101.9	
2	4.302	4.302	0.000	160717643	100.0	96.5	
						RPD = 5.38	
8 alpha-BHC							
1	4.498	4.497	0.001	2039469973	100.0	103.6	
2	4.447	4.448	-0.001	213039488	100.0	98.9	
						RPD = 4.64	
9 gamma-BHC (Lindane)							
1	4.787	4.785	0.002	1738294623	100.0	103.7	
2	4.762	4.761	0.001	184996515	100.0	98.6	
						RPD = 4.99	
10 beta-BHC							
1	4.863	4.862	0.001	658730126	100.0	103.3	
2	4.837	4.837	0.000	77780555	100.0	97.6	
						RPD = 5.72	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.012	5.010	0.002	1763800464	100.0	103.3	
2	5.070	5.069	0.001	187730350	100.0	98.7	
						RPD = 4.51	
15 Heptachlor							
1	5.188	5.187	0.001	1487484474	100.0	100.1	
2	5.112	5.112	0.000	157743006	100.0	97.5	
						RPD = 2.69	
16 Aldrin							
1	5.458	5.457	0.001	1603385174	100.0	101.1	
2	5.384	5.383	0.001	171135300	100.0	98.1	
						RPD = 3.03	
18 Isodrin							
1	5.785	5.783	0.002	1276942983	100.0	101.0	
2	5.749	5.749	0.000	144685541	100.0	97.8	
						RPD = 3.17	
21 Heptachlor epoxide							
1	6.073	6.072	0.001	1346353314	100.0	100.2	
2	5.932	5.931	0.001	153345134	100.0	96.9	
						RPD = 3.39	
22 trans-Chlordane							
1	6.204	6.204	0.000	1496975406	100.0	103.4	
2	6.131	6.130	0.001	163709394	100.0	98.3	
						RPD = 5.07	
23 cis-Chlordane							
1	6.346	6.344	0.002	1419377556	100.0	102.6	
2	6.287	6.286	0.001	154077138	100.0	97.9	
						RPD = 4.60	
24 4,4'-DDE							
1	6.422	6.421	0.001	1475769541	100.0	101.5	
2	6.470	6.469	0.001	160552956	100.0	97.9	
						RPD = 3.65	
25 Endosulfan I							
1	6.495	6.494	0.001	1268053177	100.0	99.9	
2	6.347	6.346	0.001	144373306	100.0	96.8	
						RPD = 3.18	
27 Dieldrin							
1	6.750	6.748	0.002	1418985077	100.0	100.4	
2	6.640	6.639	0.001	161178584	100.0	97.7	
						RPD = 2.73	
30 Endrin							
1	6.998	6.997	0.001	1249259754	100.0	101.6	
2	6.964	6.963	0.001	142775347	100.0	97.9	
						RPD = 3.71	
32 4,4'-DDD							
1	7.059	7.058	0.001	1180309263	100.0	104.8	
2	7.089	7.089	0.000	131149227	100.0	98.3	
						RPD = 6.34	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.235	7.234	0.001	1149629449	100.0	99.7	
2	7.191	7.190	0.001	134900820	100.0	95.9	
						RPD = 3.88	
35 4,4'-DDT							
1	7.353	7.352	0.001	1053113637	100.0	104.1	
2	7.420	7.419	0.001	115525218	100.0	99.4	
						RPD = 4.57	
36 Endrin aldehyde							
1	7.680	7.679	0.001	894620553	100.0	101.5	
2	7.551	7.550	0.001	109276534	100.0	96.9	
						RPD = 4.65	
37 Methoxychlor							
1	7.857	7.857	0.000	456885819	100.0	99.8	
2	8.151	8.150	0.001	54922574	100.0	96.4	
						RPD = 3.44	
38 Mirex							
1	8.017	8.016	0.001	761678556	100.0	103.8	
2	8.346	8.344	0.002	90852521	100.0	95.7	
						RPD = 8.10	
39 Endosulfan sulfate							
1	8.138	8.138	0.000	1039104153	100.0	101.8	
2	7.842	7.841	0.001	124525276	100.0	96.7	
						RPD = 5.17	
40 Endrin ketone							
1	8.431	8.429	0.002	1081196479	100.0	100.8	
2	8.398	8.396	0.002	136381981	100.0	96.1	
						RPD = 4.74	
$ 41 DCB Decachlorobiphenyl							
1	9.447	9.446	0.001	675825077	100.0	101.6	
2	9.669	9.668	0.001	88747472	100.0	95.6	
						RPD = 6.08	
S 3 Endosulfan, Total							
1						301.4	
2						289.4	
						RPD = 4.08	

Reagents:

8081IcalL6_00025	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

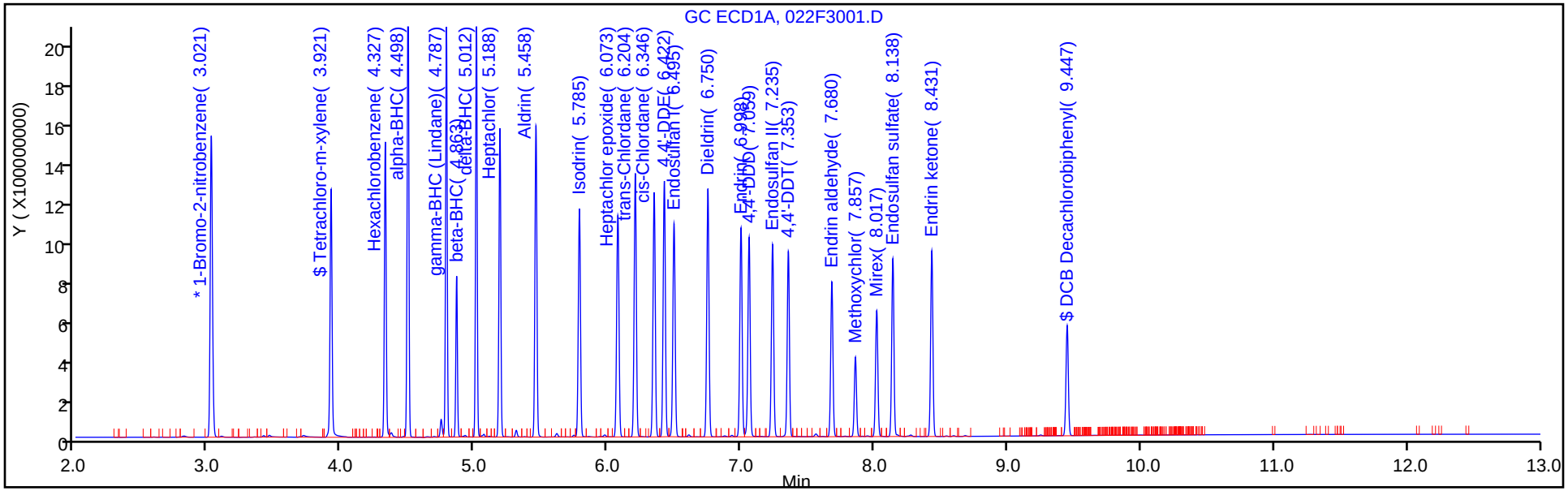
Report Date: 14-Oct-2018 22:11:48 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

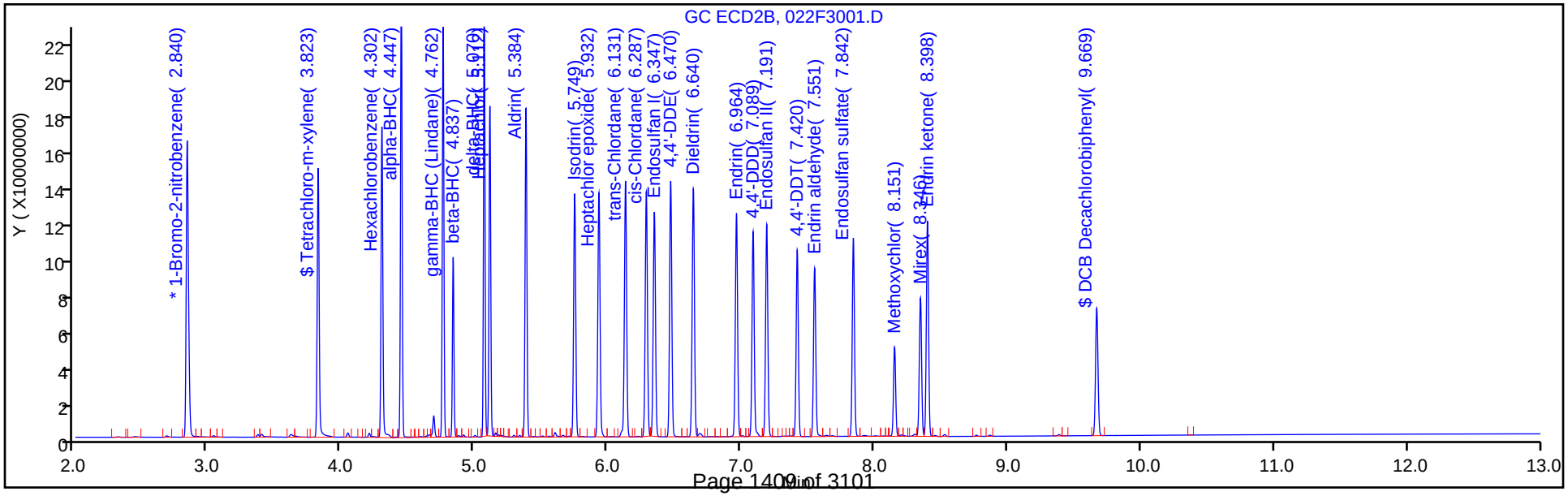
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\022F3001.D

Injection Date:	13-Oct-2018 19:22:28	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD6 AB			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\023F3101.D
Lims ID: STD5 AB
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 13-Oct-2018 19:39:58 ALS Bottle#: 23 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD5
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:49 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						305.3	
2						297.4	
						RPD = 2.65	
* 2 1-Bromo-2-nitrobenzene							
1	3.020	3.023	-0.002	1774800139	150.0	150.0	
2	2.840	2.842	-0.002	196975139	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.920	3.919	0.001	974117175	75.0	74.5	
2	3.823	3.823	0.000	115355955	75.0	72.3	
						RPD = 2.99	
5 Hexachlorobenzene							
1	4.328	4.326	0.002	1019295562	75.0	74.5	
2	4.302	4.302	0.000	120451736	75.0	71.5	
						RPD = 4.17	
8 alpha-BHC							
1	4.498	4.497	0.001	1515867171	75.0	76.4	
2	4.448	4.448	0.000	162579162	75.0	74.7	
						RPD = 2.33	
9 gamma-BHC (Lindane)							
1	4.786	4.785	0.001	1292559350	75.0	76.5	
2	4.761	4.761	0.000	141300627	75.0	74.5	
						RPD = 2.52	
10 beta-BHC							
1	4.862	4.862	0.000	492255043	75.0	76.3	
2	4.837	4.837	0.000	59596054	75.0	73.8	
						RPD = 3.31	
12 delta-BHC							
1	5.011	5.010	0.001	1311307456	75.0	76.2	
2	5.070	5.069	0.001	142822500	75.0	74.3	
						RPD = 2.45	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
15 Heptachlor							
1	5.188	5.187	0.001	1142416982	75.0	76.2	
2	5.113	5.112	0.001	122155556	75.0	74.7	
						RPD = 2.10	
16 Aldrin							
1	5.458	5.457	0.001	1208042264	75.0	75.5	
2	5.384	5.383	0.001	130679943	75.0	74.1	
						RPD = 1.93	
18 Isodrin							
1	5.785	5.783	0.002	961672330	75.0	75.3	
2	5.750	5.749	0.001	109763292	75.0	73.3	
						RPD = 2.72	
21 Heptachlor epoxide							
1	6.074	6.072	0.002	1017236841	75.0	75.0	
2	5.932	5.931	0.001	117794987	75.0	73.5	
						RPD = 1.98	
22 trans-Chlordane							
1	6.205	6.204	0.001	1109387779	75.0	76.0	
2	6.131	6.130	0.001	123500639	75.0	73.3	
						RPD = 3.54	
23 cis-Chlordane							
1	6.346	6.344	0.002	1055599184	75.0	75.6	
2	6.288	6.286	0.002	116906799	75.0	73.4	
						RPD = 2.90	
24 4,4'-DDE							
1	6.422	6.421	0.001	1097991084	75.0	74.9	
2	6.470	6.469	0.001	121439906	75.0	73.3	
						RPD = 2.23	
25 Endosulfan I							
1	6.495	6.494	0.001	954735604	75.0	74.5	
2	6.348	6.346	0.002	110310449	75.0	73.0	
						RPD = 1.99	
27 Dieldrin							
1	6.750	6.748	0.002	1064216521	75.0	74.6	
2	6.640	6.639	0.001	122303746	75.0	73.3	
						RPD = 1.77	
30 Endrin							
1	6.998	6.997	0.001	929144470	75.0	74.9	
2	6.965	6.963	0.002	108615513	75.0	73.7	
						RPD = 1.66	
32 4,4'-DDD							
1	7.059	7.058	0.001	848012397	75.0	74.6	
2	7.090	7.089	0.001	98409444	75.0	73.0	
						RPD = 2.25	
34 Endosulfan II							
1	7.235	7.234	0.001	862538061	75.0	74.1	
2	7.191	7.190	0.001	103131602	75.0	72.4	
						RPD = 2.33	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
35 4,4'-DDT							
1	7.353	7.352	0.001	778459968	75.0	76.4	
2	7.420	7.419	0.001	88104638	75.0	75.1	
						RPD = 1.66	
36 Endrin aldehyde							
1	7.680	7.679	0.001	665966546	75.0	74.9	
2	7.551	7.550	0.001	82965198	75.0	72.7	
						RPD = 2.96	
37 Methoxychlor							
1	7.857	7.857	0.000	345420332	75.0	74.7	
2	8.151	8.150	0.001	42337805	75.0	73.5	
						RPD = 1.63	
38 Mirex							
1	8.016	8.016	0.000	537010702	75.0	72.4	
2	8.345	8.344	0.001	69265800	75.0	71.9	
						RPD = 0.66	
39 Endosulfan sulfate							
1	8.138	8.138	0.000	767321325	75.0	74.5	
2	7.843	7.841	0.002	94443160	75.0	72.4	
						RPD = 2.83	
40 Endrin ketone							
1	8.430	8.429	0.001	802034011	75.0	74.1	
2	8.398	8.396	0.002	103818155	75.0	72.3	
						RPD = 2.42	
$ 41 DCB Decachlorobiphenyl							
1	9.446	9.446	0.000	494311523	75.0	73.5	
2	9.669	9.668	0.001	67193439	75.0	71.4	
						RPD = 2.91	
S 3 Endosulfan, Total							
1						223.1	
2						217.9	
						RPD = 2.38	

Reagents:

8081IcalL5_00026	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

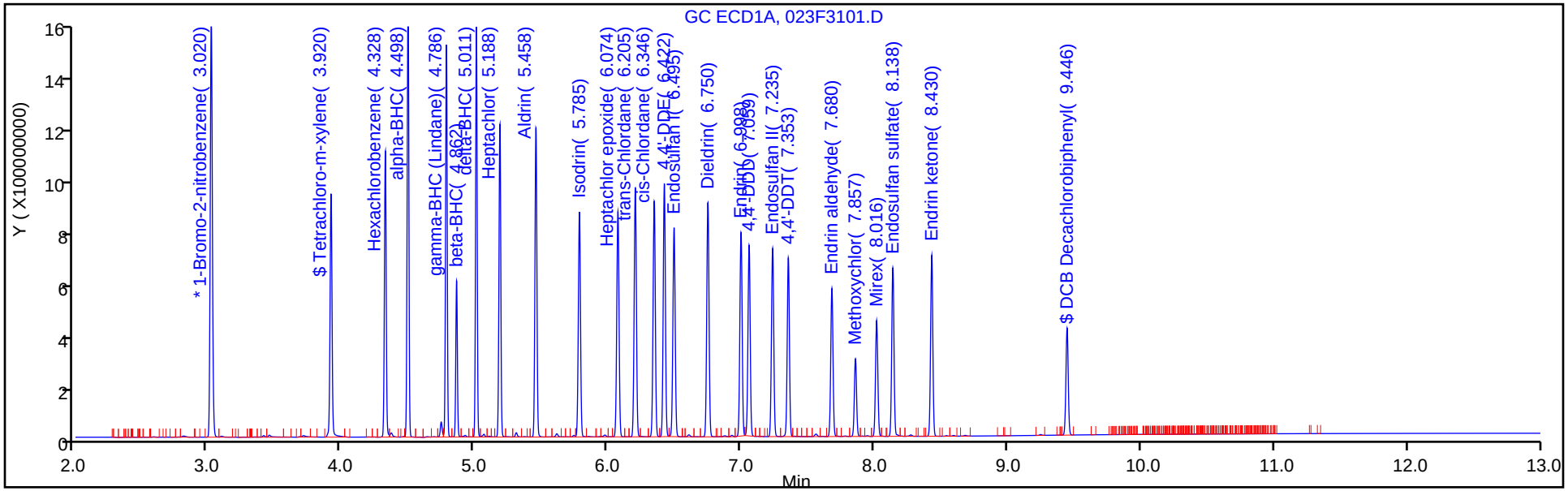
Report Date: 14-Oct-2018 22:11:52 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

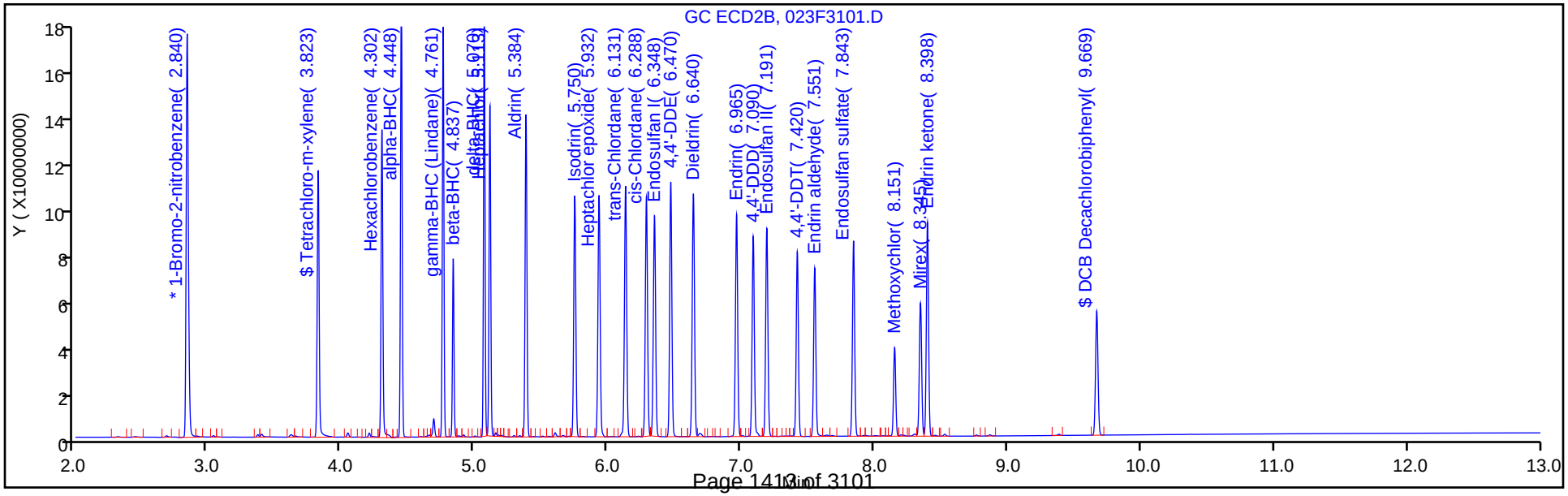
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\023F3101.D

Injection Date:	13-Oct-2018 19:39:58	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD5 AB			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\024F3201.D
Lims ID: STD4 AB
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 13-Oct-2018 19:57:23 ALS Bottle#: 24 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD4
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:53 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:15:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.019	3.019	0.000	1639866372	150.0	150.0	
2	2.839	2.839	0.000	184249474	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.919	3.919	0.000	621494359	50.0	51.6	
2	3.823	3.823	0.000	77802319	50.0	52.0	
						RPD = 0.76	
5 Hexachlorobenzene							
1	4.326	4.326	0.000	649000706	50.0	51.4	
2	4.302	4.302	0.000	82080999	50.0	51.9	
						RPD = 0.91	
8 alpha-BHC							
1	4.497	4.497	0.000	914630685	50.0	50.1	
2	4.448	4.448	0.000	102825287	50.0	50.4	
						RPD = 0.46	
9 gamma-BHC (Lindane)							
1	4.785	4.785	0.000	781888254	50.0	50.2	
2	4.761	4.761	0.000	89108339	50.0	50.2	
						RPD = 0.06	
10 beta-BHC							
1	4.862	4.862	0.000	300049327	50.0	50.2	
2	4.837	4.837	0.000	38193156	50.0	50.3	
						RPD = 0.27	
12 delta-BHC							
1	5.010	5.010	0.000	800211131	50.0	50.5	
2	5.069	5.069	0.000	90510020	50.0	50.3	
						RPD = 0.39	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
15 Heptachlor							
1	5.187	5.187	0.000	700142171	50.0	50.7	
2	5.112	5.112	0.000	76652553	50.0	50.0	
						RPD = 1.50	
16 Aldrin							
1	5.457	5.457	0.000	751162048	50.0	51.0	
2	5.383	5.383	0.000	83229214	50.0	50.3	
						RPD = 1.26	
18 Isodrin							
1	5.783	5.783	0.000	601057788	50.0	51.1	
2	5.749	5.749	0.000	70720524	50.0	50.3	
						RPD = 1.47	
21 Heptachlor epoxide							
1	6.072	6.072	0.000	637075296	50.0	50.9	
2	5.931	5.931	0.000	75919068	50.0	50.5	
						RPD = 0.86	
22 trans-Chlordane							
1	6.204	6.204	0.000	682439750	50.0	50.7	
2	6.130	6.130	0.000	79344564	50.0	50.2	
						RPD = 0.91	
23 cis-Chlordane							
1	6.344	6.344	0.000	652320568	50.0	50.7	
2	6.286	6.286	0.000	75318619	50.0	50.4	
						RPD = 0.57	
24 4,4'-DDE							
1	6.421	6.421	0.000	693292530	50.0	51.4	
2	6.469	6.469	0.000	79191054	50.0	51.0	
						RPD = 0.68	
25 Endosulfan I							
1	6.494	6.494	0.000	607276774	50.0	51.4	
2	6.346	6.346	0.000	71761841	50.0	50.6	
						RPD = 1.49	
27 Dieldrin							
1	6.748	6.748	0.000	676681392	50.0	51.4	
2	6.639	6.639	0.000	79630835	50.0	50.9	
						RPD = 1.01	
30 Endrin							
1	6.997	6.997	0.000	586918822	50.0	51.4	
2	6.963	6.963	0.000	70123187	50.0	50.8	
						RPD = 1.13	
32 4,4'-DDD							
1	7.058	7.058	0.000	538092520	50.0	51.4	
2	7.089	7.089	0.000	64688838	50.0	51.2	
						RPD = 0.39	
34 Endosulfan II							
1	7.234	7.234	0.000	563151672	50.0	52.5	
2	7.190	7.190	0.000	69296907	50.0	51.8	
						RPD = 1.25	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
35 4,4'-DDT							
1	7.352	7.352	0.000	479927441	50.0	51.2	
2	7.419	7.419	0.000	55899373	50.0	51.0	
						RPD = 0.42	
36 Endrin aldehyde							
1	7.679	7.679	0.000	426357889	50.0	51.9	
2	7.550	7.550	0.000	55206907	50.0	51.5	
						RPD = 0.80	
37 Methoxychlor							
1	7.857	7.857	0.000	223151920	50.0	52.2	
2	8.150	8.150	0.000	27972236	50.0	51.8	
						RPD = 0.89	
38 Mirex							
1	8.016	8.016	0.000	349932979	50.0	51.1	
2	8.344	8.344	0.000	46808816	50.0	51.7	
						RPD = 1.13	
39 Endosulfan sulfate							
1	8.138	8.138	0.000	496366994	50.0	52.2	
2	7.841	7.841	0.000	63414174	50.0	51.8	
						RPD = 0.87	
40 Endrin ketone							
1	8.429	8.429	0.000	528619675	50.0	52.9	
2	8.396	8.396	0.000	70279476	50.0	52.2	
						RPD = 1.42	
$ 41 DCB Decachlorobiphenyl							
1	9.446	9.446	0.000	327463502	50.0	52.7	
2	9.668	9.668	0.000	46374378	50.0	52.4	
						RPD = 0.46	

Reagents:

8081IcalL4_00031	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

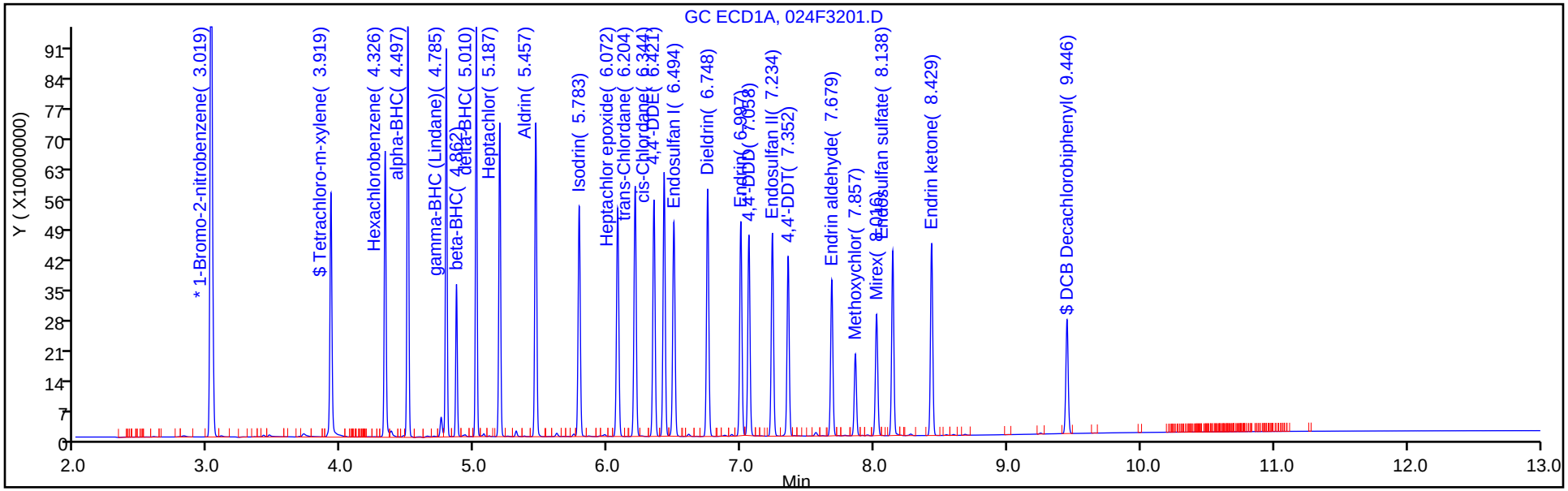
Report Date: 14-Oct-2018 22:11:55 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

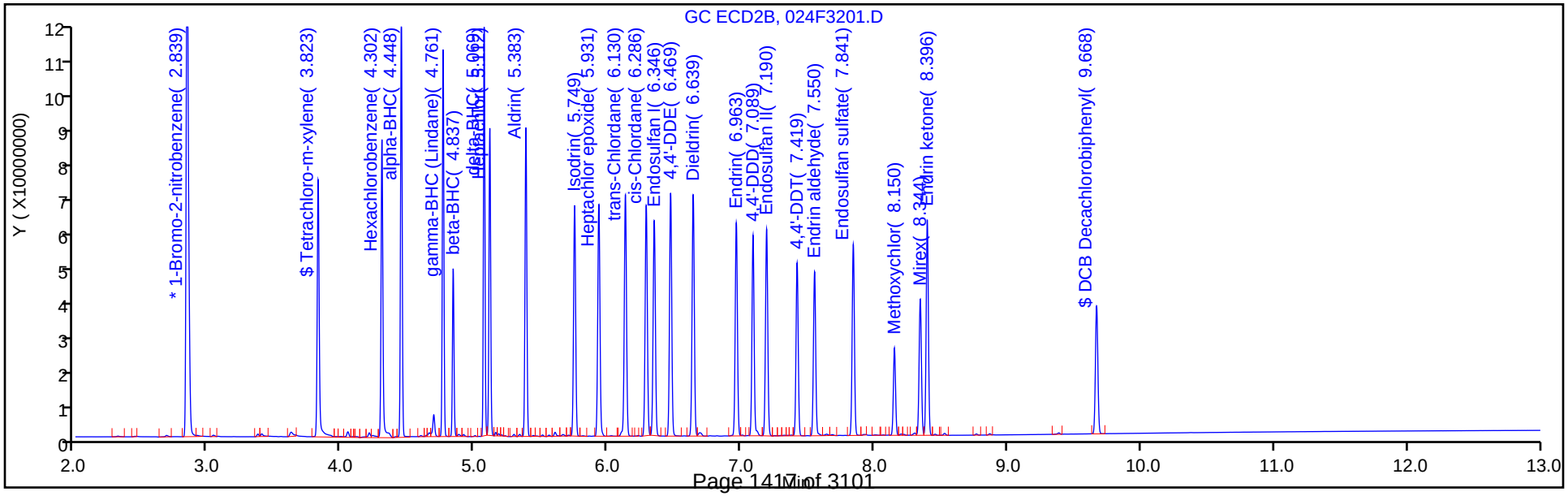
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\024F3201.D

Injection Date:	13-Oct-2018 19:57:23	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD4 AB			Worklist Smp#:	29
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\025F3301.D
Lims ID: STD3 AB
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 13-Oct-2018 20:14:49 ALS Bottle#: 25 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD3
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:11:56 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:17:21

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						96.0	
2						100.5	
						RPD = 4.51	
* 2 1-Bromo-2-nitrobenzene							
1	3.020	3.019	0.001	1708743357	150.0	150.0	
2	2.839	2.839	0.000	189250238	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.919	3.919	0.000	302832702	25.0	24.3	
2	3.823	3.823	0.000	39633690	25.0	25.4	
						RPD = 4.54	
5 Hexachlorobenzene							
1	4.326	4.326	0.000	317851410	25.0	24.3	
2	4.301	4.302	-0.001	42722842	25.0	26.0	
						RPD = 6.71	
8 alpha-BHC							
1	4.497	4.497	0.000	449507972	25.0	24.0	
2	4.447	4.448	-0.001	52885133	25.0	25.1	
						RPD = 4.26	
9 gamma-BHC (Lindane)							
1	4.785	4.785	0.000	385635283	25.0	24.0	
2	4.761	4.761	0.000	45850109	25.0	25.1	
						RPD = 4.13	
10 beta-BHC							
1	4.862	4.862	0.000	150050051	25.0	23.9	
2	4.836	4.837	-0.001	19996794	25.0	25.3	
						RPD = 5.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.010	5.010	0.000	392697114	25.0	24.1	
2	5.069	5.069	0.000	46474767	25.0	25.1	
						RPD = 3.96	
15 Heptachlor							
1	5.187	5.187	0.000	349955154	25.0	24.6	
2	5.111	5.112	-0.001	40161455	25.0	25.3	
						RPD = 3.00	
16 Aldrin							
1	5.457	5.457	0.000	370973392	25.0	24.4	
2	5.383	5.383	0.000	42909032	25.0	25.1	
						RPD = 2.83	
18 Isodrin							
1	5.783	5.783	0.000	298789524	25.0	24.5	
2	5.748	5.749	-0.001	36890552	25.0	25.3	
						RPD = 3.01	
21 Heptachlor epoxide							
1	6.073	6.072	0.001	320747071	25.0	24.7	
2	5.930	5.931	-0.001	39660540	25.0	25.4	
						RPD = 2.64	
22 trans-Chlordane							
1	6.203	6.204	-0.001	335790425	25.0	24.2	
2	6.129	6.130	-0.001	41653596	25.0	25.5	
						RPD = 5.41	
23 cis-Chlordane							
1	6.344	6.344	0.000	321433079	25.0	24.2	
2	6.285	6.286	-0.001	39100281	25.0	25.2	
						RPD = 4.13	
24 4,4'-DDE							
1	6.421	6.421	0.000	340651862	25.0	24.5	
2	6.469	6.469	0.000	40427222	25.0	25.2	
						RPD = 3.05	
25 Endosulfan I							
1	6.494	6.494	0.000	304465713	25.0	24.8	
2	6.346	6.346	0.000	37660075	25.0	25.5	
						RPD = 2.80	
27 Dieldrin							
1	6.748	6.748	0.000	335595524	25.0	24.7	
2	6.638	6.639	-0.001	40874216	25.0	25.3	
						RPD = 2.54	
30 Endrin							
1	6.997	6.997	0.000	288123020	25.0	24.5	
2	6.963	6.963	0.000	35861993	25.0	25.2	
						RPD = 2.96	
32 4,4'-DDD							
1	7.058	7.058	0.000	259223669	25.0	24.0	
2	7.088	7.089	-0.001	32918226	25.0	25.2	
						RPD = 4.95	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.233	7.234	-0.001	273685389	25.0	24.6	
2	7.190	7.190	0.000	35501572	25.0	25.5	
						RPD = 3.40	
35 4,4'-DDT							
1	7.352	7.352	0.000	228369137	25.0	23.8	
2	7.419	7.419	0.000	27647840	25.0	24.6	
						RPD = 3.42	
36 Endrin aldehyde							
1	7.679	7.679	0.000	206854248	25.0	24.3	
2	7.550	7.550	0.000	28263198	25.0	25.3	
						RPD = 4.30	
37 Methoxychlor							
1	7.856	7.857	-0.001	108979408	25.0	24.5	
2	8.150	8.150	0.000	14155118	25.0	25.3	
						RPD = 3.13	
38 Mirex							
1	8.015	8.016	-0.001	172426127	25.0	24.2	
2	8.344	8.344	0.000	24325156	25.0	25.6	
						RPD = 5.67	
39 Endosulfan sulfate							
1	8.137	8.138	-0.001	238398480	25.0	24.3	
2	7.841	7.841	0.000	32381376	25.0	25.4	
						RPD = 4.66	
40 Endrin ketone							
1	8.429	8.429	0.000	252349419	25.0	24.4	
2	8.396	8.396	0.000	35593065	25.0	25.4	
						RPD = 4.25	
$ 41 DCB Decachlorobiphenyl							
1	9.445	9.446	-0.001	159322167	25.0	24.5	
2	9.668	9.668	0.000	23709545	25.0	25.6	
						RPD = 4.30	
S 3 Endosulfan, Total							
1						73.7	
2						76.4	
						RPD = 3.61	

Reagents:

8081IcalL3_00028	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

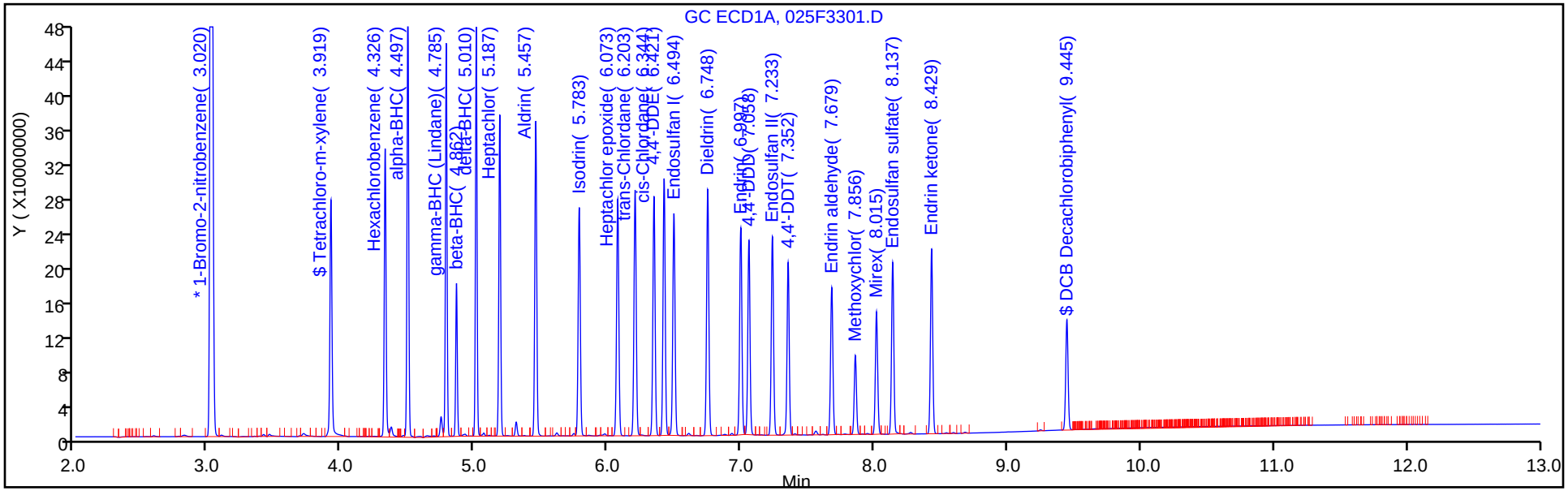
Report Date: 14-Oct-2018 22:11:59 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

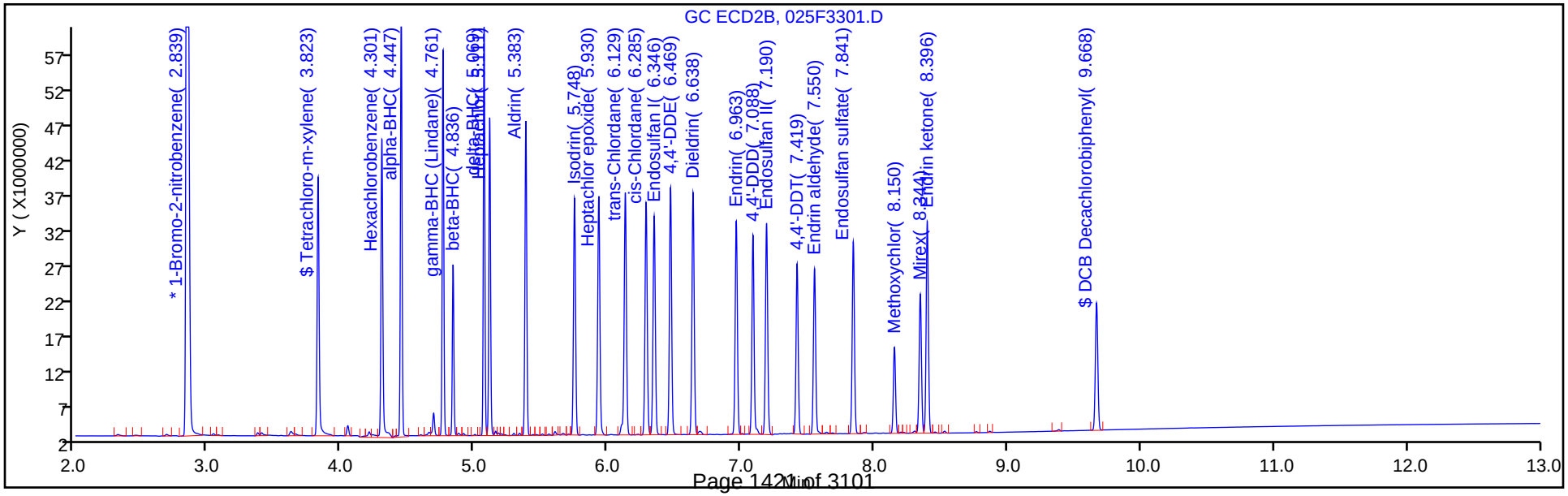
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\025F3301.D

Injection Date:	13-Oct-2018 20:14:49	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD3 AB			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\026F3401.D
Lims ID: STD2 AB
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 13-Oct-2018 20:32:15 ALS Bottle#: 26 Worklist Smp#: 31
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD2
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:12:00 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:17:42

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						38.6	
2						40.9	
						RPD = 5.94	
* 2 1-Bromo-2-nitrobenzene							
1	3.020	3.019	0.001	1728425275	150.0	150.0	
2	2.839	2.839	0.000	187345459	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.918	3.919	-0.001	119672981	10.0	9.74	
2	3.822	3.823	-0.001	16477394	10.0	10.3	
						RPD = 5.80	
5 Hexachlorobenzene							
1	4.325	4.326	-0.001	126156548	10.0	9.73	
2	4.301	4.302	-0.001	17019247	10.0	10.1	
						RPD = 4.06	
8 alpha-BHC							
1	4.496	4.497	-0.001	174586944	10.0	9.64	
2	4.446	4.448	-0.002	21525266	10.0	10.1	
						RPD = 4.69	
9 gamma-BHC (Lindane)							
1	4.784	4.785	-0.001	150377013	10.0	9.57	
2	4.760	4.761	-0.001	18724325	10.0	10.2	
						RPD = 6.55	
10 beta-BHC							
1	4.861	4.862	-0.001	63756954	10.0	9.77	
2	4.836	4.837	-0.001	8495816	10.0	10.4	
						RPD = 6.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.010	5.010	0.000	151129545	10.0	9.56	
2	5.068	5.069	-0.001	18818212	10.0	10.2	
						RPD = 6.40	
15 Heptachlor							
1	5.186	5.187	-0.001	136220069	10.0	9.74	
2	5.111	5.112	-0.001	16505122	10.0	10.3	
						RPD = 5.70	
16 Aldrin							
1	5.456	5.457	-0.001	144846582	10.0	9.74	
2	5.382	5.383	-0.001	17731926	10.0	10.3	
						RPD = 5.89	
18 Isodrin							
1	5.783	5.783	0.000	117749615	10.0	9.72	
2	5.748	5.749	-0.001	15625487	10.0	10.5	
						RPD = 7.33	
21 Heptachlor epoxide							M
1	6.071	6.072	-0.001	126886425	10.0	9.83	
2	5.929	5.931	-0.002	16641254	10.0	10.4	M
						RPD = 5.98	
22 trans-Chlordane							
1	6.202	6.204	-0.002	129991480	10.0	9.51	
2	6.129	6.130	-0.001	16929113	10.0	10.3	
						RPD = 7.70	
23 cis-Chlordane							
1	6.344	6.344	0.000	126327949	10.0	9.68	
2	6.286	6.286	0.000	16380093	10.0	10.4	
						RPD = 7.07	
24 4,4'-DDE							
1	6.420	6.421	-0.001	131488025	10.0	9.65	
2	6.468	6.469	-0.001	16485248	10.0	10.3	
						RPD = 6.16	
25 Endosulfan I							
1	6.493	6.494	-0.001	120234528	10.0	9.81	
2	6.346	6.346	0.000	15849043	10.0	10.5	
						RPD = 6.40	
27 Dieldrin							
1	6.747	6.748	-0.001	131325618	10.0	9.76	
2	6.638	6.639	-0.001	16696805	10.0	10.3	
						RPD = 5.11	
30 Endrin							
1	6.996	6.997	-0.001	110965652	10.0	9.63	
2	6.962	6.963	-0.001	14572762	10.0	10.2	
						RPD = 6.20	
32 4,4'-DDD							
1	7.057	7.058	-0.001	100049743	10.0	9.44	
2	7.088	7.089	-0.001	13387732	10.0	10.2	
						RPD = 7.73	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.233	7.234	-0.001	107239359	10.0	9.69	
2	7.189	7.190	-0.001	14939909	10.0	10.4	
						RPD = 6.87	
35 4,4'-DDT							
1	7.352	7.352	0.000	86360678	10.0	9.37	
2	7.418	7.419	-0.001	11005760	10.0	9.98	
						RPD = 6.32	
36 Endrin aldehyde							
1	7.679	7.679	0.000	81761942	10.0	9.60	
2	7.550	7.550	0.000	11820141	10.0	10.3	
						RPD = 7.30	
37 Methoxychlor							
1	7.856	7.857	-0.001	43260093	10.0	9.68	
2	8.149	8.150	-0.001	5763013	10.0	10.2	
						RPD = 5.03	
38 Mirex							
1	8.015	8.016	-0.001	69898898	10.0	9.68	
2	8.343	8.344	-0.001	10513875	10.0	10.5	
						RPD = 8.20	
39 Endosulfan sulfate							
1	8.137	8.138	-0.001	93045319	10.0	9.55	
2	7.840	7.841	-0.001	13487473	10.0	10.3	
						RPD = 7.54	
40 Endrin ketone							
1	8.428	8.429	-0.001	97881347	10.0	9.50	
2	8.396	8.396	0.000	14668648	10.0	10.3	
						RPD = 7.65	
$ 41 DCB Decachlorobiphenyl							
1	9.443	9.446	-0.003	63321098	10.0	9.53	
2	9.668	9.668	0.000	10078459	10.0	10.4	
						RPD = 8.76	
S 3 Endosulfan, Total							
1						29.1	
2						31.1	
						RPD = 6.93	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

8081IcalL2_00025	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

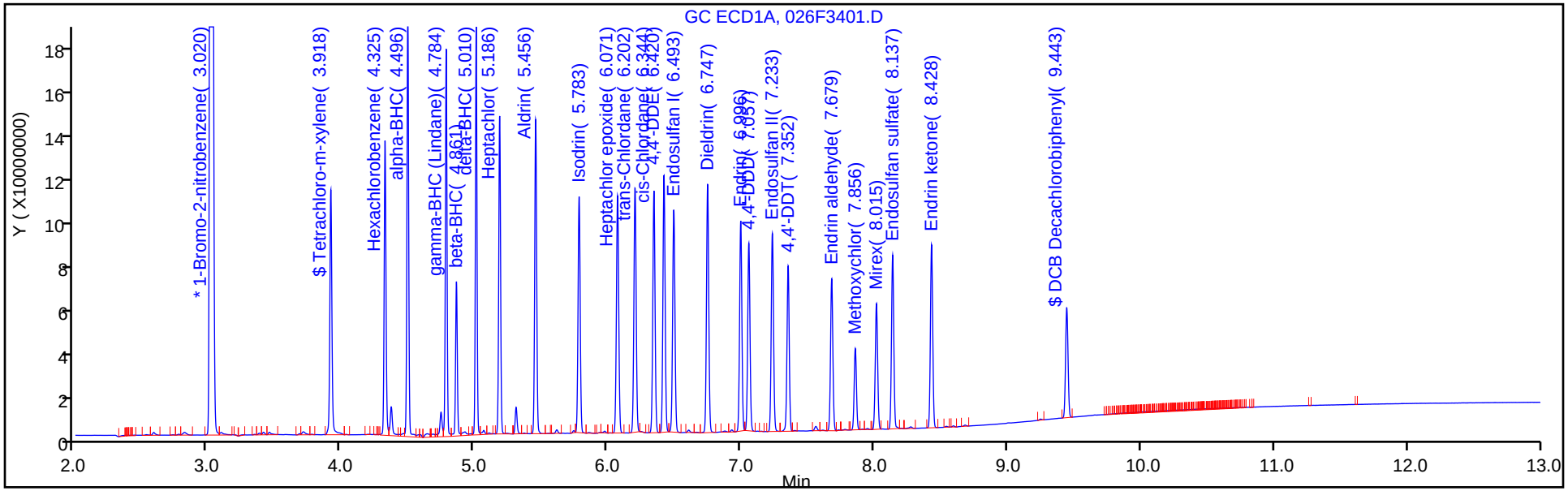
Report Date: 14-Oct-2018 22:12:02 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

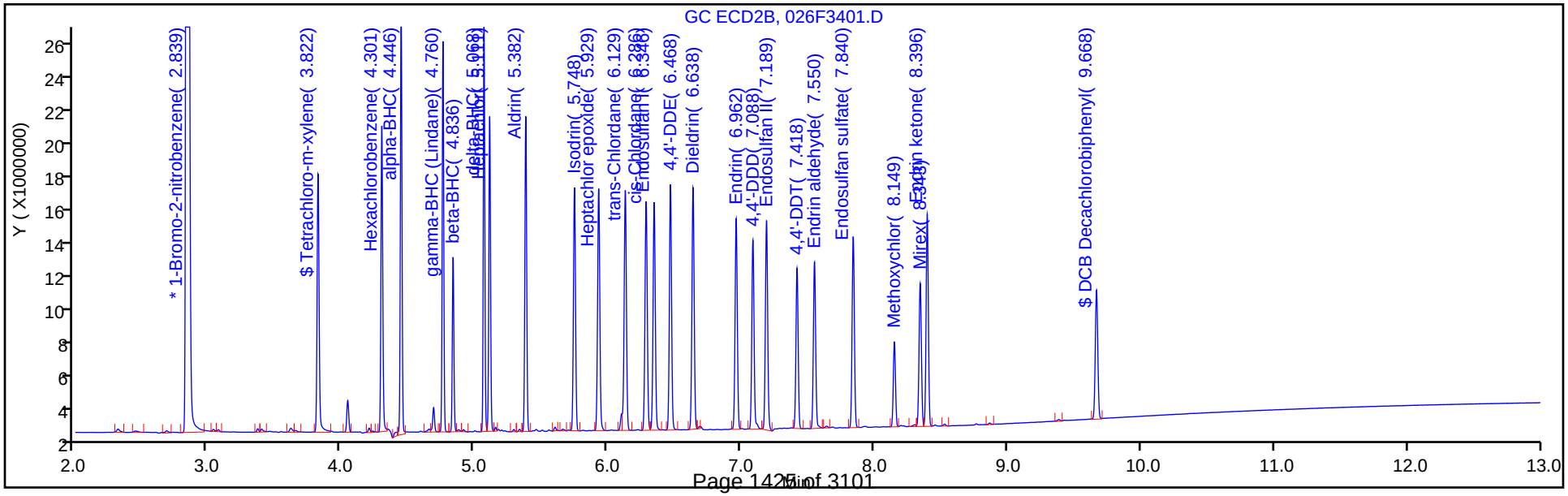
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\026F3401.D

Injection Date:	13-Oct-2018 20:32:15	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD2 AB			Worklist Smp#:	31
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Manual Integration/User Assign Peak Report

TestAmerica Denver

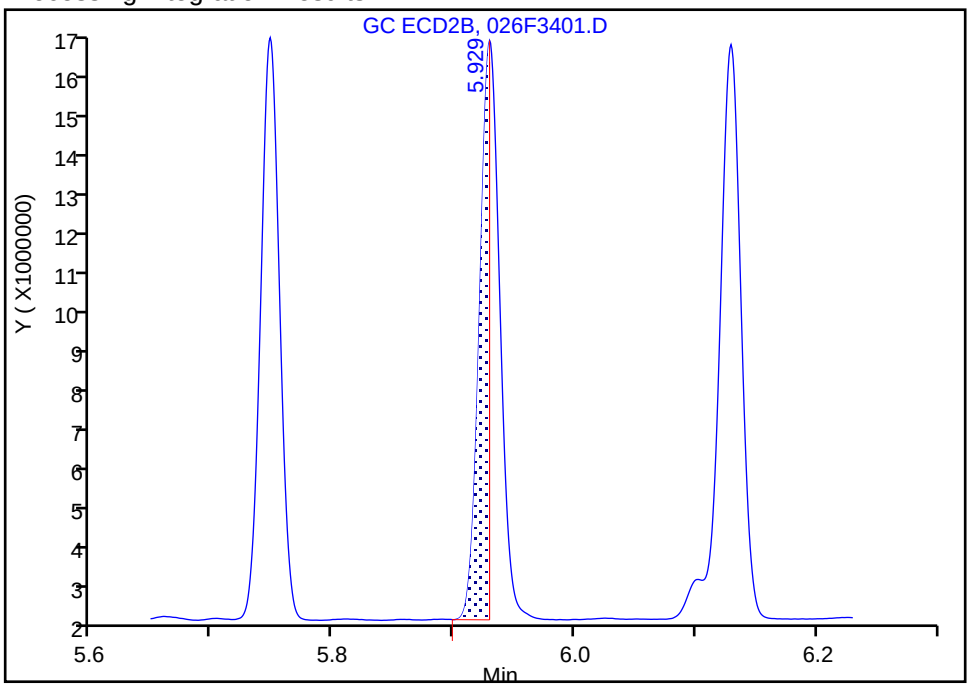
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\026F3401.D
Injection Date: 13-Oct-2018 20:32:15 Instrument ID: SGC_P2
Lims ID: STD2 AB
Client ID:
Operator ID: TEM ALS Bottle#: 26 Worklist Smp#: 31
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: P2 8081 IS Limit Group: GCSV - 8081A - IS
Column: CLP2 (0.32 mm) Detector GC ECD2B

21 Heptachlor epoxide, CAS: 1024-57-3

Signal: 2

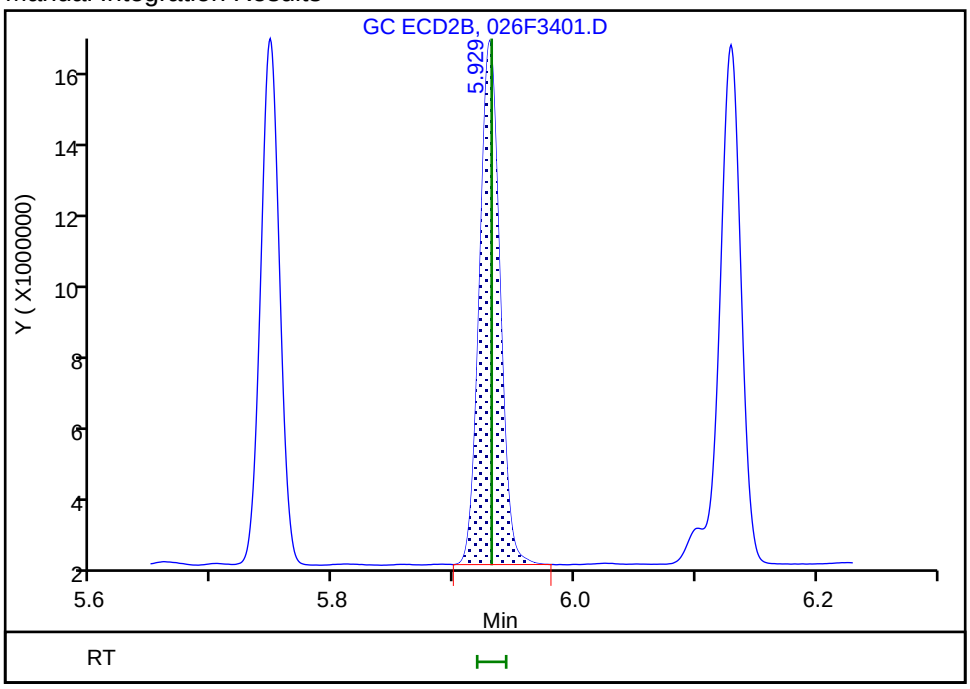
Processing Integration Results

RT: 5.93
Area: 8040349
Amount: 6.830396
Amount Units: ng/mL



Manual Integration Results

RT: 5.93
Area: 16641254
Amount: 10.438106
Amount Units: ng/mL



Reviewer: mooret, 14-Oct-2018 09:17:36
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D
Lims ID: STD1 AB
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 13-Oct-2018 20:49:46 ALS Bottle#: 27 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STD1
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:12:04 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:19:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						16.3	
2						15.9	
						RPD = 2.72	
* 2 1-Bromo-2-nitrobenzene							
1	3.021	3.019	0.002	1645292180	150.0	150.0	
2	2.839	2.839	0.000	186440198	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.919	3.919	0.000	44633037	4.00	4.05	
2	3.823	3.823	0.000	6851543	4.00	3.94	
						RPD = 2.74	
5 Hexachlorobenzene							
1	4.326	4.326	0.000	47816993	4.00	4.05	
2	4.302	4.302	0.000	7168590	4.00	3.96	
						RPD = 2.34	
8 alpha-BHC							
1	4.497	4.497	0.000	62852215	4.00	4.07	
2	4.447	4.448	-0.001	8858523	4.00	3.98	
						RPD = 2.23	
9 gamma-BHC (Lindane)							
1	4.785	4.785	0.000	56481667	4.00	4.08	
2	4.761	4.761	0.000	7435354	4.00	3.97	
						RPD = 2.89	
10 beta-BHC							
1	4.862	4.862	0.000	26687989	4.00	4.06	
2	4.837	4.837	0.000	3576692	4.00	3.94	
						RPD = 2.98	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.010	5.010	0.000	55669358	4.00	4.08	
2	5.069	5.069	0.000	7424235	4.00	3.97	
						RPD = 2.79	
15 Heptachlor							
1	5.187	5.187	0.000	50118465	4.00	4.04	
2	5.112	5.112	0.000	6621110	4.00	3.95	
						RPD = 2.42	
16 Aldrin							
1	5.457	5.457	0.000	52919960	4.00	4.05	
2	5.383	5.383	0.000	7030048	4.00	3.95	
						RPD = 2.49	
18 Isodrin							
1	5.784	5.783	0.001	44705372	4.00	4.05	
2	5.748	5.749	-0.001	6366004	4.00	3.93	
						RPD = 3.06	
21 Heptachlor epoxide							
1	6.073	6.072	0.001	47553101	4.00	4.03	
2	5.930	5.931	-0.001	6762032	4.00	3.93	
						RPD = 2.56	
22 trans-Chlordane							
1	6.203	6.204	-0.001	49944652	4.00	4.09	
2	6.130	6.130	0.000	6819666	4.00	3.95	
						RPD = 3.42	
23 cis-Chlordane							
1	6.344	6.344	0.000	47100490	4.00	4.06	
2	6.286	6.286	0.000	6646251	4.00	3.94	
						RPD = 3.11	
24 4,4'-DDE							
1	6.421	6.421	0.000	48738148	4.00	4.06	
2	6.469	6.469	0.000	6542674	4.00	3.95	
						RPD = 2.61	
25 Endosulfan I							
1	6.494	6.494	0.000	45543940	4.00	4.03	
2	6.347	6.346	0.001	6507441	4.00	3.92	
						RPD = 2.71	
27 Dieldrin							
1	6.748	6.748	0.000	48904591	4.00	4.04	
2	6.638	6.639	-0.001	6664239	4.00	3.95	
						RPD = 2.17	
30 Endrin							
1	6.997	6.997	0.000	41251930	4.00	4.06	
2	6.963	6.963	0.000	5757882	4.00	3.96	
						RPD = 2.60	
32 4,4'-DDD							
1	7.058	7.058	0.000	38622027	4.00	4.10	
2	7.088	7.089	-0.001	5391187	4.00	3.96	
						RPD = 3.38	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.234	7.234	0.000	41034933	4.00	4.05	
2	7.191	7.190	0.001	6270548	4.00	3.93	
						RPD = 2.93	
35 4,4'-DDT							
1	7.352	7.352	0.000	31997998	4.00	4.11	
2	7.419	7.419	0.000	4302693	4.00	4.01	
						RPD = 2.63	
36 Endrin aldehyde							
1	7.678	7.679	-0.001	32150414	4.00	4.07	
2	7.551	7.550	0.001	4932964	4.00	3.94	
						RPD = 3.18	
37 Methoxychlor							
1	7.857	7.857	0.000	17004835	4.00	4.05	
2	8.150	8.150	0.000	2361021	4.00	3.96	
						RPD = 2.20	
38 Mirex							
1	8.016	8.016	0.000	28621709	4.00	4.16	
2	8.344	8.344	0.000	4546008	4.00	3.91	
						RPD = 6.31	
39 Endosulfan sulfate							
1	8.137	8.138	-0.001	36051087	4.00	4.08	
2	7.841	7.841	0.000	5646467	4.00	3.94	
						RPD = 3.30	
40 Endrin ketone							
1	8.429	8.429	0.000	38530653	4.00	4.08	
2	8.397	8.396	0.001	6086476	4.00	3.95	
						RPD = 3.26	
$ 41 DCB Decachlorobiphenyl							
1	9.446	9.446	0.000	26336210	4.00	4.07	
2	9.668	9.668	0.000	4339575	4.00	3.92	
						RPD = 3.76	
S 3 Endosulfan, Total							
1						12.1	
2						11.8	
						RPD = 2.98	

Reagents:

8081IcalL1_00025	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

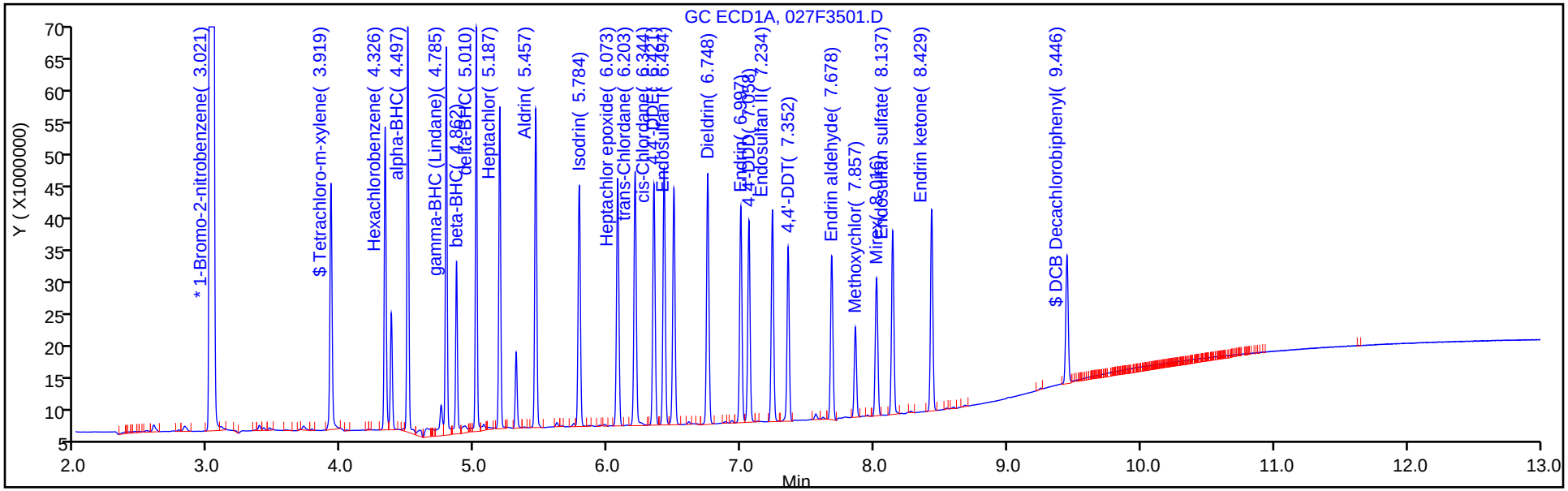
Report Date: 14-Oct-2018 22:12:07 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

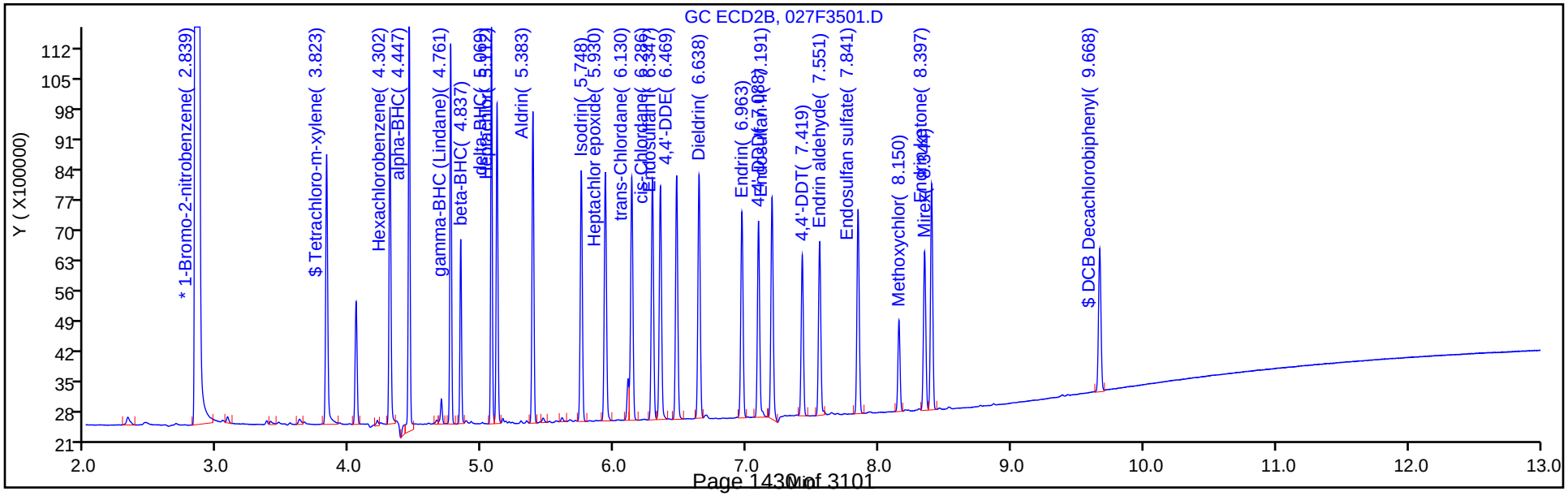
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Injection Date:	13-Oct-2018 20:49:46	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	STD1 AB			Worklist Smp#:	32
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: PEM 280-438595/7 Calibration Date: 11/23/2018 18:09

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11230007.D Conc. Units: ug/L

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	6.97	547165871	2.71	15	
Endrin aldehyde	7.65	6905312			
Endrin ketone	8.40	8328748			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	7.33	438737440	1.32	15	
4,4'-DDD	7.03	4709831			
4,4'-DDE	6.40	1139233			

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230007.D
Lims ID: PEM
Client ID:
Sample Type: PEM
Inject. Date: 23-Nov-2018 18:09:02 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: PEM
Misc. Info.: 280-0076490-007
Operator ID: TEM Instrument ID: SGC_P2
Sublist:

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:33:04 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.006	3.005	0.001	1772713645	150.0	150.0	
2	2.809	2.807	0.001	228154774	150.0	150.0	
24 4,4'-DDE							
1	6.399	6.395	0.004	1139233		0.5727	
2	6.421	6.418	0.003	160872		-0.1449	
						RPD = 335.54	
30 Endrin							
1	6.972	6.970	0.002	547165871	40.0	44.4	
2	6.908	6.905	0.003	71904333	40.0	42.0	
						RPD = 5.42	
32 4,4'-DDD							
1	7.034	7.031	0.003	4709831		0.8672	
2	7.033	7.033	0.000	1895950		0.9416	
						RPD = 8.23	
35 4,4'-DDT							
1	7.327	7.325	0.002	438737440	40.0	43.4	
2	7.366	7.364	0.002	59719478	40.0	44.0	
						RPD = 1.35	
36 Endrin aldehyde							
1	7.654	7.650	0.004	6905312		0.9547	
2	7.494	7.490	0.004	993772		0.0921	
						RPD = 164.81	
40 Endrin ketone							
1	8.403	8.400	0.003	8328748		1.02	
2	8.338	8.335	0.003	1438615		0.3038	
						RPD = 108.07	

Reagents:

8081_EvalBPEM_00013	Amount Added:	1.00	Units: ml	
8081_IS_00008	Amount Added:	75.00	Units: uL	Run Reagent

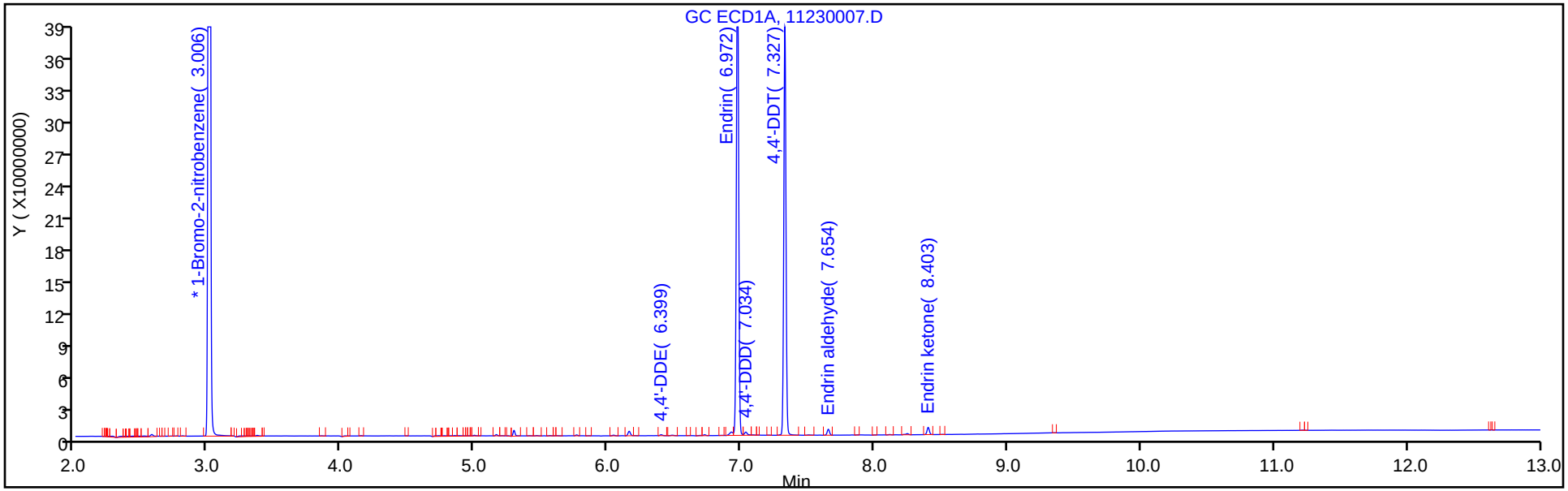
Report Date: 25-Nov-2018 19:33:06 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

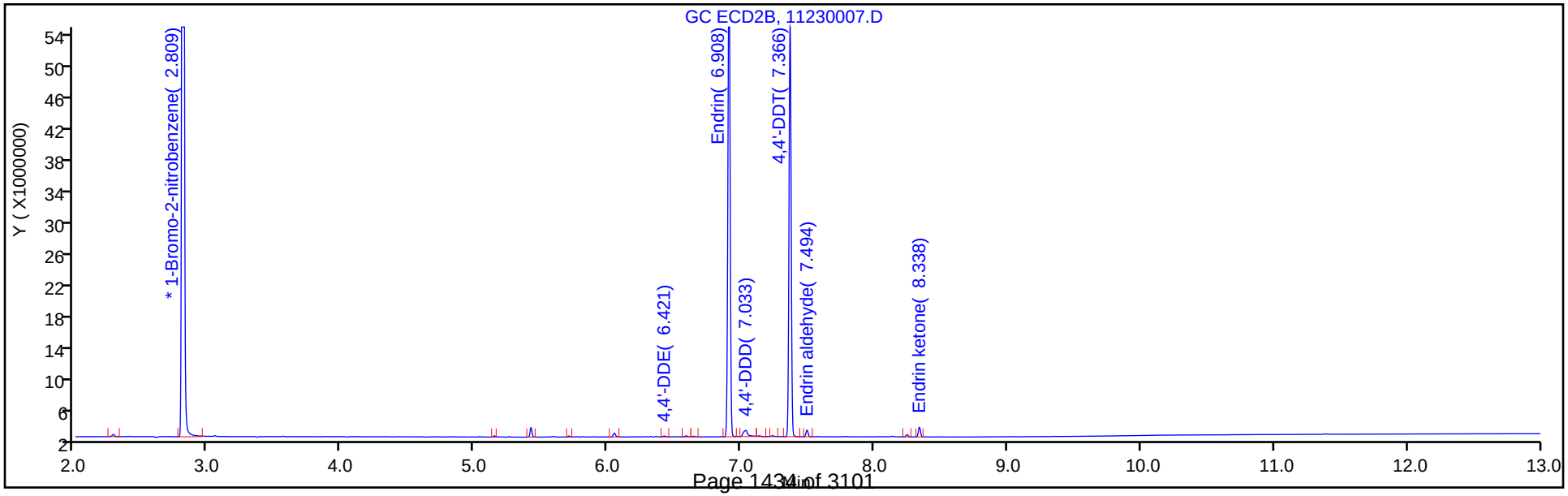
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230007.D

Injection Date:	23-Nov-2018 18:09:02	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	PEM			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: PEM 280-438595/7 Calibration Date: 11/23/2018 18:09

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11230007.D Conc. Units: ug/L

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	6.91	71904333	3.27	15	
Endrin aldehyde	7.49	993772			
Endrin ketone	8.34	1438615			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	7.37	59719478	3.33	15	
4,4'-DDD	7.03	1895950			
4,4'-DDE	6.42	160872			

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230007.D
Lims ID: PEM
Client ID:
Sample Type: PEM
Inject. Date: 23-Nov-2018 18:09:02 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: PEM
Misc. Info.: 280-0076490-007
Operator ID: TEM Instrument ID: SGC_P2
Sublist:

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:33:04 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.006	3.005	0.001	1772713645	150.0	150.0	
2	2.809	2.807	0.001	228154774	150.0	150.0	
24 4,4'-DDE							
1	6.399	6.395	0.004	1139233		0.5727	
2	6.421	6.418	0.003	160872		-0.1449	
						RPD = 335.54	
30 Endrin							
1	6.972	6.970	0.002	547165871	40.0	44.4	
2	6.908	6.905	0.003	71904333	40.0	42.0	
						RPD = 5.42	
32 4,4'-DDD							
1	7.034	7.031	0.003	4709831		0.8672	
2	7.033	7.033	0.000	1895950		0.9416	
						RPD = 8.23	
35 4,4'-DDT							
1	7.327	7.325	0.002	438737440	40.0	43.4	
2	7.366	7.364	0.002	59719478	40.0	44.0	
						RPD = 1.35	
36 Endrin aldehyde							
1	7.654	7.650	0.004	6905312		0.9547	
2	7.494	7.490	0.004	993772		0.0921	
						RPD = 164.81	
40 Endrin ketone							
1	8.403	8.400	0.003	8328748		1.02	
2	8.338	8.335	0.003	1438615		0.3038	
						RPD = 108.07	

Reagents:

8081_EvalBPEM_00013	Amount Added:	1.00	Units: ml	
8081_IS_00008	Amount Added:	75.00	Units: uL	Run Reagent

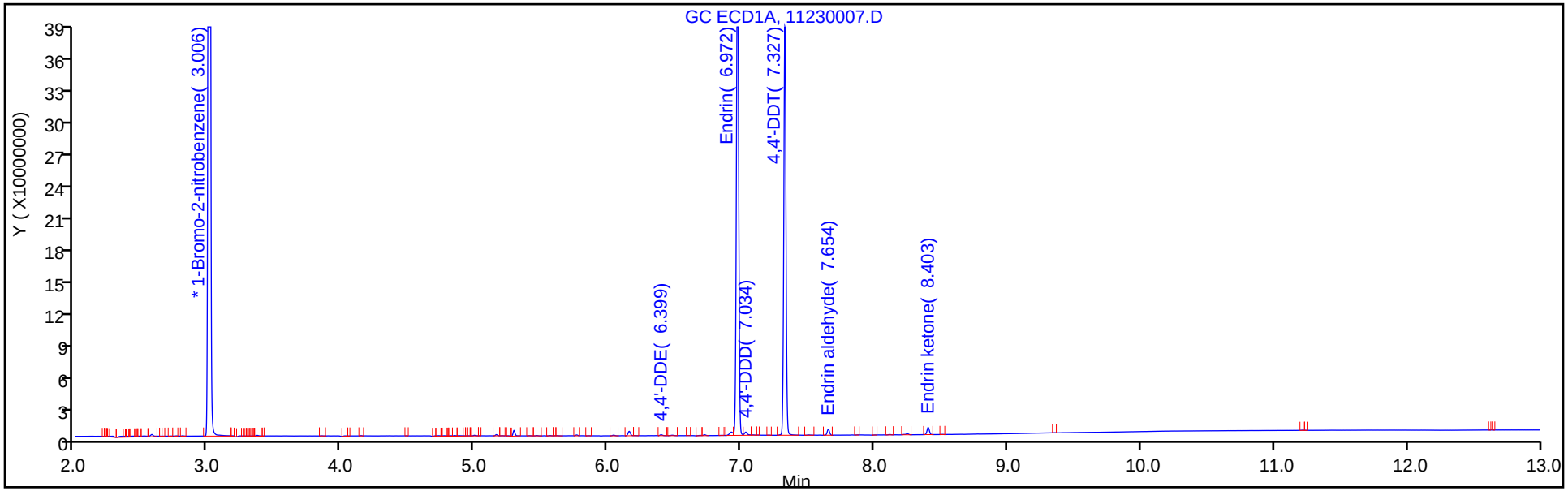
Report Date: 25-Nov-2018 19:33:06 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

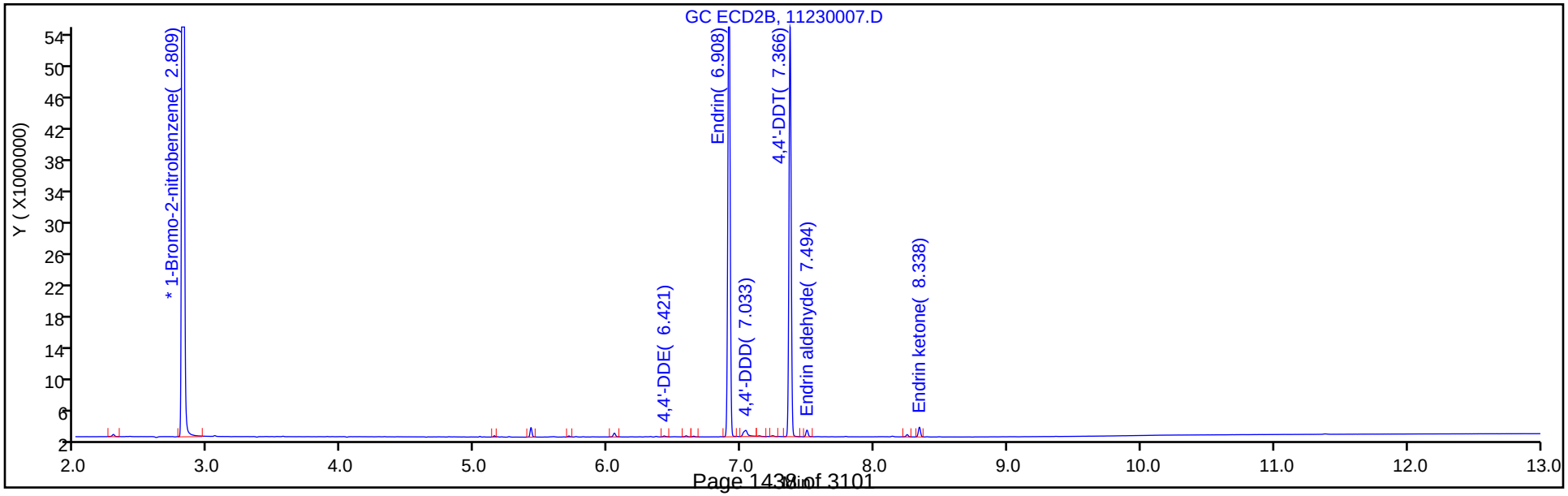
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230007.D

Injection Date:	23-Nov-2018 18:09:02	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	PEM			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-433303/34 Calibration Date: 10/13/2018 21:24

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 029F3701.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Lin2		0.0030		464	1000	-53.6*	20.0
Toxaphene Peak 2	Lin2		0.0110		660	1000	-34.0*	20.0
Toxaphene Peak 3	Lin2		0.0151		815	1000	-18.5	20.0
Toxaphene Peak 4	Lin2		0.0082		1080	1000	8.3	20.0
Toxaphene Peak 5	Lin2		0.0114		1480	1000	48.4*	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-433303/34 Calibration Date: 10/13/2018 21:24

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 029F3701.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	6.23	6.23	6.26
Toxaphene Peak 2	6.85	6.84	6.87
Toxaphene Peak 3	7.52	7.52	7.54
Toxaphene Peak 4	7.89	7.87	7.90
Toxaphene Peak 5	8.20	8.19	8.22

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\029F3701.D
Lims ID: ICV TOX
Client ID:
Sample Type: ICV
Inject. Date: 13-Oct-2018 21:24:35 ALS Bottle#: 29 Worklist Smp#: 34
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV TOX
Operator ID: TEM Instrument ID: SGC_P2
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:12:04 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:40:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.018	3.019	-0.001	1963980017	150.0	150.0	
2	2.838	2.839	-0.002	209759075	150.0	150.0	
28 Toxaphene							Ma
1	6.230	6.246	-0.016	39169071	1000.0	464.3	M
1	6.848	6.854	-0.006	144072882	1000.0	660.3	M
1	7.516	7.528	-0.012	197948260	1000.0	815.4	M
1	7.886	7.886	0.000	107438429	1000.0	1083.4	M
1	8.203	8.204	-0.001	149524851	1000.0	1483.7	M
		Average of Peak Amounts =				901.4	
2	5.774	5.778	-0.004	6074445	1000.0	913.0	M
2	7.136	7.145	-0.009	18826032	1000.0	641.9	M
2	7.278	7.286	-0.008	62348552	1000.0	779.1	M
2	7.783	7.800	-0.017	34844907	1000.0	1522.8	M
2	8.088	8.096	-0.008	50429097	1000.0	1128.6	M
		Average of Peak Amounts =				997.1	
					RPD =	10.08	

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

8081ToxICVL3_00013	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

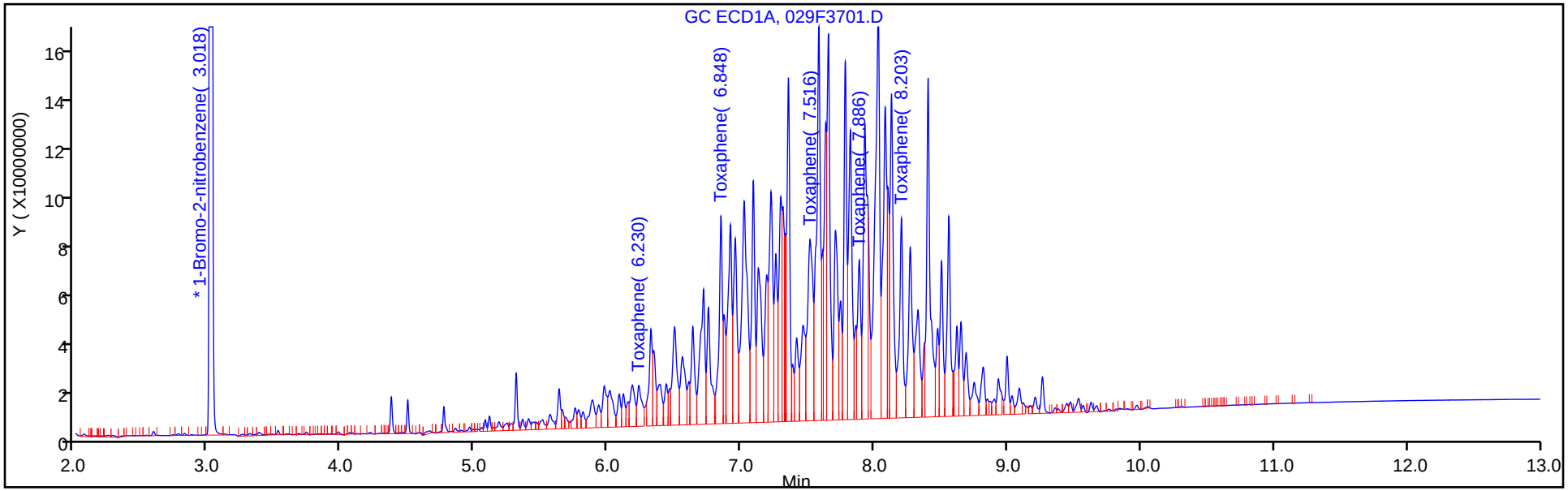
Report Date: 14-Oct-2018 22:12:10 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

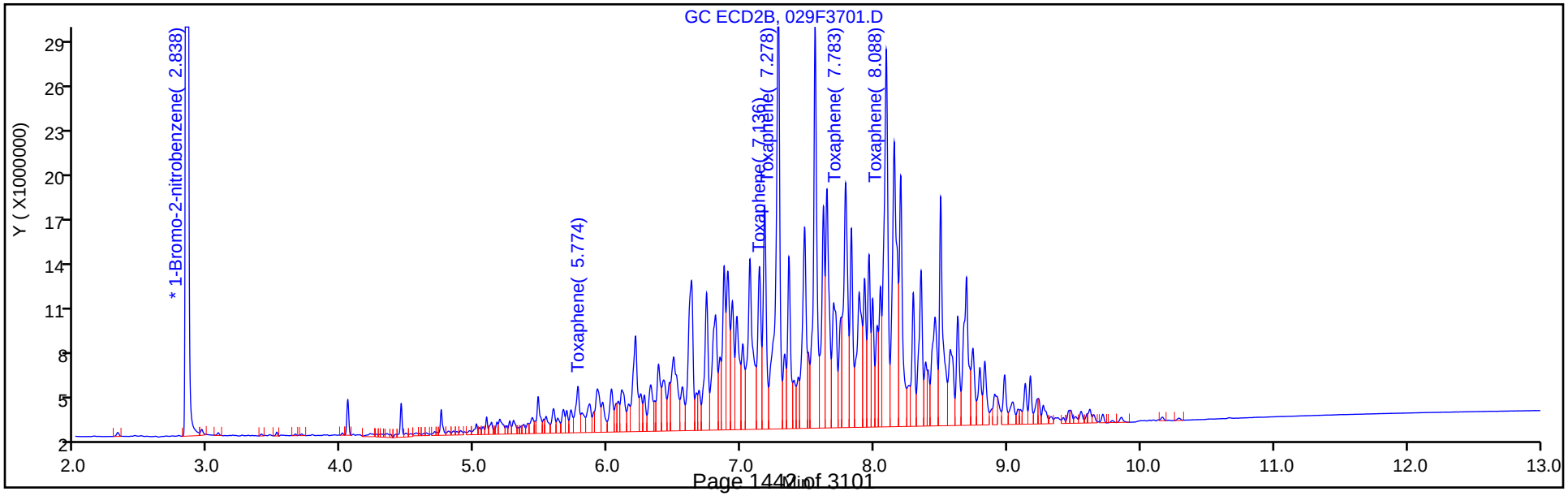
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\029F3701.D

Injection Date:	13-Oct-2018 21:24:35	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	ICV TOX			Worklist Smp#:	34
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Report Date: 14-Oct-2018 22:12:10 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\029F3701.D

Injection Date: 13-Oct-2018 21:24:35 Instrument ID: SGC_P2

Lims ID: ICV TOX

Client ID:

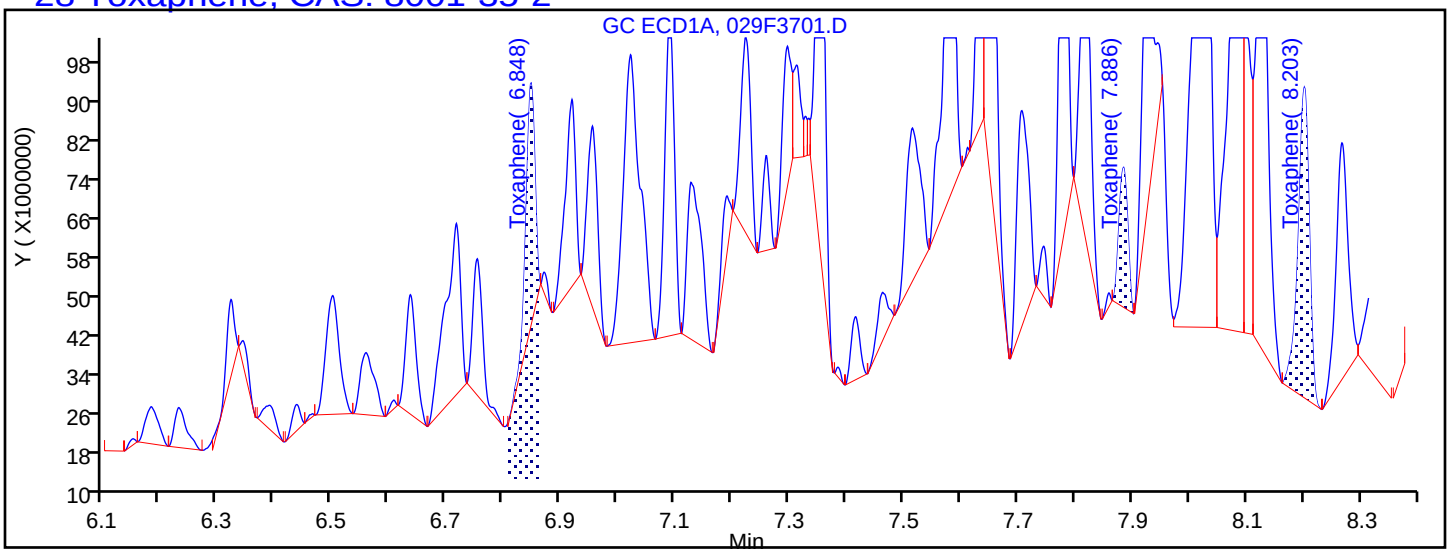
Operator ID: TEM ALS Bottle#: 29 Worklist Smp#: 34

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: P2 8081 IS Limit Group: GCSV - 8081A - IS

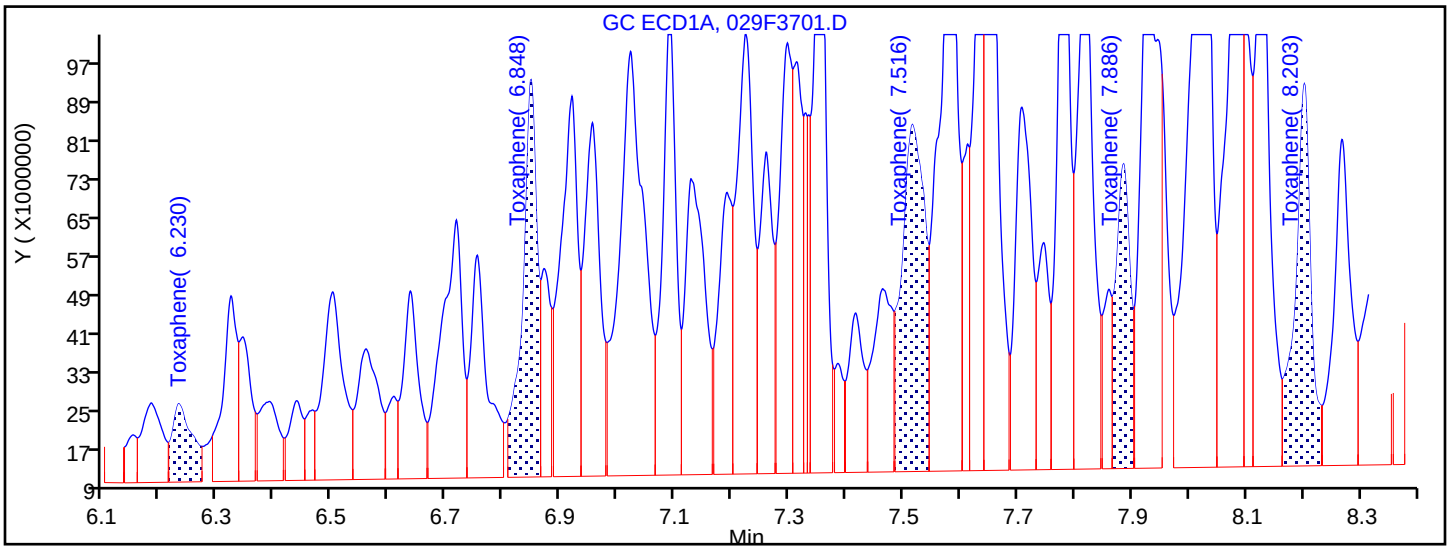
Column: CLP1 (0.32 mm) Detector GC ECD1A

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

6.246	Response = 0
6.848	Response = 54735220
7.528	Response = 0
7.886	Response = 30855926
8.203	Response = 87461515



Manual Integration Results

6.230	Response = 39169071	M
6.848	Response = 144072882	M
7.516	Response = 197948260	M
7.886	Response = 107438429	M
8.203	Response = 149524851	M

Reviewer: mooret, 14-Oct-2018 21:40:44

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-433303/34 Calibration Date: 10/13/2018 21:24

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 029F3701.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Lin2		0.0043		913	1000	-8.7	20.0
Toxaphene Peak 2	Lin2		0.0135		642	1000	-35.8*	20.0
Toxaphene Peak 3	Lin2		0.0446		779	1000	-22.1*	20.0
Toxaphene Peak 4	Lin2		0.0249		1520	1000	52.3*	20.0
Toxaphene Peak 5	Lin2		0.0361		1130	1000	12.9	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-433303/34 Calibration Date: 10/13/2018 21:24

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 029F3701.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	5.77	5.77	5.79
Toxaphene Peak 2	7.14	7.13	7.16
Toxaphene Peak 3	7.28	7.27	7.30
Toxaphene Peak 4	7.78	7.79	7.81
Toxaphene Peak 5	8.09	8.08	8.11

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\029F3701.D
Lims ID: ICV TOX
Client ID:
Sample Type: ICV
Inject. Date: 13-Oct-2018 21:24:35 ALS Bottle#: 29 Worklist Smp#: 34
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV TOX
Operator ID: TEM Instrument ID: SGC_P2
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:12:04 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 21:40:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.018	3.019	-0.001	1963980017	150.0	150.0	
2	2.838	2.839	-0.002	209759075	150.0	150.0	
28 Toxaphene							Ma
1	6.230	6.246	-0.016	39169071	1000.0	464.3	M
1	6.848	6.854	-0.006	144072882	1000.0	660.3	M
1	7.516	7.528	-0.012	197948260	1000.0	815.4	M
1	7.886	7.886	0.000	107438429	1000.0	1083.4	M
1	8.203	8.204	-0.001	149524851	1000.0	1483.7	M
		Average of Peak Amounts =				901.4	
2	5.774	5.778	-0.004	6074445	1000.0	913.0	M
2	7.136	7.145	-0.009	18826032	1000.0	641.9	M
2	7.278	7.286	-0.008	62348552	1000.0	779.1	M
2	7.783	7.800	-0.017	34844907	1000.0	1522.8	M
2	8.088	8.096	-0.008	50429097	1000.0	1128.6	M
		Average of Peak Amounts =				997.1	
					RPD =	10.08	

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

8081ToxICVL3_00013 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

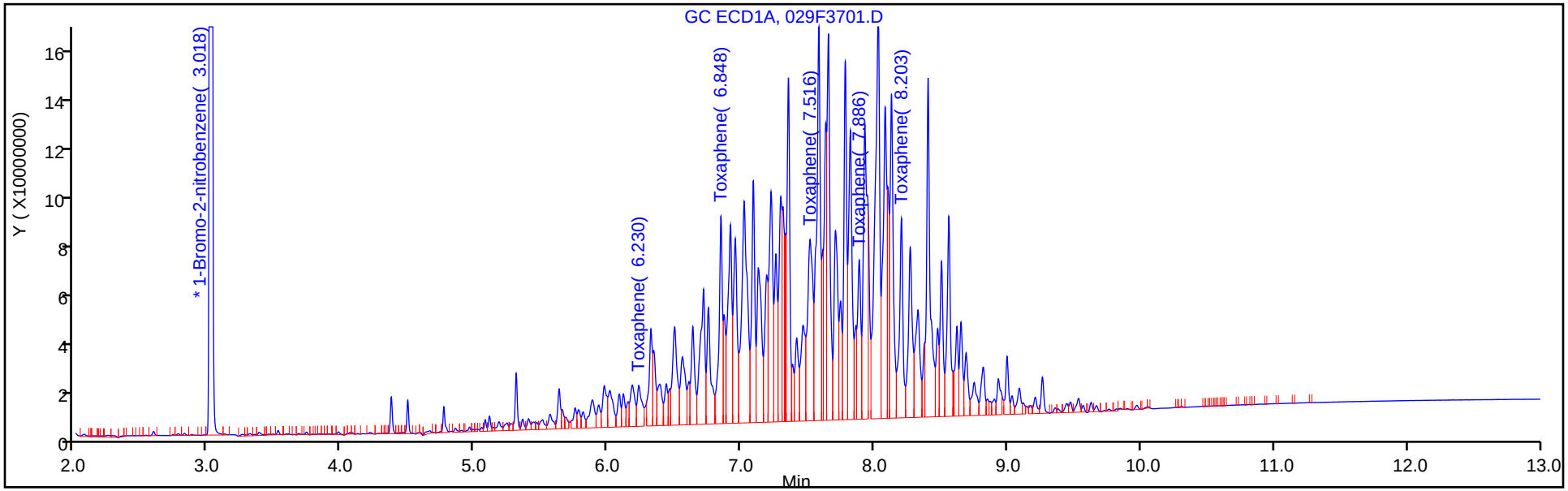
Report Date: 14-Oct-2018 22:12:10 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

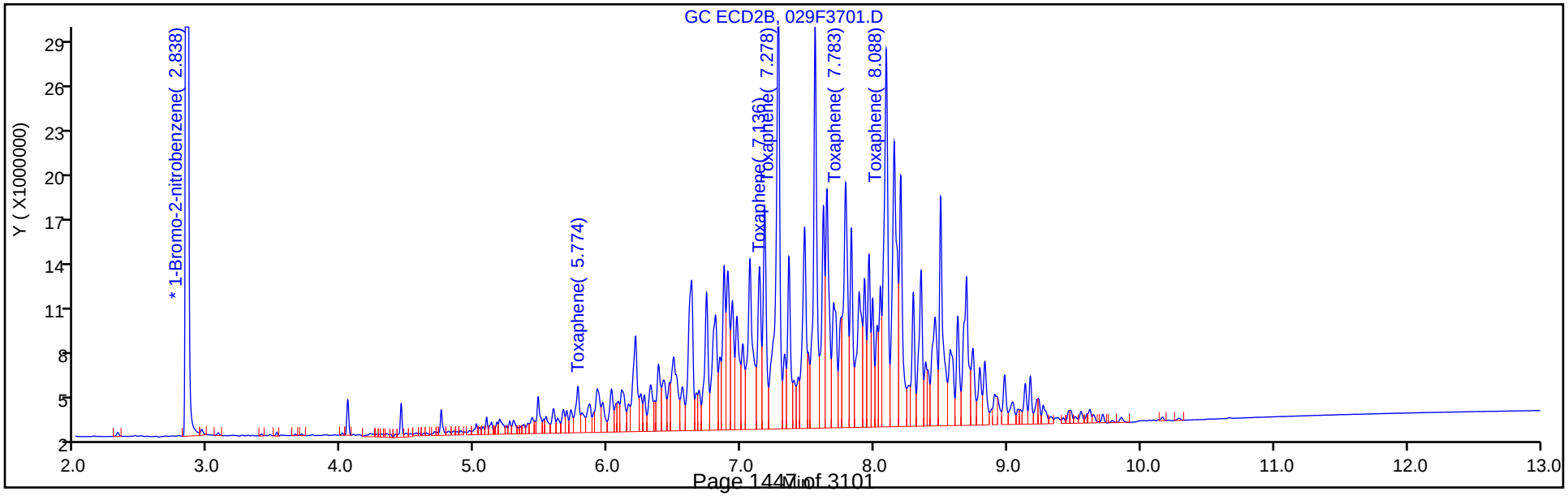
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\029F3701.D

Injection Date:	13-Oct-2018 21:24:35	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	ICV TOX			Worklist Smp#:	34
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



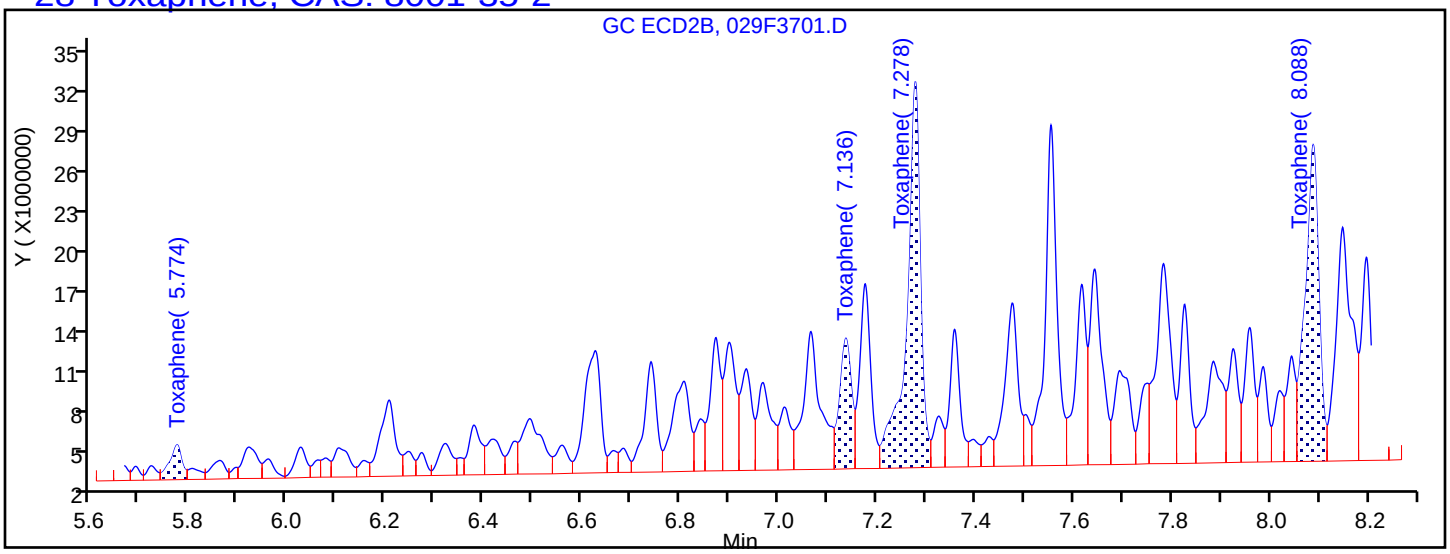
Report Date: 14-Oct-2018 22:12:11 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\029F3701.D

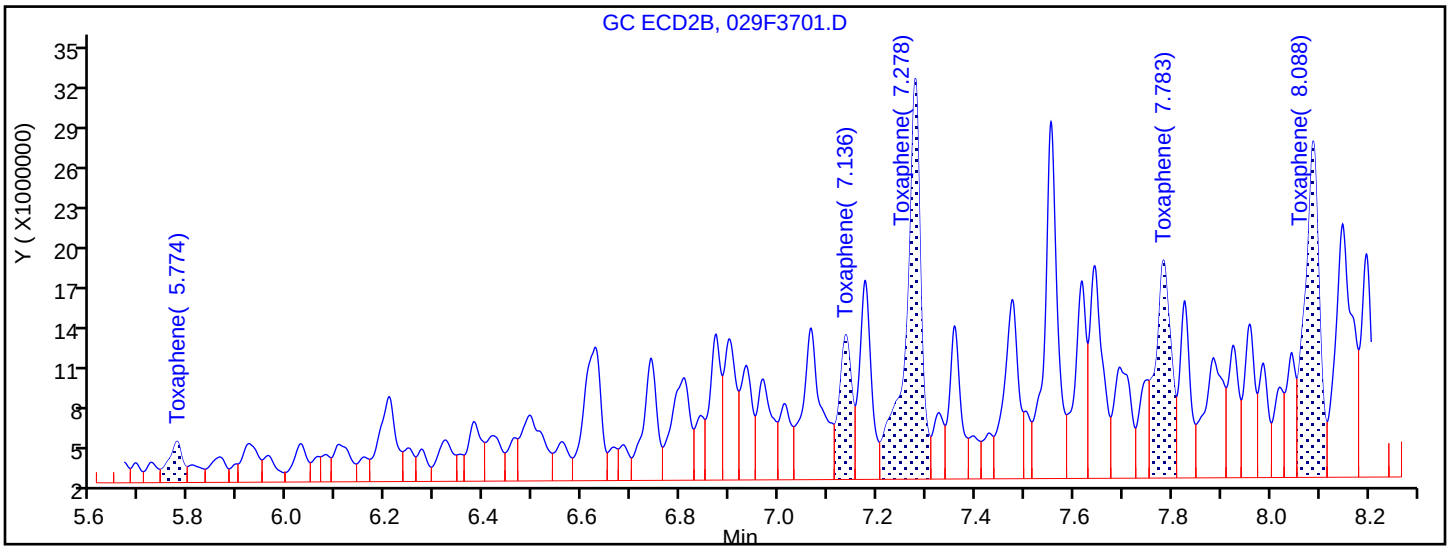
Injection Date:	13-Oct-2018 21:24:35	Instrument ID:	SGC_P2		
Lims ID:	ICV TOX				
Client ID:					
Operator ID:	TEM	ALS Bottle#:	29	Worklist Smp#:	34
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

5.774	Response = 4545269
7.136	Response = 16204546
7.278	Response = 55594865
7.800	Response = 0
8.088	Response = 45157495



Manual Integration Results

5.774	Response = 6074445	M
7.136	Response = 18826032	M
7.278	Response = 62348552	M
7.783	Response = 34844907	M
8.088	Response = 50429097	M

Reviewer: mooret, 14-Oct-2018 21:40:53

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-433303/36 Calibration Date: 10/13/2018 21:59

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 031F3901.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Lin2		1.128		24.6	25.0	-1.6	20.0
alpha-BHC	Lin2		1.602		24.4	25.0	-2.6	20.0
gamma-BHC (Lindane)	Lin2		1.376		24.4	25.0	-2.4	20.0
beta-BHC	Lin2		0.5291		24.0	25.0	-4.1	20.0
delta-BHC	Lin2		1.370		24.0	25.0	-4.1	20.0
Heptachlor	Lin2		1.251		25.0	25.0	0.0	20.0
Aldrin	Lin2		1.323		24.8	25.0	-0.8	20.0
Heptachlor epoxide	Lin2		1.117		24.5	25.0	-1.8	20.0
gamma-Chlordane	Lin2		1.168		24.0	25.0	-4.2	20.0
alpha-Chlordane	Lin2		1.114		23.9	25.0	-4.4	20.0
4,4'-DDE	Lin2		1.153		23.6	25.0	-5.6	20.0
Endosulfan I	Lin2		1.049		24.3	25.0	-2.6	20.0
Dieldrin	Lin2		1.192		25.0	25.0	-0.2	20.0
Endrin	Lin2		0.9895		23.9	25.0	-4.2	20.0
4,4'-DDD	Lin2		0.8973		23.7	25.0	-5.3	20.0
Endosulfan II	Lin2		0.9210		23.6	25.0	-5.6	20.0
4,4'-DDT	Lin2		0.7862		23.3	25.0	-6.6	20.0
Endrin aldehyde	Lin2		0.7035		23.5	25.0	-5.9	20.0
Methoxychlor	Lin2		0.3555		22.8	25.0	-8.8	20.0
Endosulfan sulfate	Lin2		0.8083		23.4	25.0	-6.3	20.0
Endrin ketone	Lin2		0.8377		23.1	25.0	-7.7	20.0
Tetrachloro-m-xylene	Lin2		1.029		23.5	25.0	-5.9	20.0
DCB Decachlorobiphenyl	Lin2		0.5203		22.8	25.0	-8.9	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-433303/36 Calibration Date: 10/13/2018 21:59

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 031F3901.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	4.33	4.31	4.34
alpha-BHC	4.50	4.49	4.51
gamma-BHC (Lindane)	4.79	4.77	4.80
beta-BHC	4.86	4.85	4.87
delta-BHC	5.01	5.00	5.02
Heptachlor	5.19	5.18	5.20
Aldrin	5.46	5.45	5.47
Heptachlor epoxide	6.07	6.06	6.08
gamma-Chlordane	6.20	6.19	6.22
alpha-Chlordane	6.35	6.33	6.36
4,4'-DDE	6.42	6.41	6.43
Endosulfan I	6.50	6.48	6.51
Dieldrin	6.75	6.74	6.76
Endrin	7.00	6.99	7.01
4,4'-DDD	7.06	7.05	7.07
Endosulfan II	7.24	7.22	7.25
4,4'-DDT	7.35	7.34	7.36
Endrin aldehyde	7.68	7.67	7.69
Methoxychlor	7.86	7.85	7.87
Endosulfan sulfate	8.14	8.13	8.15
Endrin ketone	8.43	8.42	8.44
Tetrachloro-m-xylene	3.92	3.91	3.93
DCB Decachlorobiphenyl	9.45	9.43	9.46

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\031F3901.D
Lims ID: ICV AB
Client ID:
Sample Type: ICV
Inject. Date: 13-Oct-2018 21:59:26 ALS Bottle#: 31 Worklist Smp#: 36
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV AB
Operator ID: TEM Instrument ID: SGC_P2
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:12:04 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:19:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1					100.0	96.7	
2					100.0	103.8	
						RPD = 7.09	
* 2 1-Bromo-2-nitrobenzene							
1	3.019	3.019	0.000	1833818877	150.0	150.0	
2	2.837	2.839	-0.002	196779319	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.918	3.919	-0.001	314378706	25.0	23.5	
2	3.822	3.823	-0.001	40975324	25.0	25.3	
						RPD = 7.22	
5 Hexachlorobenzene							
1	4.327	4.326	0.001	344758382	25.0	24.6	
2	4.302	4.302	0.000	43428441	25.0	25.4	
						RPD = 3.35	
8 alpha-BHC							
1	4.497	4.497	0.000	489570974	25.0	24.4	
2	4.447	4.448	-0.001	57087109	25.0	26.0	
						RPD = 6.62	
9 gamma-BHC (Lindane)							
1	4.786	4.785	0.001	420459219	25.0	24.4	
2	4.762	4.761	0.001	50008117	25.0	26.3	
						RPD = 7.40	
10 beta-BHC							
1	4.862	4.862	0.000	161705438	25.0	24.0	
2	4.837	4.837	0.000	21403256	25.0	26.0	
						RPD = 8.26	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.011	5.010	0.001	418721510	25.0	24.0	
2	5.070	5.069	0.001	49051008	25.0	25.5	
						RPD = 6.09	
15 Heptachlor							
1	5.187	5.187	0.000	382406575	25.0	25.0	
2	5.112	5.112	0.000	43506261	25.0	26.4	
						RPD = 5.38	
16 Aldrin							
1	5.458	5.457	0.001	404243124	25.0	24.8	
2	5.384	5.383	0.001	46807354	25.0	26.4	
						RPD = 6.18	
18 Isodrin							
1	5.785	5.783	0.002	312070496	25.0	23.9	
2	5.750	5.749	0.001	38025211	25.0	25.0	
						RPD = 4.80	
21 Heptachlor epoxide							
1	6.074	6.072	0.002	341495179	25.0	24.5	
2	5.932	5.931	0.001	42252977	25.0	26.0	
						RPD = 5.91	
22 trans-Chlordane							
1	6.204	6.204	0.000	357105555	25.0	24.0	
2	6.132	6.130	0.002	43276821	25.0	25.5	
						RPD = 6.23	
23 cis-Chlordane							
1	6.347	6.344	0.003	340403751	25.0	23.9	
2	6.287	6.286	0.001	41538812	25.0	25.8	
						RPD = 7.62	
24 4,4'-DDE							
1	6.422	6.421	0.001	352295573	25.0	23.6	
2	6.471	6.469	0.002	42170047	25.0	25.3	
						RPD = 6.99	
25 Endosulfan I							
1	6.496	6.494	0.002	320496682	25.0	24.3	
2	6.348	6.346	0.002	39747580	25.0	25.9	
						RPD = 6.24	
27 Dieldrin							
1	6.750	6.748	0.002	364318480	25.0	25.0	
2	6.641	6.639	0.002	44056375	25.0	26.2	
						RPD = 5.04	
30 Endrin							
1	6.998	6.997	0.001	302410533	25.0	23.9	
2	6.964	6.963	0.001	37475292	25.0	25.3	
						RPD = 5.64	
32 4,4'-DDD							
1	7.058	7.058	0.000	274241112	25.0	23.7	
2	7.089	7.089	0.000	33960824	25.0	25.0	
						RPD = 5.56	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.236	7.234	0.002	281476331	25.0	23.6	
2	7.192	7.190	0.002	36361969	25.0	25.1	
						RPD = 6.06	
35 4,4'-DDT							
1	7.353	7.352	0.001	240280393	25.0	23.3	
2	7.421	7.419	0.002	30504127	25.0	26.1	
						RPD = 11.22	
36 Endrin aldehyde							
1	7.681	7.679	0.002	215019147	25.0	23.5	
2	7.552	7.550	0.002	29378162	25.0	25.3	
						RPD = 7.44	
37 Methoxychlor							
1	7.857	7.857	0.000	108660913	25.0	22.8	
2	8.152	8.150	0.002	14100142	25.0	24.2	
						RPD = 6.10	
38 Mirex							
1	8.017	8.016	0.001	154479193	25.0	20.2	
2	8.346	8.344	0.002	24486294	25.0	24.7	
						RPD = 20.27	
39 Endosulfan sulfate							
1	8.139	8.138	0.001	247058157	25.0	23.4	
2	7.843	7.841	0.002	33389158	25.0	25.2	
						RPD = 7.25	
40 Endrin ketone							
1	8.432	8.429	0.003	256015167	25.0	23.1	
2	8.398	8.396	0.002	36099125	25.0	24.8	
						RPD = 7.26	
$ 41 DCB Decachlorobiphenyl							
1	9.447	9.446	0.001	159008498	25.0	22.8	
2	9.669	9.668	0.001	23458218	25.0	24.3	
						RPD = 6.44	
S 3 Endosulfan, Total							
1					75.0	71.4	
2					75.0	76.2	
						RPD = 6.51	

Reagents:

8081ABICVL3_00035	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

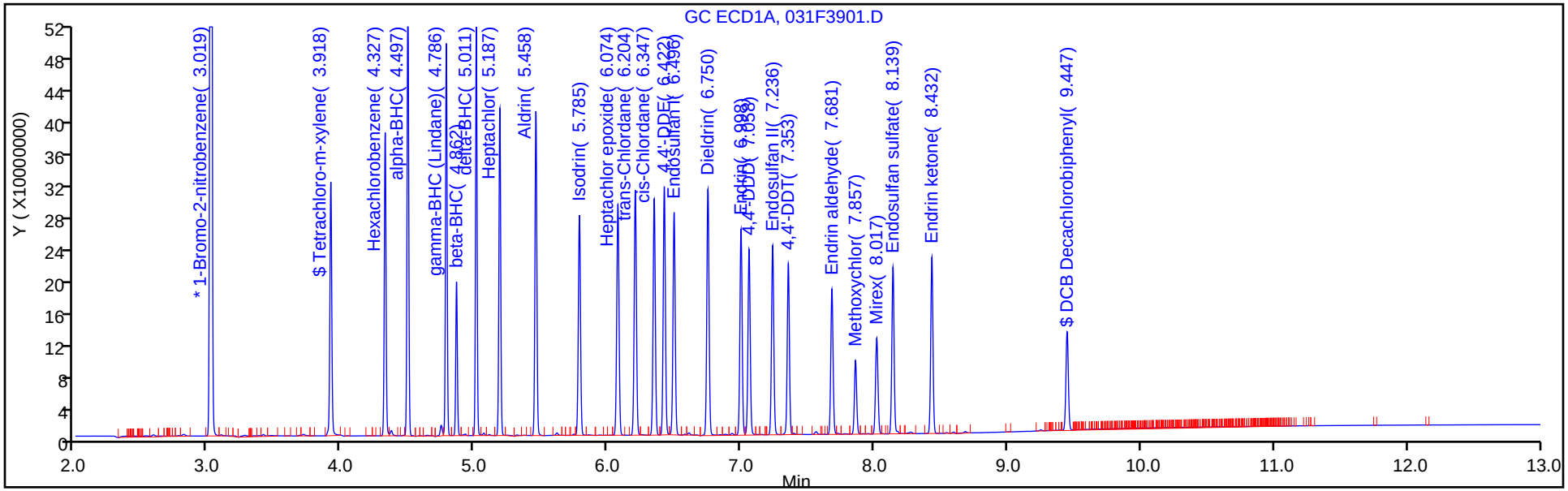
Report Date: 14-Oct-2018 22:12:18 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

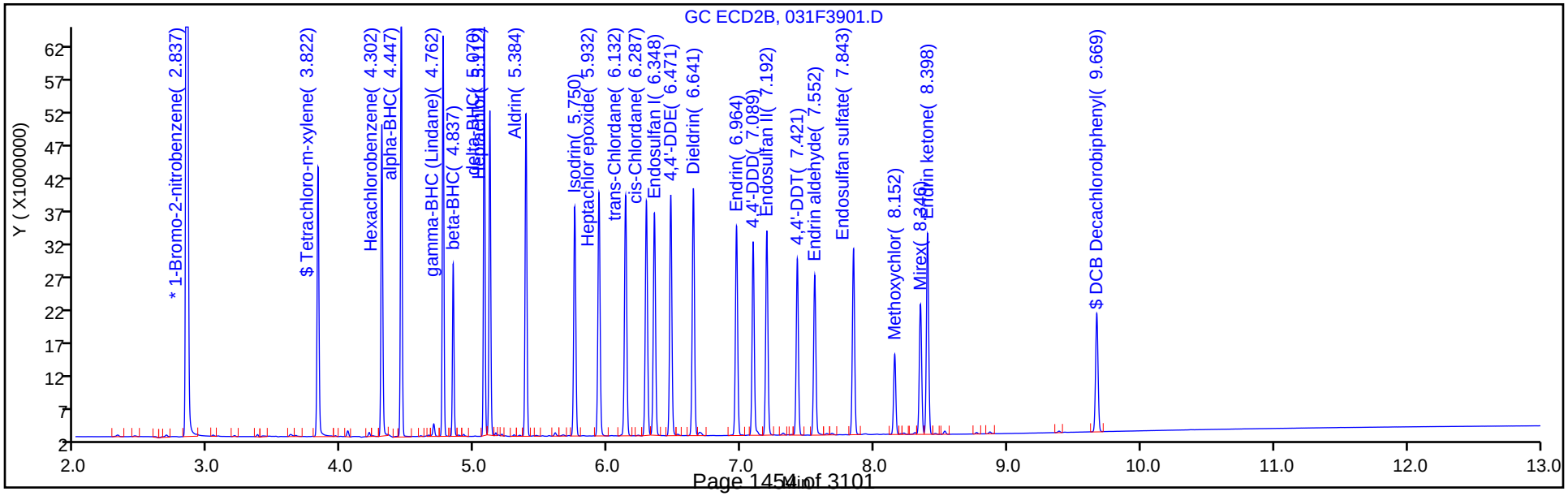
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\031F3901.D

Injection Date:	13-Oct-2018 21:59:26	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	ICV AB			Worklist Smp#:	36
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-433303/36 Calibration Date: 10/13/2018 21:59

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 031F3901.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Lin2		1.324		25.4	25.0	1.7	20.0
alpha-BHC	Lin2		1.741		26.0	25.0	4.1	20.0
gamma-BHC (Lindane)	Lin2		1.525		26.3	25.0	5.1	20.0
beta-BHC	Lin2		0.6526		26.0	25.0	4.1	20.0
delta-BHC	Lin2		1.496		25.5	25.0	1.9	20.0
Heptachlor	Lin2		1.327		26.4	25.0	5.6	20.0
Aldrin	Lin2		1.427		26.4	25.0	5.5	20.0
Heptachlor epoxide	Lin2		1.288		26.0	25.0	4.2	20.0
gamma-Chlordane	Lin2		1.320		25.5	25.0	2.0	20.0
alpha-Chlordane	Lin2		1.267		25.8	25.0	3.2	20.0
Endosulfan I	Lin2		1.212		25.9	25.0	3.6	20.0
4,4'-DDE	Lin2		1.286		25.3	25.0	1.3	20.0
Dieldrin	Lin2		1.343		26.2	25.0	5.0	20.0
Endrin	Lin2		1.143		25.3	25.0	1.3	20.0
4,4'-DDD	Lin2		1.036		25.0	25.0	0.1	20.0
Endosulfan II	Lin2		1.109		25.1	25.0	0.3	20.0
4,4'-DDT	Lin2		0.9301		26.1	25.0	4.5	20.0
Endrin aldehyde	Lin2		0.8958		25.3	25.0	1.3	20.0
Endosulfan sulfate	Lin2		1.018		25.2	25.0	0.8	20.0
Methoxychlor	Lin2		0.4299		24.2	25.0	-3.1	20.0
Endrin ketone	Lin2		1.101		24.8	25.0	-0.8	20.0
Tetrachloro-m-xylene	Lin2		1.249		25.3	25.0	1.2	20.0
DCB Decachlorobiphenyl	Lin2		0.7153		24.3	25.0	-2.8	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-433303/36 Calibration Date: 10/13/2018 21:59

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 031F3901.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	4.30	4.29	4.31
alpha-BHC	4.45	4.44	4.46
gamma-BHC (Lindane)	4.76	4.75	4.77
beta-BHC	4.84	4.83	4.85
delta-BHC	5.07	5.06	5.08
Heptachlor	5.11	5.10	5.12
Aldrin	5.38	5.37	5.40
Heptachlor epoxide	5.93	5.92	5.94
gamma-Chlordane	6.13	6.12	6.14
alpha-Chlordane	6.29	6.27	6.30
Endosulfan I	6.35	6.33	6.36
4,4'-DDE	6.47	6.46	6.48
Dieldrin	6.64	6.63	6.65
Endrin	6.96	6.95	6.98
4,4'-DDD	7.09	7.08	7.10
Endosulfan II	7.19	7.18	7.20
4,4'-DDT	7.42	7.41	7.43
Endrin aldehyde	7.55	7.54	7.56
Endosulfan sulfate	7.84	7.83	7.85
Methoxychlor	8.15	8.14	8.16
Endrin ketone	8.40	8.38	8.41
Tetrachloro-m-xylene	3.82	3.81	3.84
DCB Decachlorobiphenyl	9.67	9.66	9.68

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\031F3901.D
Lims ID: ICV AB
Client ID:
Sample Type: ICV
Inject. Date: 13-Oct-2018 21:59:26 ALS Bottle#: 31 Worklist Smp#: 36
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV AB
Operator ID: TEM Instrument ID: SGC_P2
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 14-Oct-2018 22:12:04 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0315

First Level Reviewer: mooret Date: 14-Oct-2018 09:19:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1					100.0	96.7	
2					100.0	103.8	
						RPD = 7.09	
* 2 1-Bromo-2-nitrobenzene							
1	3.019	3.019	0.000	1833818877	150.0	150.0	
2	2.837	2.839	-0.002	196779319	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.918	3.919	-0.001	314378706	25.0	23.5	
2	3.822	3.823	-0.001	40975324	25.0	25.3	
						RPD = 7.22	
5 Hexachlorobenzene							
1	4.327	4.326	0.001	344758382	25.0	24.6	
2	4.302	4.302	0.000	43428441	25.0	25.4	
						RPD = 3.35	
8 alpha-BHC							
1	4.497	4.497	0.000	489570974	25.0	24.4	
2	4.447	4.448	-0.001	57087109	25.0	26.0	
						RPD = 6.62	
9 gamma-BHC (Lindane)							
1	4.786	4.785	0.001	420459219	25.0	24.4	
2	4.762	4.761	0.001	50008117	25.0	26.3	
						RPD = 7.40	
10 beta-BHC							
1	4.862	4.862	0.000	161705438	25.0	24.0	
2	4.837	4.837	0.000	21403256	25.0	26.0	
						RPD = 8.26	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	5.011	5.010	0.001	418721510	25.0	24.0	
2	5.070	5.069	0.001	49051008	25.0	25.5	
						RPD = 6.09	
15 Heptachlor							
1	5.187	5.187	0.000	382406575	25.0	25.0	
2	5.112	5.112	0.000	43506261	25.0	26.4	
						RPD = 5.38	
16 Aldrin							
1	5.458	5.457	0.001	404243124	25.0	24.8	
2	5.384	5.383	0.001	46807354	25.0	26.4	
						RPD = 6.18	
18 Isodrin							
1	5.785	5.783	0.002	312070496	25.0	23.9	
2	5.750	5.749	0.001	38025211	25.0	25.0	
						RPD = 4.80	
21 Heptachlor epoxide							
1	6.074	6.072	0.002	341495179	25.0	24.5	
2	5.932	5.931	0.001	42252977	25.0	26.0	
						RPD = 5.91	
22 trans-Chlordane							
1	6.204	6.204	0.000	357105555	25.0	24.0	
2	6.132	6.130	0.002	43276821	25.0	25.5	
						RPD = 6.23	
23 cis-Chlordane							
1	6.347	6.344	0.003	340403751	25.0	23.9	
2	6.287	6.286	0.001	41538812	25.0	25.8	
						RPD = 7.62	
24 4,4'-DDE							
1	6.422	6.421	0.001	352295573	25.0	23.6	
2	6.471	6.469	0.002	42170047	25.0	25.3	
						RPD = 6.99	
25 Endosulfan I							
1	6.496	6.494	0.002	320496682	25.0	24.3	
2	6.348	6.346	0.002	39747580	25.0	25.9	
						RPD = 6.24	
27 Dieldrin							
1	6.750	6.748	0.002	364318480	25.0	25.0	
2	6.641	6.639	0.002	44056375	25.0	26.2	
						RPD = 5.04	
30 Endrin							
1	6.998	6.997	0.001	302410533	25.0	23.9	
2	6.964	6.963	0.001	37475292	25.0	25.3	
						RPD = 5.64	
32 4,4'-DDD							
1	7.058	7.058	0.000	274241112	25.0	23.7	
2	7.089	7.089	0.000	33960824	25.0	25.0	
						RPD = 5.56	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.236	7.234	0.002	281476331	25.0	23.6	
2	7.192	7.190	0.002	36361969	25.0	25.1	
						RPD = 6.06	
35 4,4'-DDT							
1	7.353	7.352	0.001	240280393	25.0	23.3	
2	7.421	7.419	0.002	30504127	25.0	26.1	
						RPD = 11.22	
36 Endrin aldehyde							
1	7.681	7.679	0.002	215019147	25.0	23.5	
2	7.552	7.550	0.002	29378162	25.0	25.3	
						RPD = 7.44	
37 Methoxychlor							
1	7.857	7.857	0.000	108660913	25.0	22.8	
2	8.152	8.150	0.002	14100142	25.0	24.2	
						RPD = 6.10	
38 Mirex							
1	8.017	8.016	0.001	154479193	25.0	20.2	
2	8.346	8.344	0.002	24486294	25.0	24.7	
						RPD = 20.27	
39 Endosulfan sulfate							
1	8.139	8.138	0.001	247058157	25.0	23.4	
2	7.843	7.841	0.002	33389158	25.0	25.2	
						RPD = 7.25	
40 Endrin ketone							
1	8.432	8.429	0.003	256015167	25.0	23.1	
2	8.398	8.396	0.002	36099125	25.0	24.8	
						RPD = 7.26	
$ 41 DCB Decachlorobiphenyl							
1	9.447	9.446	0.001	159008498	25.0	22.8	
2	9.669	9.668	0.001	23458218	25.0	24.3	
						RPD = 6.44	
S 3 Endosulfan, Total							
1					75.0	71.4	
2					75.0	76.2	
						RPD = 6.51	

Reagents:

8081ABICVL3_00035	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

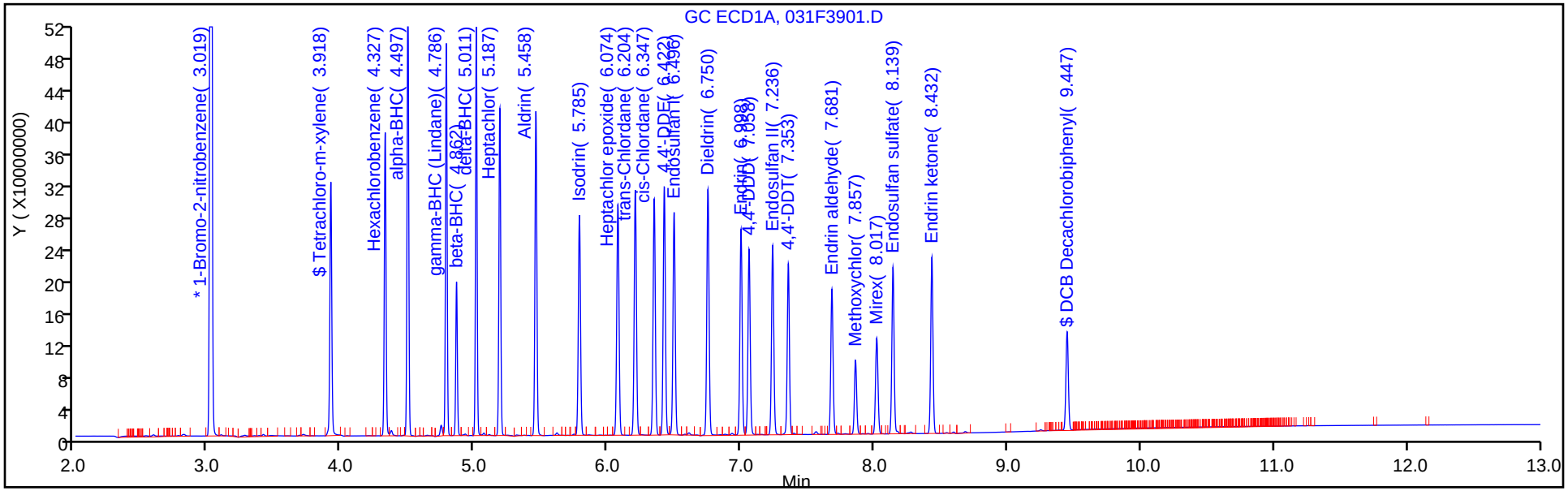
Report Date: 14-Oct-2018 22:12:19 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

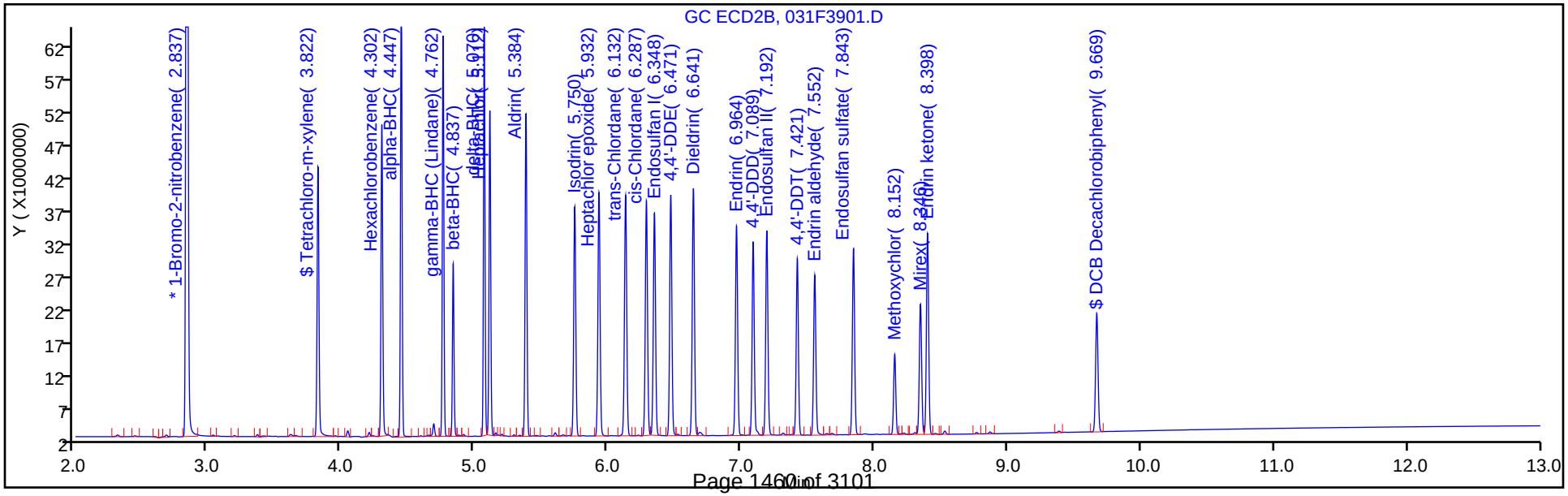
Data File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\031F3901.D

Injection Date:	13-Oct-2018 21:59:26	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	ICV AB			Worklist Smp#:	36
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-438595/11 Calibration Date: 11/23/2018 19:19

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 11230011.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Lin2		0.0074		2160	2000	8.1	20.0
Toxaphene Peak 2	Lin2		0.0185		2110	2000	5.4	20.0
Toxaphene Peak 3	Lin2		0.0217		2220	2000	11.1	20.0
Toxaphene Peak 4	Lin2		0.0092		2340	2000	17.2	20.0
Toxaphene Peak 5	Lin2		0.0099		2510	2000	25.3*	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-438595/11 Calibration Date: 11/23/2018 19:19

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 11230011.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	6.22	6.20	6.23
Toxaphene Peak 2	6.82	6.81	6.83
Toxaphene Peak 3	7.49	7.48	7.51
Toxaphene Peak 4	7.85	7.84	7.87
Toxaphene Peak 5	8.17	8.16	8.18

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230011.D
Lims ID: CCV TOX
Client ID:
Sample Type: CCV
Inject. Date: 23-Nov-2018 19:19:15 ALS Bottle#: 5 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV TOX
Misc. Info.: 280-0076490-011
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:33:01 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

First Level Reviewer: mooret Date: 25-Nov-2018 13:00:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.005	3.005	0.000	1673349938	150.0	150.0	
2	2.807	2.807	0.000	223982118	150.0	150.0	
28 Toxaphene							M
1	6.215	6.215	0.000	165224696	2000.0	2162.9	M
1	6.821	6.821	0.000	412064554	2000.0	2108.3	M
1	7.494	7.494	0.000	485141012	2000.0	2222.8	M
1	7.853	7.853	0.000	205861006	2000.0	2343.5	M
1	8.171	8.171	0.000	221697241	2000.0	2506.6	M
		Average of Peak Amounts =				2268.8	
2	5.728	5.728	0.000	14156996	2000.0	2054.9	M
2	7.082	7.082	0.000	65107956	2000.0	2101.9	M
2	7.221	7.221	0.000	178229399	2000.0	2083.2	M
2	7.736	7.736	0.000	52330564	2000.0	2138.2	M
2	8.031	8.031	0.000	98241952	2000.0	2057.3	M
		Average of Peak Amounts =				2087.1	
						RPD = 8.34	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081TOXCCVL4_00015	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

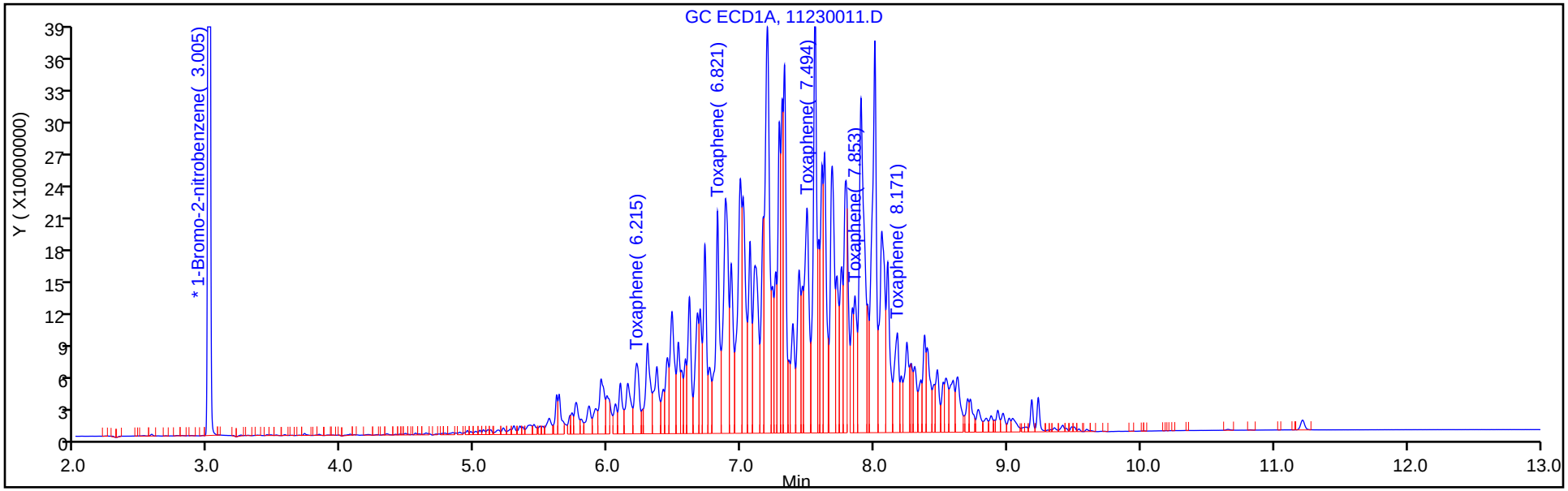
Report Date: 25-Nov-2018 19:33:02 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

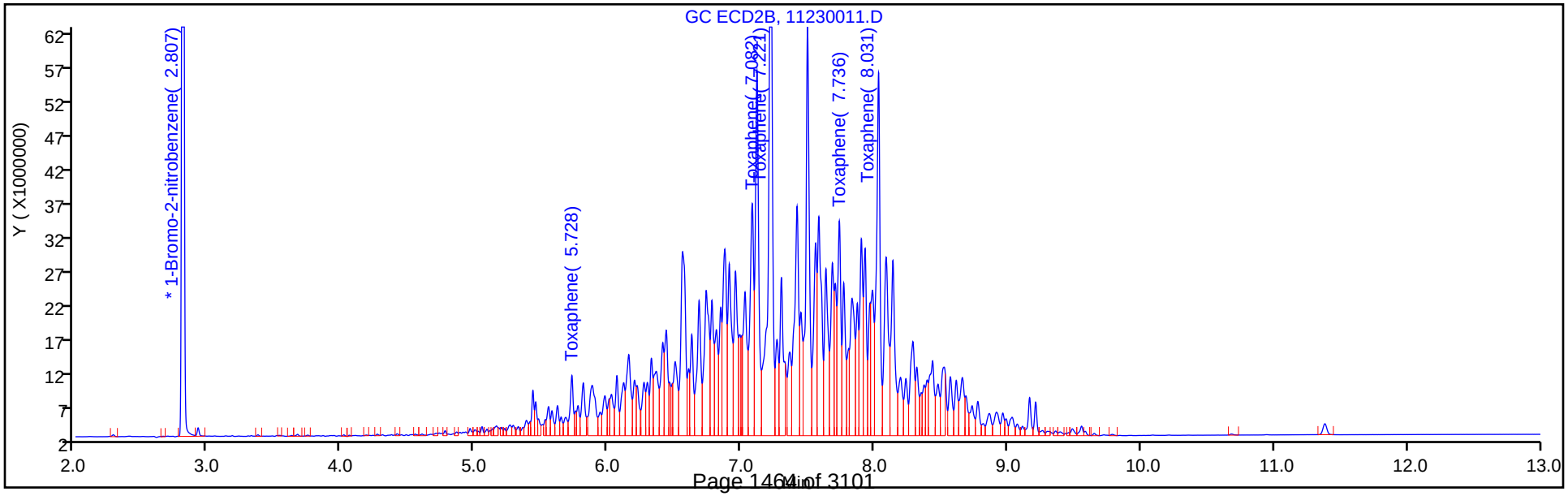
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230011.D

Injection Date:	23-Nov-2018 19:19:15	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV TOX			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



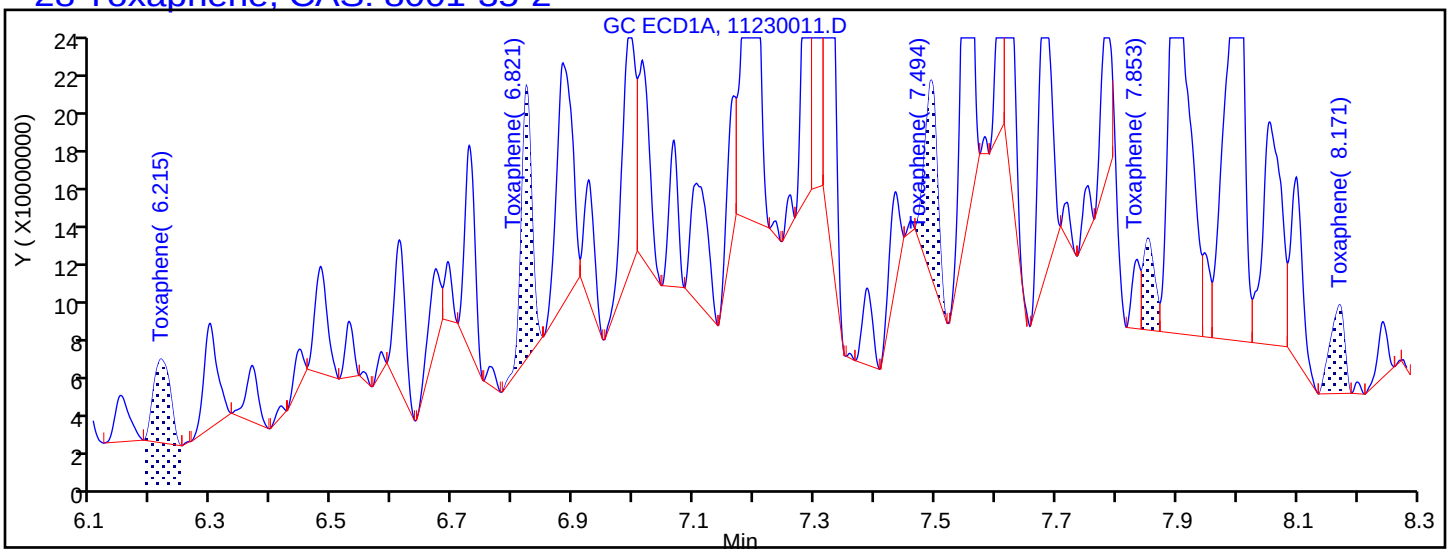
Report Date: 25-Nov-2018 19:33:02 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230011.D

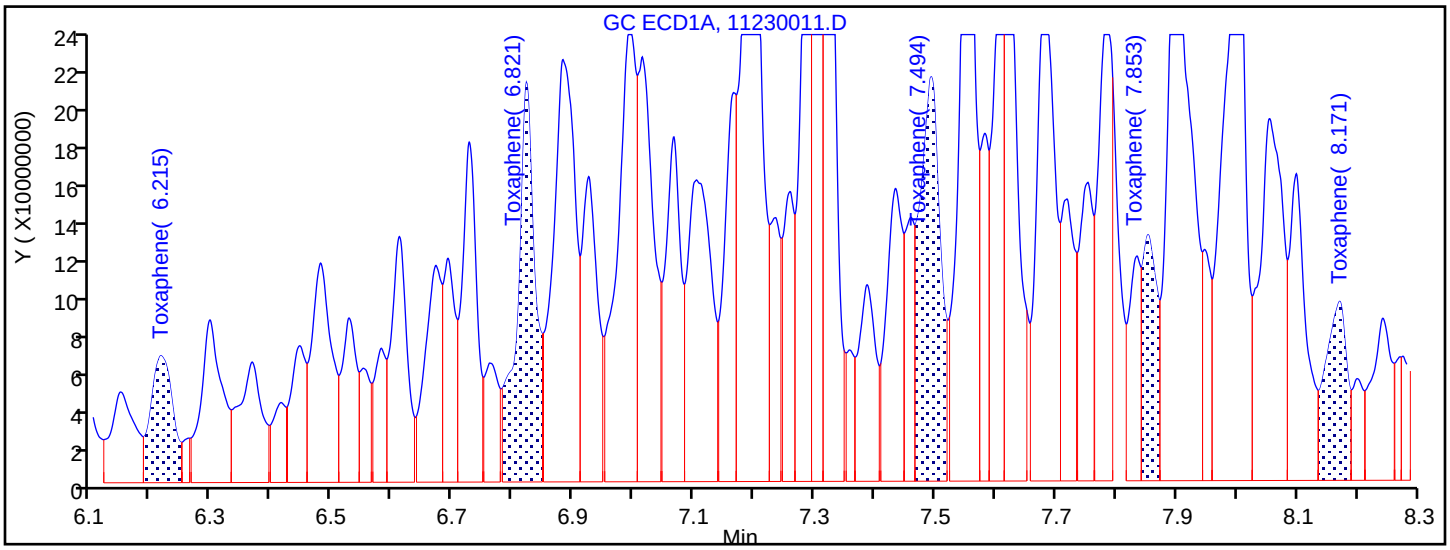
Injection Date:	23-Nov-2018 19:19:15	Instrument ID:	SGC_P2		
Lims ID:	CCV TOX				
Client ID:					
Operator ID:	TEM	ALS Bottle#:	5	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP1 (0.32 mm)	Detector	GC ECD1A		

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

6.215	Response = 82083024
6.821	Response = 166961960
7.494	Response = 146699401
7.853	Response = 61515510
8.171	Response = 73047681



Manual Integration Results

6.215	Response = 165224696	M
6.821	Response = 412064554	M
7.494	Response = 485141012	M
7.853	Response = 205861006	M
8.171	Response = 221697241	M

Reviewer: mooret, 25-Nov-2018 19:10:43

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-438595/11 Calibration Date: 11/23/2018 19:19

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 11230011.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Lin2		0.0047		2050	2000	2.7	20.0
Toxaphene Peak 2	Lin2		0.0218		2100	2000	5.1	20.0
Toxaphene Peak 3	Lin2		0.0597		2080	2000	4.2	20.0
Toxaphene Peak 4	Lin2		0.0175		2140	2000	6.9	20.0
Toxaphene Peak 5	Lin2		0.0329		2060	2000	2.9	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-438595/11 Calibration Date: 11/23/2018 19:19

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 11230011.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	5.73	5.72	5.74
Toxaphene Peak 2	7.08	7.07	7.09
Toxaphene Peak 3	7.22	7.21	7.23
Toxaphene Peak 4	7.74	7.72	7.75
Toxaphene Peak 5	8.03	8.02	8.04

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230011.D
Lims ID: CCV TOX
Client ID:
Sample Type: CCV
Inject. Date: 23-Nov-2018 19:19:15 ALS Bottle#: 5 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV TOX
Misc. Info.: 280-0076490-011
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:33:01 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

First Level Reviewer: mooret Date: 25-Nov-2018 13:00:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.005	3.005	0.000	1673349938	150.0	150.0	
2	2.807	2.807	0.000	223982118	150.0	150.0	
28 Toxaphene							M
1	6.215	6.215	0.000	165224696	2000.0	2162.9	M
1	6.821	6.821	0.000	412064554	2000.0	2108.3	M
1	7.494	7.494	0.000	485141012	2000.0	2222.8	M
1	7.853	7.853	0.000	205861006	2000.0	2343.5	M
1	8.171	8.171	0.000	221697241	2000.0	2506.6	M
		Average of Peak Amounts =				2268.8	
2	5.728	5.728	0.000	14156996	2000.0	2054.9	M
2	7.082	7.082	0.000	65107956	2000.0	2101.9	M
2	7.221	7.221	0.000	178229399	2000.0	2083.2	M
2	7.736	7.736	0.000	52330564	2000.0	2138.2	M
2	8.031	8.031	0.000	98241952	2000.0	2057.3	M
		Average of Peak Amounts =				2087.1	
						RPD = 8.34	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081TOXCCVL4_00015 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

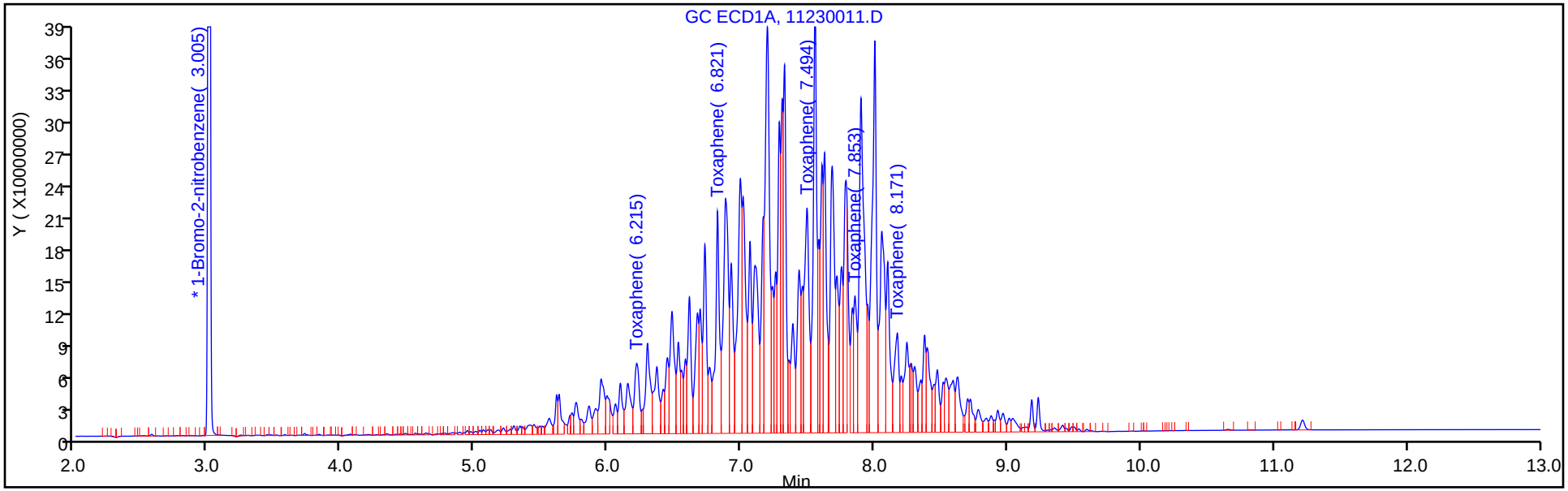
Report Date: 25-Nov-2018 19:33:02 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

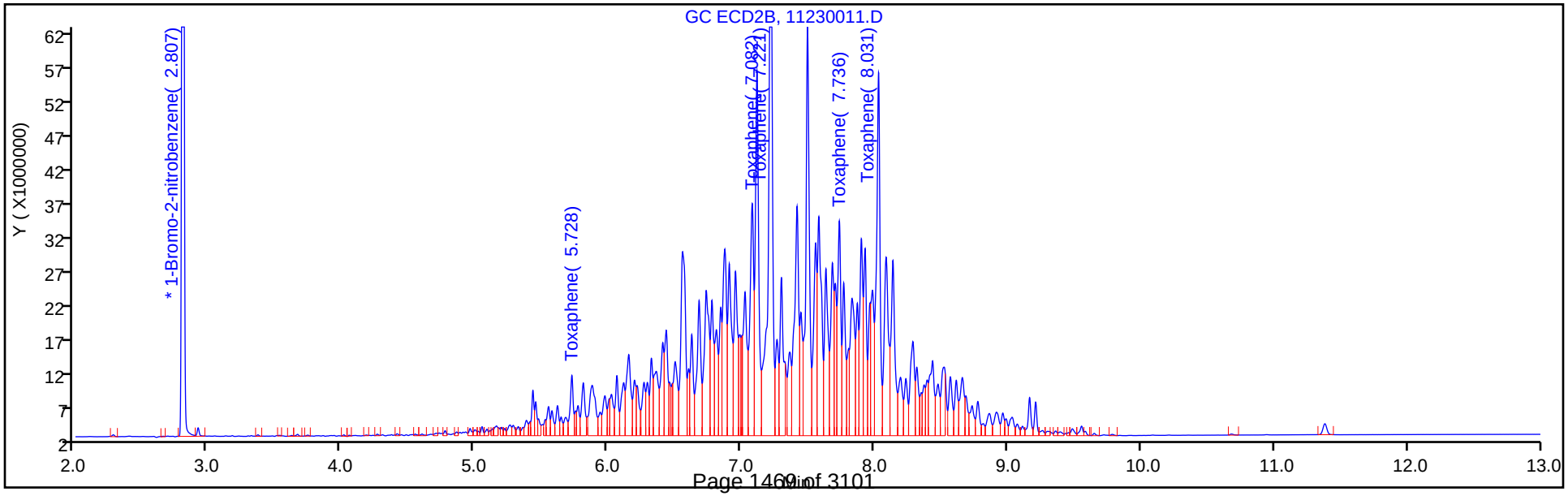
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230011.D

Injection Date:	23-Nov-2018 19:19:15	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV TOX			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



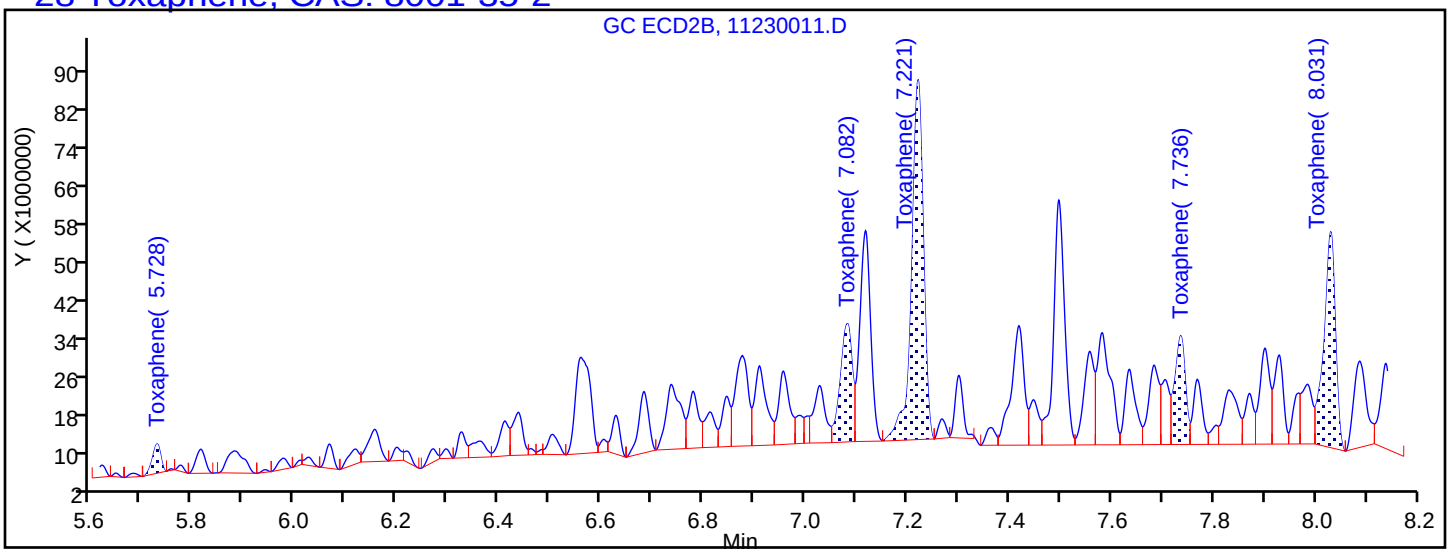
Report Date: 25-Nov-2018 19:33:02 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230011.D

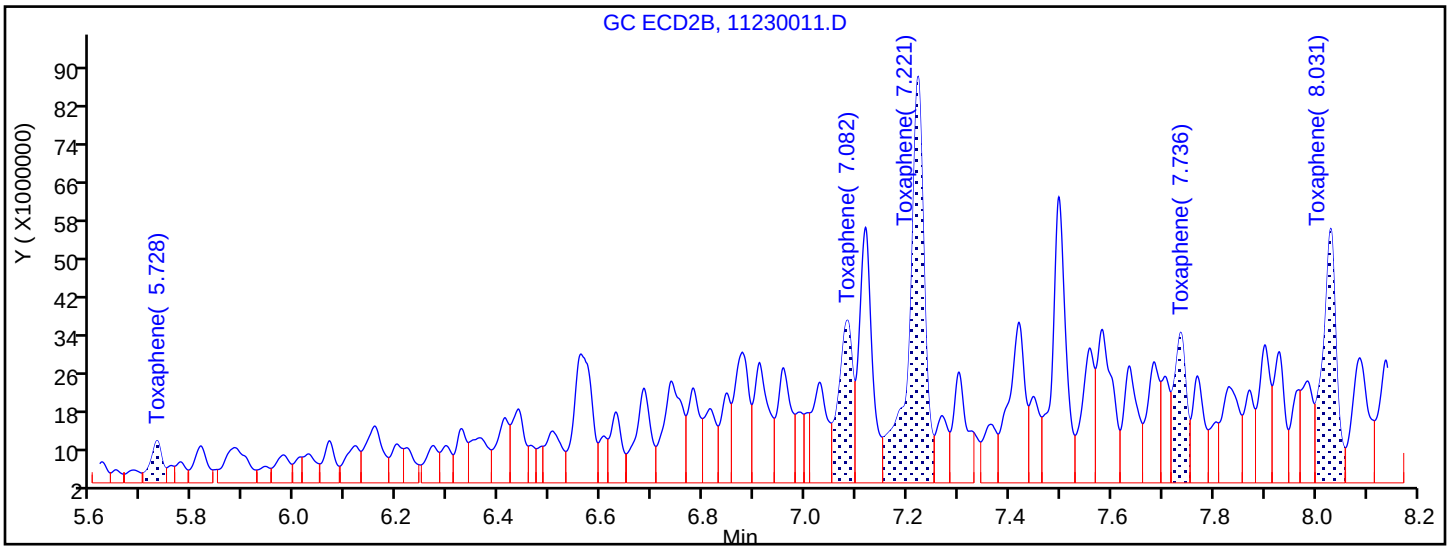
Injection Date:	23-Nov-2018 19:19:15	Instrument ID:	SGC_P2		
Lims ID:	CCV TOX				
Client ID:					
Operator ID:	TEM	ALS Bottle#:	5	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

5.728	Response = 6966061
7.082	Response = 39940122
7.221	Response = 120215801
7.736	Response = 32849136
8.031	Response = 69735935



Manual Integration Results

5.728	Response = 14156996	M
7.082	Response = 65107956	M
7.221	Response = 178229399	M
7.736	Response = 52330564	M
8.031	Response = 98241952	M

Reviewer: mooret, 25-Nov-2018 19:10:52

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCVIS 280-438595/13 | Calibration Date: 11/23/2018 19:54

Instrument ID: SGC_P2 | Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) | Calib End Date: 10/13/2018 20:49

Lab File ID: 11230013.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Lin2		1.187		51.4	50.0	2.9	20.0
alpha-BHC	Lin2		1.699		50.9	50.0	1.8	20.0
gamma-BHC (Lindane)	Lin2		1.487		52.2	50.0	4.4	20.0
beta-BHC	Lin2		0.5699		52.1	50.0	4.3	20.0
delta-BHC	Lin2		1.517		52.3	50.0	4.7	20.0
Heptachlor	Lin2		1.368		54.2	50.0	8.3	20.0
Aldrin	Lin2		1.442		53.5	50.0	6.9	20.0
Heptachlor epoxide	Lin2		1.227		53.6	50.0	7.2	20.0
gamma-Chlordane	Lin2		1.318		53.5	50.0	7.0	20.0
alpha-Chlordane	Lin2		1.258		53.4	50.0	6.9	20.0
4,4'-DDE	Lin2		1.268		51.3	50.0	2.7	20.0
Endosulfan I	Lin2		1.181		54.6	50.0	9.2	20.0
Dieldrin	Lin2		1.323		55.0	50.0	9.9	20.0
Endrin	Lin2		1.217		58.2	50.0	16.3	20.0
4,4'-DDD	Lin2		1.027		53.6	50.0	7.2	20.0
Endosulfan II	Lin2		1.121		57.1	50.0	14.1	20.0
4,4'-DDT	Lin2		0.9567		55.7	50.0	11.4	20.0
Endrin aldehyde	Lin2		0.8959		59.6	50.0	19.2	20.0
Methoxychlor	Lin2		0.4730		60.5	50.0	21.0*	20.0
Endosulfan sulfate	Lin2		1.081		62.1	50.0	24.3*	20.0
Endrin ketone	Lin2		1.131		61.8	50.0	23.7*	20.0
Tetrachloro-m-xylene	Lin2		1.090		49.5	50.0	-1.1	20.0
DCB Decachlorobiphenyl	Lin2		0.7245		63.7	50.0	27.4*	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCVIS 280-438595/13 Calibration Date: 11/23/2018 19:54

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11230013.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	4.31	4.30	4.32
alpha-BHC	4.48	4.47	4.49
gamma-BHC (Lindane)	4.77	4.76	4.78
beta-BHC	4.85	4.83	4.86
delta-BHC	5.00	4.98	5.01
Heptachlor	5.17	5.16	5.18
Aldrin	5.44	5.43	5.45
Heptachlor epoxide	6.05	6.04	6.06
gamma-Chlordane	6.18	6.17	6.19
alpha-Chlordane	6.32	6.31	6.33
4,4'-DDE	6.40	6.38	6.41
Endosulfan I	6.47	6.46	6.48
Dieldrin	6.72	6.71	6.73
Endrin	6.97	6.96	6.98
4,4'-DDD	7.03	7.02	7.04
Endosulfan II	7.21	7.19	7.22
4,4'-DDT	7.33	7.31	7.34
Endrin aldehyde	7.65	7.64	7.66
Methoxychlor	7.83	7.82	7.84
Endosulfan sulfate	8.11	8.10	8.12
Endrin ketone	8.40	8.39	8.41
Tetrachloro-m-xylene	3.90	3.89	3.91
DCB Decachlorobiphenyl	9.42	9.40	9.43

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230013.D
Lims ID: CCVIS AB
Client ID:
Sample Type: CCVIS
Inject. Date: 23-Nov-2018 19:54:18 ALS Bottle#: 7 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS AB
Misc. Info.: 280-0076490-013
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:32:58 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

First Level Reviewer: mooret Date: 25-Nov-2018 12:46:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.005	3.005	0.000	1583147211	150.0	150.0	
2	2.807	2.807	0.000	215658534	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.902	3.902	0.000	575434866	50.0	49.5	
2	3.790	3.790	0.000	86002984	50.0	49.0	
						RPD = 0.88	
5 Hexachlorobenzene							
1	4.310	4.310	0.000	626530762	50.0	51.4	
2	4.268	4.268	0.000	91590755	50.0	49.5	
						RPD = 3.91	
8 alpha-BHC							
1	4.480	4.480	0.000	896552580	50.0	50.9	
2	4.413	4.413	0.000	120635655	50.0	50.5	
						RPD = 0.80	
9 gamma-BHC (Lindane)							
1	4.769	4.769	0.000	784881281	50.0	52.2	
2	4.726	4.726	0.000	105397145	50.0	50.7	
						RPD = 2.87	
10 beta-BHC							
1	4.846	4.846	0.000	300759782	50.0	52.1	
2	4.803	4.803	0.000	44092171	50.0	49.6	
						RPD = 4.92	
12 delta-BHC							
1	4.995	4.995	0.000	800500242	50.0	52.3	
2	5.035	5.035	0.000	105426464	50.0	50.1	
						RPD = 4.39	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
15 Heptachlor							
1	5.169	5.169	0.000	722136182	50.0	54.2	
2	5.077	5.077	0.000	94962742	50.0	52.9	
						RPD = 2.34	
16 Aldrin							
1	5.438	5.438	0.000	760900907	50.0	53.5	
2	5.345	5.345	0.000	99607652	50.0	51.5	
						RPD = 3.79	
18 Isodrin							
1	5.762	5.762	0.000	619706543	50.0	54.5	
2	5.703	5.703	0.000	80990212	50.0	49.2	
						RPD = 10.21	
21 Heptachlor epoxide							
1	6.048	6.048	0.000	647696016	50.0	53.6	
2	5.881	5.881	0.000	89934091	50.0	51.1	
						RPD = 4.79	
22 trans-Chlordane							
1	6.179	6.179	0.000	695610821	50.0	53.5	
2	6.080	6.080	0.000	92795552	50.0	50.2	
						RPD = 6.38	
23 cis-Chlordane							
1	6.320	6.320	0.000	663713108	50.0	53.4	
2	6.235	6.235	0.000	89423064	50.0	51.2	
						RPD = 4.33	
24 4,4'-DDE							
1	6.395	6.395	0.000	669039293	50.0	51.3	
2	6.418	6.418	0.000	91321249	50.0	50.2	
						RPD = 2.14	
25 Endosulfan I							
1	6.468	6.468	0.000	623431287	50.0	54.6	
2	6.294	6.294	0.000	85377812	50.0	51.4	
						RPD = 5.96	
27 Dieldrin							
1	6.722	6.722	0.000	698237947	50.0	55.0	
2	6.584	6.584	0.000	94628313	50.0	51.7	
						RPD = 6.10	
30 Endrin							
1	6.970	6.970	0.000	642137103	50.0	58.2	
2	6.905	6.905	0.000	88483519	50.0	54.8	
						RPD = 5.98	
32 4,4'-DDD							
1	7.031	7.031	0.000	541939392	50.0	53.6	
2	7.033	7.033	0.000	75156379	50.0	50.8	
						RPD = 5.33	
34 Endosulfan II							
1	7.206	7.206	0.000	591598236	50.0	57.1	
2	7.131	7.131	0.000	81627401	50.0	52.1	
						RPD = 9.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
35 4,4'-DDT							
1	7.325	7.325	0.000	504850457	50.0	55.7	
2	7.364	7.364	0.000	72218023	50.0	56.3	
						RPD = 0.96	
36 Endrin aldehyde							
1	7.650	7.650	0.000	472758600	50.0	59.6	
2	7.490	7.490	0.000	65861180	50.0	52.5	
						RPD = 12.66	
37 Methoxychlor							
1	7.830	7.830	0.000	249621080	50.0	60.5	
2	8.094	8.094	0.000	35715364	50.0	56.5	
						RPD = 6.83	
38 Mirex							
1	7.988	7.988	0.000	400691078	50.0	60.6	
2	8.285	8.285	0.000	56317344	50.0	53.1	
						RPD = 13.10	
39 Endosulfan sulfate							
1	8.109	8.109	0.000	570539465	50.0	62.1	
2	7.782	7.782	0.000	76380936	50.0	53.3	
						RPD = 15.29	
40 Endrin ketone							
1	8.400	8.400	0.000	596694188	50.0	61.8	
2	8.335	8.335	0.000	83778786	50.0	53.2	
						RPD = 15.10	
$ 41 DCB Decachlorobiphenyl							
1	9.415	9.415	0.000	382343897	50.0	63.7	
2	9.605	9.605	0.000	53487809	50.0	51.6	
						RPD = 20.95	

Reagents:

8081IcalL4_00031	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

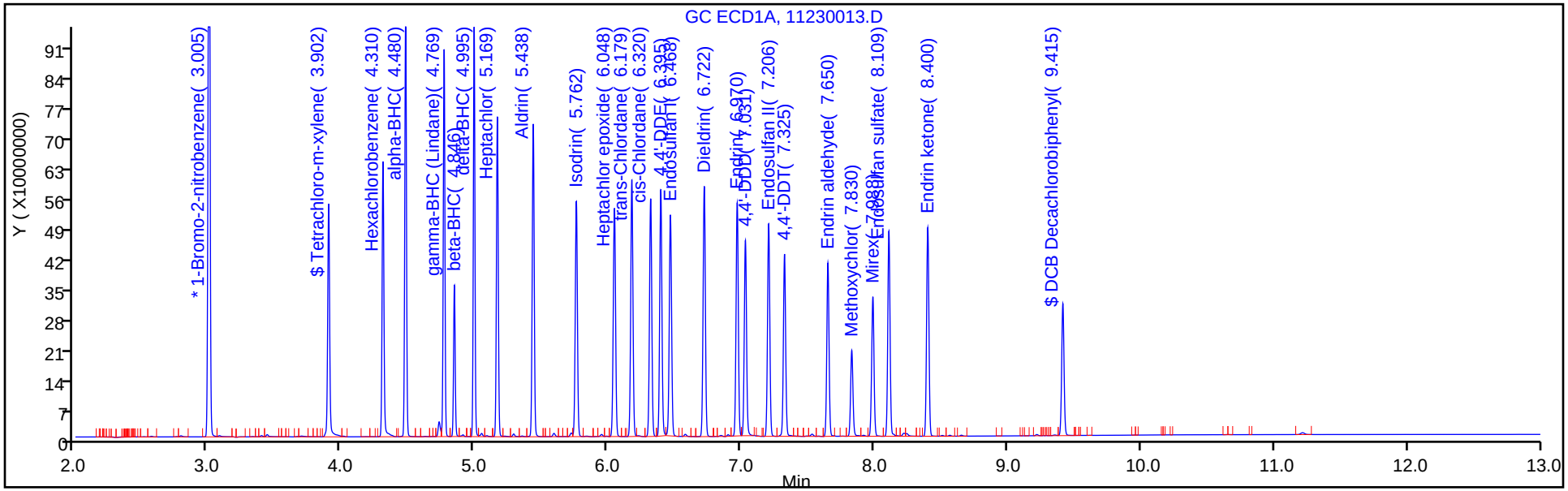
Report Date: 25-Nov-2018 19:32:58 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

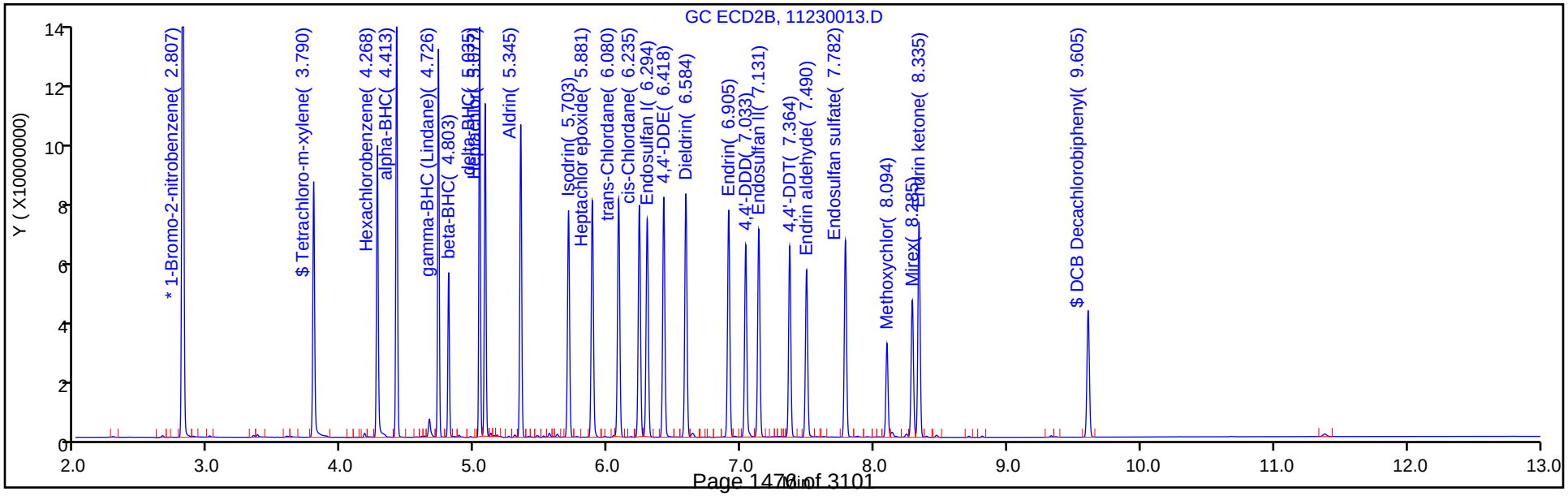
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230013.D

Injection Date:	23-Nov-2018 19:54:18	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCVIS AB			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCVIS 280-438595/13 Calibration Date: 11/23/2018 19:54

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11230013.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Lin2		1.274		49.5	50.0	-1.1	20.0
alpha-BHC	Lin2		1.678		50.5	50.0	1.0	20.0
gamma-BHC (Lindane)	Lin2		1.466		50.7	50.0	1.5	20.0
beta-BHC	Lin2		0.6134		49.6	50.0	-0.7	20.0
delta-BHC	Lin2		1.467		50.1	50.0	0.2	20.0
Heptachlor	Lin2		1.321		52.9	50.0	5.8	20.0
Aldrin	Lin2		1.386		51.5	50.0	3.0	20.0
Heptachlor epoxide	Lin2		1.251		51.1	50.0	2.2	20.0
gamma-Chlordane	Lin2		1.291		50.2	50.0	0.4	20.0
alpha-Chlordane	Lin2		1.244		51.2	50.0	2.3	20.0
Endosulfan I	Lin2		1.188		51.4	50.0	2.9	20.0
4,4'-DDE	Lin2		1.270		50.2	50.0	0.5	20.0
Dieldrin	Lin2		1.316		51.7	50.0	3.4	20.0
Endrin	Lin2		1.231		54.8	50.0	9.6	20.0
4,4'-DDD	Lin2		1.045		50.8	50.0	1.6	20.0
Endosulfan II	Lin2		1.136		52.1	50.0	4.3	20.0
4,4'-DDT	Lin2		1.005		56.3	50.0	12.5	20.0
Endrin aldehyde	Lin2		0.9162		52.5	50.0	5.0	20.0
Endosulfan sulfate	Lin2		1.063		53.3	50.0	6.6	20.0
Methoxychlor	Lin2		0.4968		56.5	50.0	13.0	20.0
Endrin ketone	Lin2		1.165		53.2	50.0	6.3	20.0
Tetrachloro-m-xylene	Lin2		1.196		49.0	50.0	-1.9	20.0
DCB Decachlorobiphenyl	Lin2		0.7441		51.6	50.0	3.3	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCVIS 280-438595/13 Calibration Date: 11/23/2018 19:54

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11230013.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	4.27	4.26	4.28
alpha-BHC	4.41	4.40	4.43
gamma-BHC (Lindane)	4.73	4.71	4.74
beta-BHC	4.80	4.79	4.82
delta-BHC	5.04	5.02	5.05
Heptachlor	5.08	5.07	5.09
Aldrin	5.35	5.33	5.36
Heptachlor epoxide	5.88	5.87	5.89
gamma-Chlordane	6.08	6.07	6.09
alpha-Chlordane	6.24	6.22	6.25
Endosulfan I	6.29	6.28	6.31
4,4'-DDE	6.42	6.41	6.43
Dieldrin	6.58	6.57	6.60
Endrin	6.91	6.89	6.92
4,4'-DDD	7.03	7.02	7.05
Endosulfan II	7.13	7.12	7.14
4,4'-DDT	7.36	7.35	7.38
Endrin aldehyde	7.49	7.48	7.50
Endosulfan sulfate	7.78	7.77	7.79
Methoxychlor	8.09	8.08	8.11
Endrin ketone	8.34	8.32	8.35
Tetrachloro-m-xylene	3.79	3.78	3.80
DCB Decachlorobiphenyl	9.61	9.59	9.62

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230013.D
Lims ID: CCVIS AB
Client ID:
Sample Type: CCVIS
Inject. Date: 23-Nov-2018 19:54:18 ALS Bottle#: 7 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS AB
Misc. Info.: 280-0076490-013
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:32:58 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

First Level Reviewer: mooret Date: 25-Nov-2018 12:46:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.005	3.005	0.000	1583147211	150.0	150.0	
2	2.807	2.807	0.000	215658534	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.902	3.902	0.000	575434866	50.0	49.5	
2	3.790	3.790	0.000	86002984	50.0	49.0	
						RPD = 0.88	
5 Hexachlorobenzene							
1	4.310	4.310	0.000	626530762	50.0	51.4	
2	4.268	4.268	0.000	91590755	50.0	49.5	
						RPD = 3.91	
8 alpha-BHC							
1	4.480	4.480	0.000	896552580	50.0	50.9	
2	4.413	4.413	0.000	120635655	50.0	50.5	
						RPD = 0.80	
9 gamma-BHC (Lindane)							
1	4.769	4.769	0.000	784881281	50.0	52.2	
2	4.726	4.726	0.000	105397145	50.0	50.7	
						RPD = 2.87	
10 beta-BHC							
1	4.846	4.846	0.000	300759782	50.0	52.1	
2	4.803	4.803	0.000	44092171	50.0	49.6	
						RPD = 4.92	
12 delta-BHC							
1	4.995	4.995	0.000	800500242	50.0	52.3	
2	5.035	5.035	0.000	105426464	50.0	50.1	
						RPD = 4.39	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
15 Heptachlor							
1	5.169	5.169	0.000	722136182	50.0	54.2	
2	5.077	5.077	0.000	94962742	50.0	52.9	
						RPD = 2.34	
16 Aldrin							
1	5.438	5.438	0.000	760900907	50.0	53.5	
2	5.345	5.345	0.000	99607652	50.0	51.5	
						RPD = 3.79	
18 Isodrin							
1	5.762	5.762	0.000	619706543	50.0	54.5	
2	5.703	5.703	0.000	80990212	50.0	49.2	
						RPD = 10.21	
21 Heptachlor epoxide							
1	6.048	6.048	0.000	647696016	50.0	53.6	
2	5.881	5.881	0.000	89934091	50.0	51.1	
						RPD = 4.79	
22 trans-Chlordane							
1	6.179	6.179	0.000	695610821	50.0	53.5	
2	6.080	6.080	0.000	92795552	50.0	50.2	
						RPD = 6.38	
23 cis-Chlordane							
1	6.320	6.320	0.000	663713108	50.0	53.4	
2	6.235	6.235	0.000	89423064	50.0	51.2	
						RPD = 4.33	
24 4,4'-DDE							
1	6.395	6.395	0.000	669039293	50.0	51.3	
2	6.418	6.418	0.000	91321249	50.0	50.2	
						RPD = 2.14	
25 Endosulfan I							
1	6.468	6.468	0.000	623431287	50.0	54.6	
2	6.294	6.294	0.000	85377812	50.0	51.4	
						RPD = 5.96	
27 Dieldrin							
1	6.722	6.722	0.000	698237947	50.0	55.0	
2	6.584	6.584	0.000	94628313	50.0	51.7	
						RPD = 6.10	
30 Endrin							
1	6.970	6.970	0.000	642137103	50.0	58.2	
2	6.905	6.905	0.000	88483519	50.0	54.8	
						RPD = 5.98	
32 4,4'-DDD							
1	7.031	7.031	0.000	541939392	50.0	53.6	
2	7.033	7.033	0.000	75156379	50.0	50.8	
						RPD = 5.33	
34 Endosulfan II							
1	7.206	7.206	0.000	591598236	50.0	57.1	
2	7.131	7.131	0.000	81627401	50.0	52.1	
						RPD = 9.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
35 4,4'-DDT							
1	7.325	7.325	0.000	504850457	50.0	55.7	
2	7.364	7.364	0.000	72218023	50.0	56.3	
						RPD = 0.96	
36 Endrin aldehyde							
1	7.650	7.650	0.000	472758600	50.0	59.6	
2	7.490	7.490	0.000	65861180	50.0	52.5	
						RPD = 12.66	
37 Methoxychlor							
1	7.830	7.830	0.000	249621080	50.0	60.5	
2	8.094	8.094	0.000	35715364	50.0	56.5	
						RPD = 6.83	
38 Mirex							
1	7.988	7.988	0.000	400691078	50.0	60.6	
2	8.285	8.285	0.000	56317344	50.0	53.1	
						RPD = 13.10	
39 Endosulfan sulfate							
1	8.109	8.109	0.000	570539465	50.0	62.1	
2	7.782	7.782	0.000	76380936	50.0	53.3	
						RPD = 15.29	
40 Endrin ketone							
1	8.400	8.400	0.000	596694188	50.0	61.8	
2	8.335	8.335	0.000	83778786	50.0	53.2	
						RPD = 15.10	
$ 41 DCB Decachlorobiphenyl							
1	9.415	9.415	0.000	382343897	50.0	63.7	
2	9.605	9.605	0.000	53487809	50.0	51.6	
						RPD = 20.95	

Reagents:

8081IcalL4_00031	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

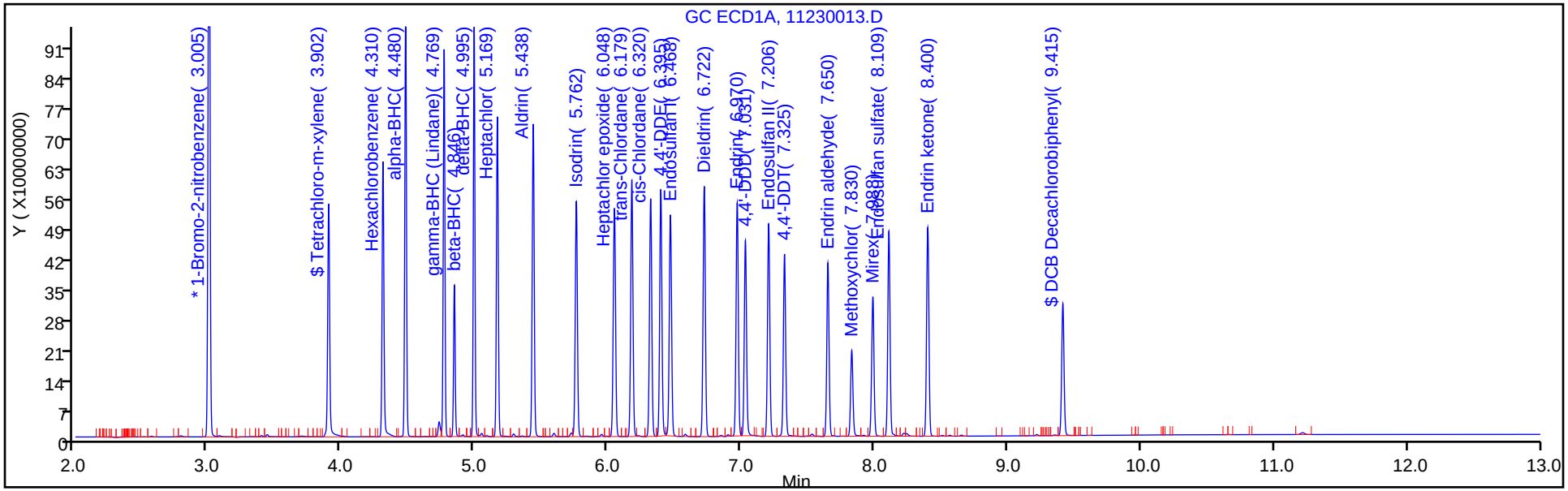
Report Date: 25-Nov-2018 19:32:58 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

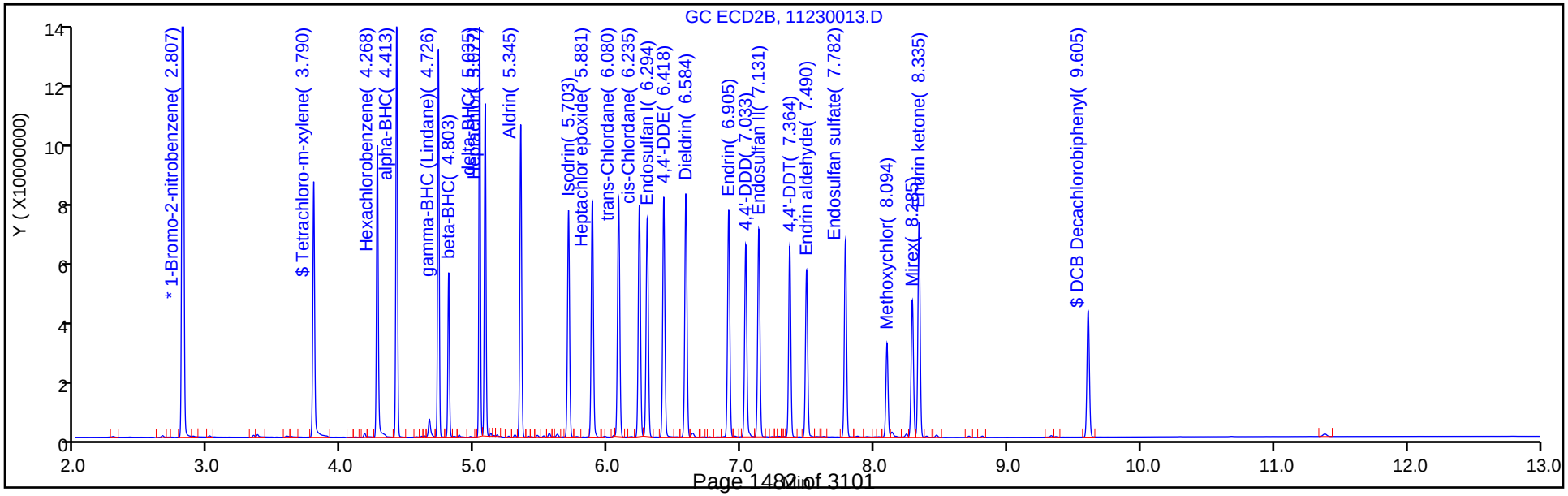
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230013.D

Injection Date:	23-Nov-2018 19:54:18	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCVIS AB			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-438595/24 Calibration Date: 11/23/2018 23:07

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 11230024.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Lin2		0.0078		2280	2000	14.0	20.0
Toxaphene Peak 2	Lin2		0.0198		2260	2000	13.1	20.0
Toxaphene Peak 3	Lin2		0.0235		2400	2000	20.0	20.0
Toxaphene Peak 4	Lin2		0.0098		2470	2000	23.7*	20.0
Toxaphene Peak 5	Lin2		0.0102		2580	2000	29.0*	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-438595/24 Calibration Date: 11/23/2018 23:07

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 11230024.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	6.22	6.20	6.23
Toxaphene Peak 2	6.82	6.81	6.83
Toxaphene Peak 3	7.49	7.48	7.51
Toxaphene Peak 4	7.85	7.84	7.87
Toxaphene Peak 5	8.17	8.16	8.18

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230024.D
Lims ID: CCV TOX
Client ID:
Sample Type: CCV
Inject. Date: 23-Nov-2018 23:07:39 ALS Bottle#: 18 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV TOX
Misc. Info.: 280-0076490-024
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:32:41 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

First Level Reviewer: mooret Date: 25-Nov-2018 19:19:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.007	3.005	0.002	1566520737	150.0	150.0	
2	2.808	2.807	0.001	218889998	150.0	150.0	
28 Toxaphene							M
1	6.215	6.215	0.000	163239318	2000.0	2280.8	M
1	6.818	6.821	-0.003	414409545	2000.0	2261.5	M
1	7.493	7.494	-0.001	491376525	2000.0	2399.6	M
1	7.851	7.853	-0.002	203862758	2000.0	2474.7	M
1	8.168	8.171	-0.003	213798545	2000.0	2579.1	M
		Average of Peak Amounts =				2399.1	
2	5.726	5.728	-0.002	14295531	2000.0	2125.1	
2	7.079	7.082	-0.003	64364170	2000.0	2126.4	
2	7.219	7.221	-0.002	179002087	2000.0	2140.8	
2	7.733	7.736	-0.003	51331206	2000.0	2146.2	
2	8.028	8.031	-0.003	99053134	2000.0	2122.5	
		Average of Peak Amounts =				2132.2	
					RPD = 11.78		

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081TOXCCVL4_00015 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

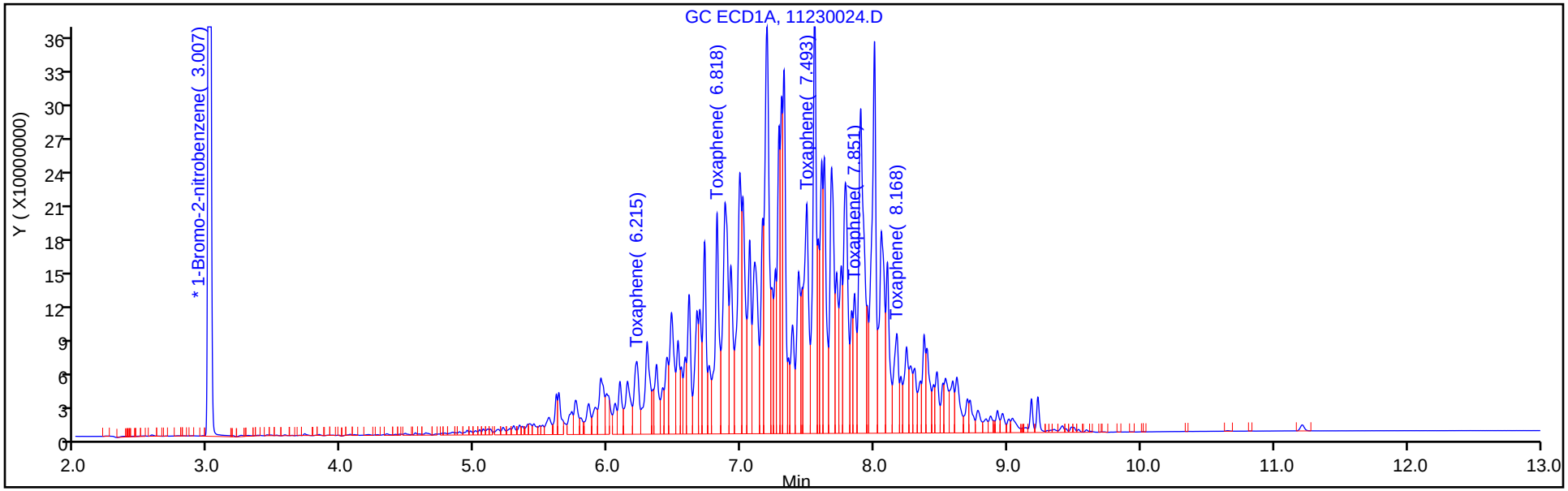
Report Date: 25-Nov-2018 19:32:41 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

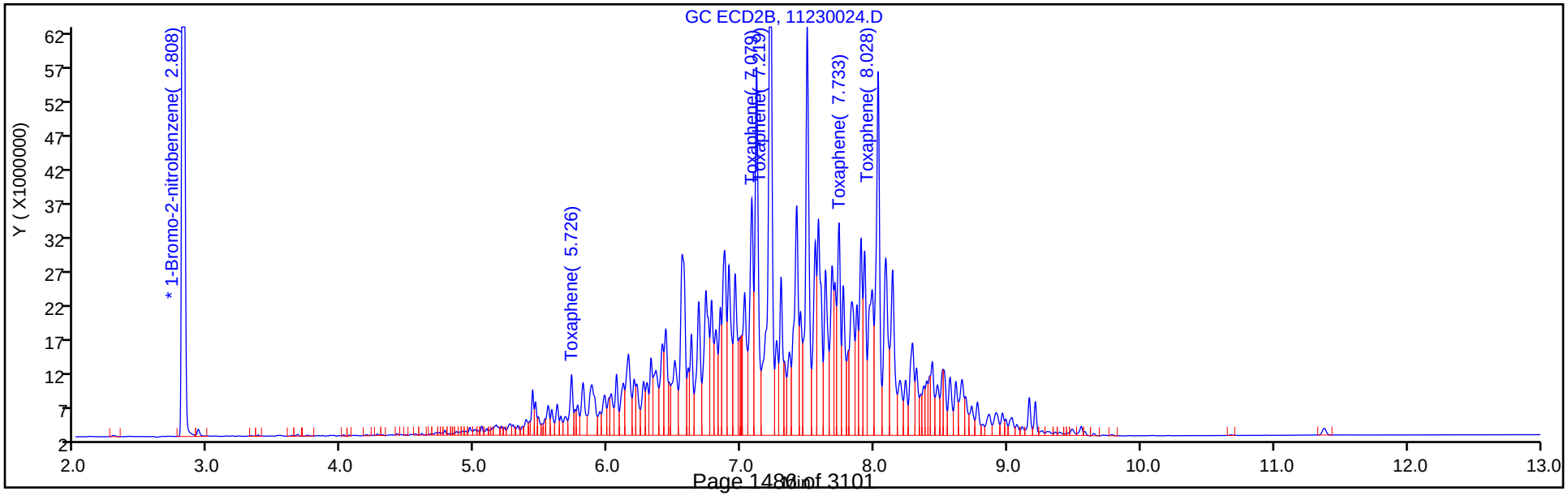
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230024.D

Injection Date:	23-Nov-2018 23:07:39	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV TOX			Worklist Smp#:	24
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



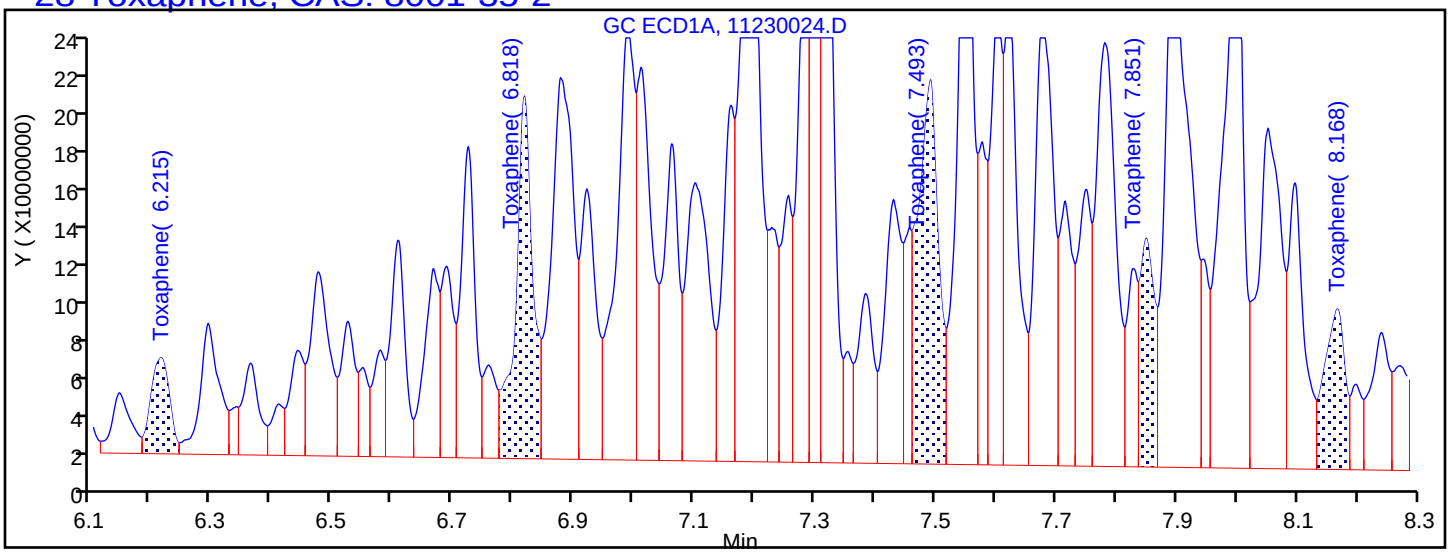
Report Date: 25-Nov-2018 19:32:42 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230024.D

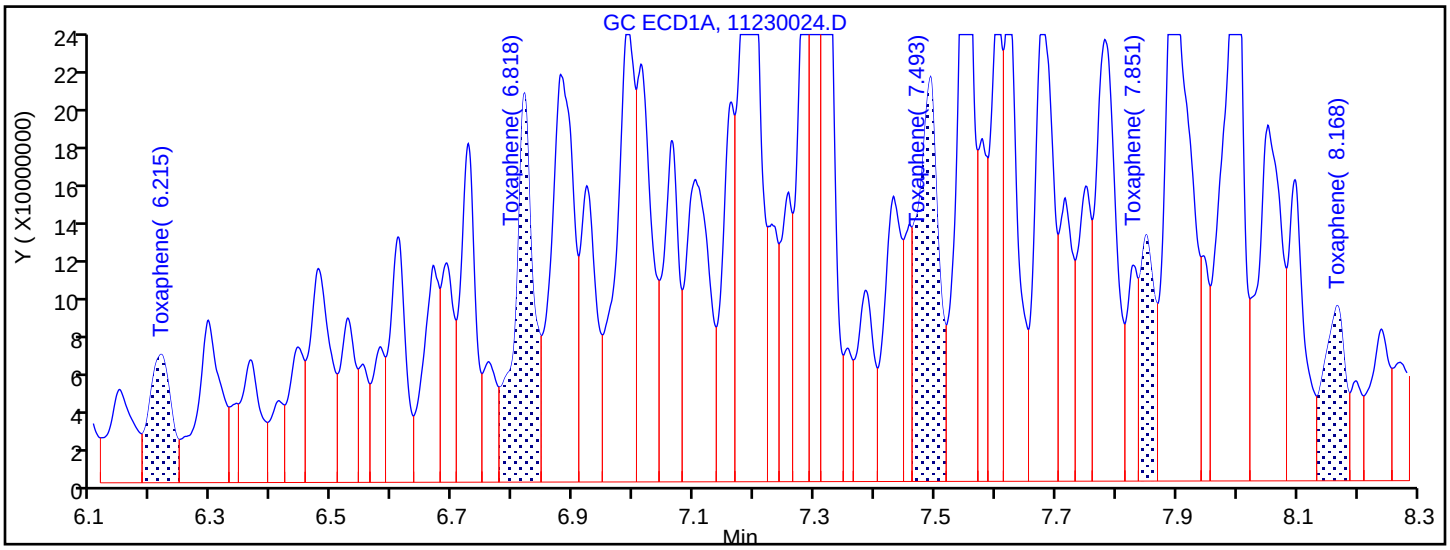
Injection Date:	23-Nov-2018 23:07:39	Instrument ID:	SGC_P2		
Lims ID:	CCV TOX				
Client ID:					
Operator ID:	TEM	ALS Bottle#:	18	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP1 (0.32 mm)	Detector	GC ECD1A		

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

6.215	Response = 103518663
6.818	Response = 357974605
7.493	Response = 456155213
7.851	Response = 187308543
8.168	Response = 189644883



Manual Integration Results

6.215	Response = 163239318	M
6.818	Response = 414409545	M
7.493	Response = 491376525	M
7.851	Response = 203862758	M
8.168	Response = 213798545	M

Reviewer: mooret, 25-Nov-2018 19:19:33

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-438595/24 Calibration Date: 11/23/2018 23:07

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 11230024.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Lin2		0.0049		2130	2000	6.3	20.0
Toxaphene Peak 2	Lin2		0.0221		2130	2000	6.3	20.0
Toxaphene Peak 3	Lin2		0.0613		2140	2000	7.0	20.0
Toxaphene Peak 4	Lin2		0.0176		2150	2000	7.3	20.0
Toxaphene Peak 5	Lin2		0.0339		2120	2000	6.1	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-438595/24 Calibration Date: 11/23/2018 23:07

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 16:10

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 17:37

Lab File ID: 11230024.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	5.73	5.72	5.74
Toxaphene Peak 2	7.08	7.07	7.09
Toxaphene Peak 3	7.22	7.21	7.23
Toxaphene Peak 4	7.73	7.72	7.75
Toxaphene Peak 5	8.03	8.02	8.04

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230024.D
Lims ID: CCV TOX
Client ID:
Sample Type: CCV
Inject. Date: 23-Nov-2018 23:07:39 ALS Bottle#: 18 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV TOX
Misc. Info.: 280-0076490-024
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub3

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:32:41 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

First Level Reviewer: mooret Date: 25-Nov-2018 19:19:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.007	3.005	0.002	1566520737	150.0	150.0	
2	2.808	2.807	0.001	218889998	150.0	150.0	
28 Toxaphene							M
1	6.215	6.215	0.000	163239318	2000.0	2280.8	M
1	6.818	6.821	-0.003	414409545	2000.0	2261.5	M
1	7.493	7.494	-0.001	491376525	2000.0	2399.6	M
1	7.851	7.853	-0.002	203862758	2000.0	2474.7	M
1	8.168	8.171	-0.003	213798545	2000.0	2579.1	M
		Average of Peak Amounts =				2399.1	
2	5.726	5.728	-0.002	14295531	2000.0	2125.1	
2	7.079	7.082	-0.003	64364170	2000.0	2126.4	
2	7.219	7.221	-0.002	179002087	2000.0	2140.8	
2	7.733	7.736	-0.003	51331206	2000.0	2146.2	
2	8.028	8.031	-0.003	99053134	2000.0	2122.5	
		Average of Peak Amounts =				2132.2	
					RPD = 11.78		

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8081TOXCCVL4_00015 Amount Added: 1.00 Units: mL
8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

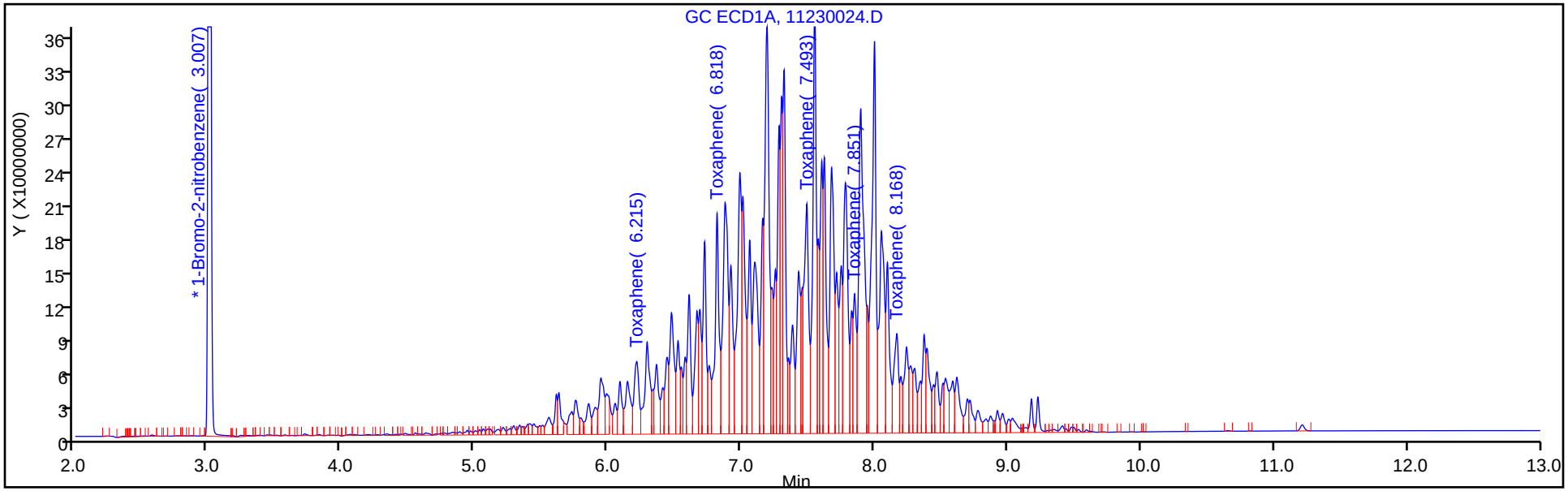
Report Date: 25-Nov-2018 19:32:42 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

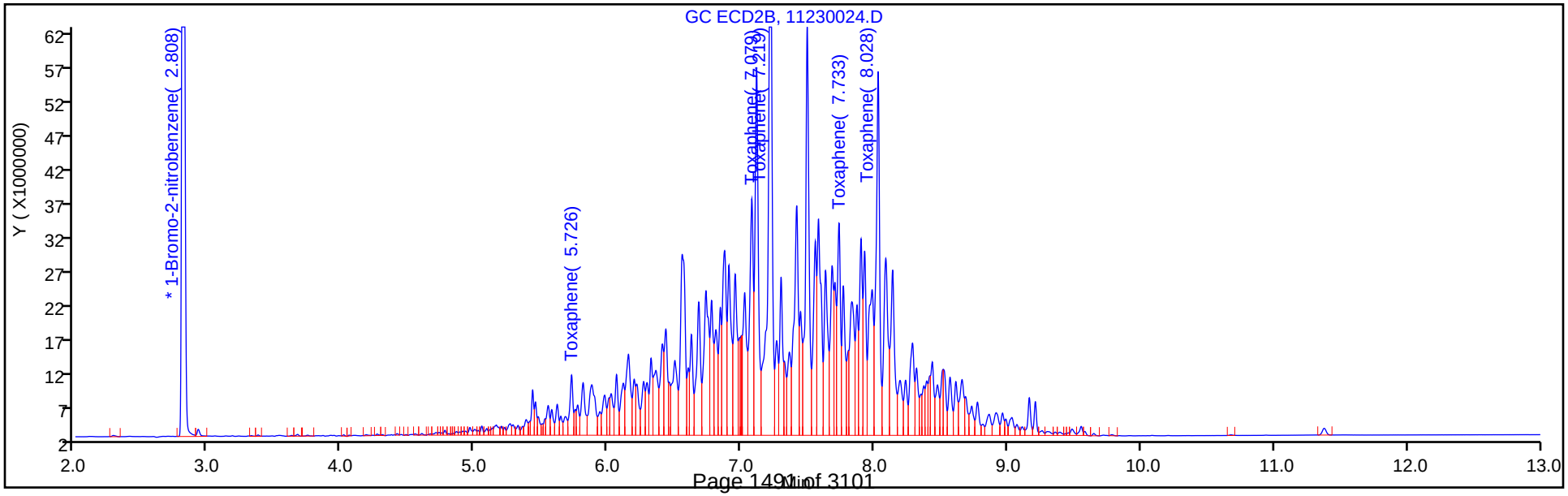
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230024.D

Injection Date:	23-Nov-2018 23:07:39	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV TOX			Worklist Smp#:	24
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-438595/26 Calibration Date: 11/23/2018 23:42

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11230026.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Lin2		1.193		51.7	50.0	3.4	20.0
alpha-BHC	Lin2		1.764		52.8	50.0	5.6	20.0
gamma-BHC (Lindane)	Lin2		1.555		54.6	50.0	9.1	20.0
beta-BHC	Lin2		0.5987		54.8	50.0	9.6	20.0
delta-BHC	Lin2		1.588		54.7	50.0	9.5	20.0
Heptachlor	Lin2		1.434		56.7	50.0	13.5	20.0
Aldrin	Lin2		1.463		54.3	50.0	8.5	20.0
Heptachlor epoxide	Lin2		1.262		55.1	50.0	10.2	20.0
gamma-Chlordane	Lin2		1.348		54.7	50.0	9.4	20.0
alpha-Chlordane	Lin2		1.284		54.5	50.0	9.1	20.0
4,4'-DDE	Lin2		1.283		51.9	50.0	3.9	20.0
Endosulfan I	Lin2		1.192		55.1	50.0	10.2	20.0
Dieldrin	Lin2		1.329		55.2	50.0	10.4	20.0
Endrin	Lin2		1.222		58.4	50.0	16.8	20.0
4,4'-DDD	Lin2		1.045		54.5	50.0	9.0	20.0
Endosulfan II	Lin2		1.112		56.6	50.0	13.2	20.0
4,4'-DDT	Lin2		0.9540		55.6	50.0	11.1	20.0
Endrin aldehyde	Lin2		0.8918		59.4	50.0	18.7	20.0
Methoxychlor	Lin2		0.4551		58.2	50.0	16.4	20.0
Endosulfan sulfate	Lin2		1.059		60.9	50.0	21.8*	20.0
Endrin ketone	Lin2		1.097		60.0	50.0	20.0	20.0
Tetrachloro-m-xylene	Lin2		1.094		49.6	50.0	-0.7	20.0
DCB Decachlorobiphenyl	Lin2		0.6836		60.1	50.0	20.2*	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-438595/26 Calibration Date: 11/23/2018 23:42

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11230026.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	4.31	4.30	4.32
alpha-BHC	4.48	4.47	4.49
gamma-BHC (Lindane)	4.77	4.76	4.78
beta-BHC	4.85	4.83	4.86
delta-BHC	4.99	4.98	5.01
Heptachlor	5.17	5.16	5.18
Aldrin	5.44	5.43	5.45
Heptachlor epoxide	6.05	6.04	6.06
gamma-Chlordane	6.18	6.17	6.19
alpha-Chlordane	6.32	6.31	6.33
4,4'-DDE	6.39	6.38	6.41
Endosulfan I	6.47	6.46	6.48
Dieldrin	6.72	6.71	6.73
Endrin	6.97	6.96	6.98
4,4'-DDD	7.03	7.02	7.04
Endosulfan II	7.20	7.19	7.22
4,4'-DDT	7.32	7.31	7.34
Endrin aldehyde	7.65	7.64	7.66
Methoxychlor	7.83	7.82	7.84
Endosulfan sulfate	8.11	8.10	8.12
Endrin ketone	8.40	8.39	8.41
Tetrachloro-m-xylene	3.90	3.89	3.91
DCB Decachlorobiphenyl	9.41	9.40	9.43

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230026.D
Lims ID: CCV AB
Client ID:
Sample Type: CCV
Inject. Date: 23-Nov-2018 23:42:50 ALS Bottle#: 20 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV AB
Misc. Info.: 280-0076490-026
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:32:35 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

First Level Reviewer: mooret Date: 25-Nov-2018 12:46:56

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						216.9	
2						208.8	
						RPD = 3.80	
* 2 1-Bromo-2-nitrobenzene							
1	3.005	3.005	0.000	1634780219	150.0	150.0	
2	2.807	2.807	-0.001	227836204	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.903	3.902	0.001	596215034	50.0	49.6	
2	3.788	3.790	-0.002	89558735	50.0	48.3	
						RPD = 2.68	
5 Hexachlorobenzene							
1	4.309	4.310	-0.001	650295290	50.0	51.7	
2	4.266	4.268	-0.002	96021138	50.0	49.1	
						RPD = 5.20	
8 alpha-BHC							
1	4.480	4.480	0.000	961306041	50.0	52.8	
2	4.411	4.413	-0.002	131681008	50.0	52.2	
						RPD = 1.23	
9 gamma-BHC (Lindane)							
1	4.768	4.769	-0.001	847617182	50.0	54.6	
2	4.725	4.726	-0.001	115717101	50.0	52.7	
						RPD = 3.44	
10 beta-BHC							
1	4.845	4.846	-0.001	326227612	50.0	54.8	
2	4.802	4.803	-0.001	48317637	50.0	51.5	
						RPD = 6.16	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	4.993	4.995	-0.002	865338035	50.0	54.7	
2	5.034	5.035	-0.001	116574126	50.0	52.4	
						RPD = 4.35	
15 Heptachlor							
1	5.168	5.169	-0.001	781497589	50.0	56.7	
2	5.076	5.077	-0.001	105369986	50.0	55.6	
						RPD = 2.05	
16 Aldrin							
1	5.437	5.438	-0.001	797376221	50.0	54.3	
2	5.343	5.345	-0.002	107653139	50.0	52.7	
						RPD = 2.96	
18 Isodrin							
1	5.760	5.762	-0.002	650238796	50.0	55.4	
2	5.701	5.703	-0.002	88237017	50.0	50.8	
						RPD = 8.69	
21 Heptachlor epoxide							
1	6.045	6.048	-0.003	687602528	50.0	55.1	
2	5.879	5.881	-0.002	97723191	50.0	52.6	
						RPD = 4.70	
22 trans-Chlordane							
1	6.177	6.179	-0.002	734481709	50.0	54.7	
2	6.078	6.080	-0.002	100538832	50.0	51.5	
						RPD = 6.05	
23 cis-Chlordane							
1	6.318	6.320	-0.002	699829304	50.0	54.5	
2	6.233	6.235	-0.002	96451981	50.0	52.2	
						RPD = 4.31	
24 4,4'-DDE							
1	6.394	6.395	-0.001	698910565	50.0	51.9	
2	6.416	6.418	-0.002	98082323	50.0	51.1	
						RPD = 1.63	
25 Endosulfan I							
1	6.466	6.468	-0.002	649578362	50.0	55.1	
2	6.292	6.294	-0.002	91792647	50.0	52.4	
						RPD = 5.08	
27 Dieldrin							
1	6.720	6.722	-0.002	724256473	50.0	55.2	
2	6.582	6.584	-0.002	101307580	50.0	52.4	
						RPD = 5.21	
30 Endrin							
1	6.968	6.970	-0.002	665695473	50.0	58.4	
2	6.903	6.905	-0.002	94544368	50.0	55.4	
						RPD = 5.24	
32 4,4'-DDD							
1	7.029	7.031	-0.002	569185650	50.0	54.5	
2	7.031	7.033	-0.002	80399656	50.0	51.5	
						RPD = 5.75	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.204	7.206	-0.002	605849419	50.0	56.6	
2	7.129	7.131	-0.002	86095892	50.0	52.1	
						RPD = 8.35	
35 4,4'-DDT							
1	7.323	7.325	-0.002	519870595	50.0	55.6	
2	7.363	7.364	-0.001	75841940	50.0	55.9	
						RPD = 0.64	
36 Endrin aldehyde							
1	7.648	7.650	-0.002	485974302	50.0	59.4	
2	7.488	7.490	-0.002	69386605	50.0	52.4	
						RPD = 12.49	
37 Methoxychlor							
1	7.828	7.830	-0.002	247969978	50.0	58.2	
2	8.093	8.094	-0.001	36078150	50.0	54.0	
						RPD = 7.48	
38 Mirex							
1	7.987	7.988	-0.001	393069904	50.0	57.6	
2	8.282	8.285	-0.003	57747391	50.0	51.5	
						RPD = 11.03	
39 Endosulfan sulfate							
1	8.107	8.109	-0.002	577222287	50.0	60.9	
2	7.780	7.782	-0.002	79814914	50.0	52.7	
						RPD = 14.37	
40 Endrin ketone							
1	8.398	8.400	-0.002	597710935	50.0	60.0	
2	8.333	8.335	-0.002	86471088	50.0	51.9	
						RPD = 14.43	
$ 41 DCB Decachlorobiphenyl							
1	9.413	9.415	-0.002	372491555	50.0	60.1	
2	9.603	9.605	-0.002	53947783	50.0	49.2	
						RPD = 19.86	
S 3 Endosulfan, Total							
1						172.6	
2						157.1	
						RPD = 9.36	

Reagents:

8081IcalL4_00031	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

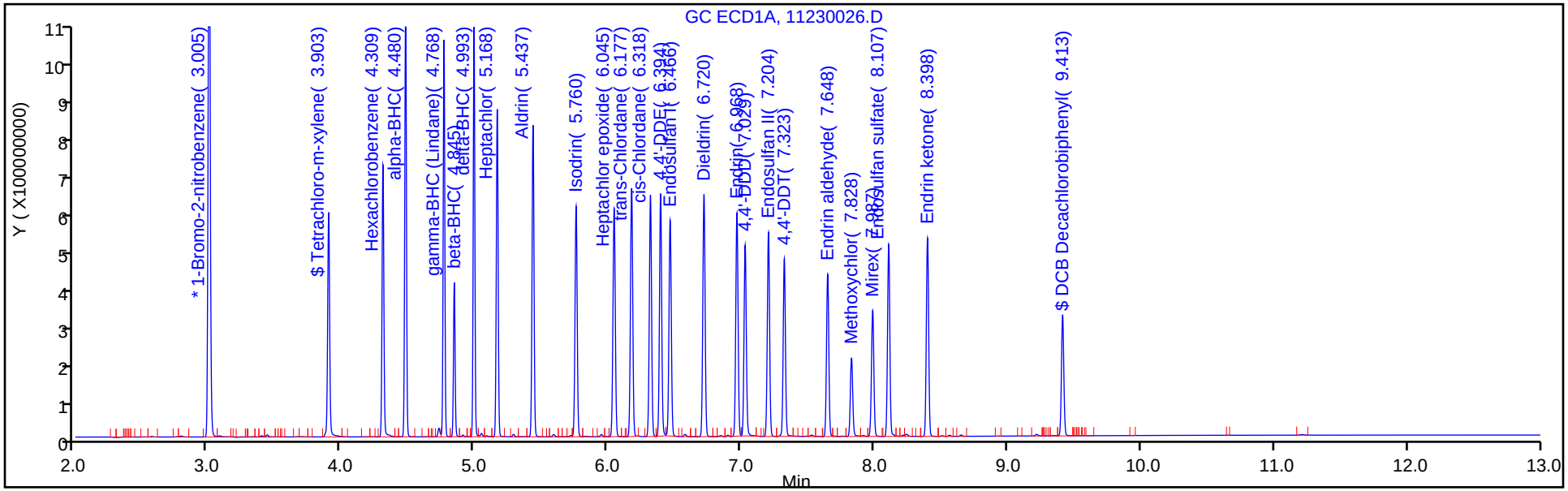
Report Date: 25-Nov-2018 19:32:36 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

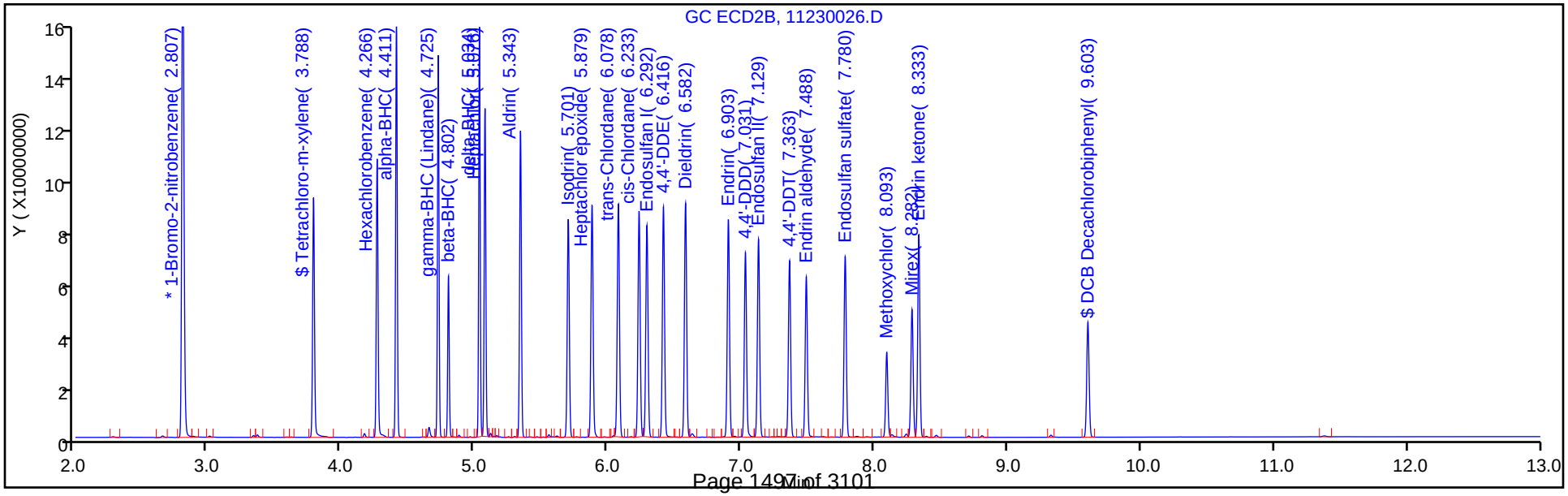
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230026.D

Injection Date:	23-Nov-2018 23:42:50	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV AB			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-438595/26 Calibration Date: 11/23/2018 23:42

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11230026.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Lin2		1.264		49.1	50.0	-1.8	20.0
alpha-BHC	Lin2		1.734		52.2	50.0	4.3	20.0
gamma-BHC (Lindane)	Lin2		1.524		52.7	50.0	5.5	20.0
beta-BHC	Lin2		0.6362		51.5	50.0	3.0	20.0
delta-BHC	Lin2		1.535		52.4	50.0	4.8	20.0
Heptachlor	Lin2		1.387		55.6	50.0	11.2	20.0
Aldrin	Lin2		1.418		52.7	50.0	5.3	20.0
Heptachlor epoxide	Lin2		1.287		52.6	50.0	5.2	20.0
gamma-Chlordane	Lin2		1.324		51.5	50.0	3.0	20.0
alpha-Chlordane	Lin2		1.270		52.2	50.0	4.5	20.0
Endosulfan I	Lin2		1.209		52.4	50.0	4.7	20.0
4,4'-DDE	Lin2		1.291		51.1	50.0	2.2	20.0
Dieldrin	Lin2		1.334		52.4	50.0	4.8	20.0
Endrin	Lin2		1.245		55.4	50.0	10.8	20.0
4,4'-DDD	Lin2		1.059		51.5	50.0	2.9	20.0
Endosulfan II	Lin2		1.134		52.1	50.0	4.1	20.0
4,4'-DDT	Lin2		0.999		55.9	50.0	11.8	20.0
Endrin aldehyde	Lin2		0.9136		52.4	50.0	4.7	20.0
Endosulfan sulfate	Lin2		1.051		52.7	50.0	5.5	20.0
Methoxychlor	Lin2		0.4751		54.0	50.0	8.0	20.0
Endrin ketone	Lin2		1.139		51.9	50.0	3.8	20.0
Tetrachloro-m-xylene	Lin2		1.179		48.3	50.0	-3.3	20.0
DCB Decachlorobiphenyl	Lin2		0.7104		49.2	50.0	-1.5	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-438595/26 Calibration Date: 11/23/2018 23:42

Instrument ID: SGC_P2 Calib Start Date: 10/13/2018 19:22

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 10/13/2018 20:49

Lab File ID: 11230026.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	4.27	4.26	4.28
alpha-BHC	4.41	4.40	4.43
gamma-BHC (Lindane)	4.73	4.71	4.74
beta-BHC	4.80	4.79	4.82
delta-BHC	5.03	5.02	5.05
Heptachlor	5.08	5.07	5.09
Aldrin	5.34	5.33	5.36
Heptachlor epoxide	5.88	5.87	5.89
gamma-Chlordane	6.08	6.07	6.09
alpha-Chlordane	6.23	6.22	6.25
Endosulfan I	6.29	6.28	6.31
4,4'-DDE	6.42	6.41	6.43
Dieldrin	6.58	6.57	6.60
Endrin	6.90	6.89	6.92
4,4'-DDD	7.03	7.02	7.05
Endosulfan II	7.13	7.12	7.14
4,4'-DDT	7.36	7.35	7.38
Endrin aldehyde	7.49	7.48	7.50
Endosulfan sulfate	7.78	7.77	7.79
Methoxychlor	8.09	8.08	8.11
Endrin ketone	8.33	8.32	8.35
Tetrachloro-m-xylene	3.79	3.78	3.80
DCB Decachlorobiphenyl	9.60	9.59	9.62

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230026.D
Lims ID: CCV AB
Client ID:
Sample Type: CCV
Inject. Date: 23-Nov-2018 23:42:50 ALS Bottle#: 20 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV AB
Misc. Info.: 280-0076490-026
Operator ID: TEM Instrument ID: SGC_P2
Sublist: chrom-P2 8081 IS*sub5

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:32:35 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

First Level Reviewer: mooret Date: 25-Nov-2018 12:46:56

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						216.9	
2						208.8	
						RPD = 3.80	
* 2 1-Bromo-2-nitrobenzene							
1	3.005	3.005	0.000	1634780219	150.0	150.0	
2	2.807	2.807	-0.001	227836204	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.903	3.902	0.001	596215034	50.0	49.6	
2	3.788	3.790	-0.002	89558735	50.0	48.3	
						RPD = 2.68	
5 Hexachlorobenzene							
1	4.309	4.310	-0.001	650295290	50.0	51.7	
2	4.266	4.268	-0.002	96021138	50.0	49.1	
						RPD = 5.20	
8 alpha-BHC							
1	4.480	4.480	0.000	961306041	50.0	52.8	
2	4.411	4.413	-0.002	131681008	50.0	52.2	
						RPD = 1.23	
9 gamma-BHC (Lindane)							
1	4.768	4.769	-0.001	847617182	50.0	54.6	
2	4.725	4.726	-0.001	115717101	50.0	52.7	
						RPD = 3.44	
10 beta-BHC							
1	4.845	4.846	-0.001	326227612	50.0	54.8	
2	4.802	4.803	-0.001	48317637	50.0	51.5	
						RPD = 6.16	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
12 delta-BHC							
1	4.993	4.995	-0.002	865338035	50.0	54.7	
2	5.034	5.035	-0.001	116574126	50.0	52.4	
						RPD = 4.35	
15 Heptachlor							
1	5.168	5.169	-0.001	781497589	50.0	56.7	
2	5.076	5.077	-0.001	105369986	50.0	55.6	
						RPD = 2.05	
16 Aldrin							
1	5.437	5.438	-0.001	797376221	50.0	54.3	
2	5.343	5.345	-0.002	107653139	50.0	52.7	
						RPD = 2.96	
18 Isodrin							
1	5.760	5.762	-0.002	650238796	50.0	55.4	
2	5.701	5.703	-0.002	88237017	50.0	50.8	
						RPD = 8.69	
21 Heptachlor epoxide							
1	6.045	6.048	-0.003	687602528	50.0	55.1	
2	5.879	5.881	-0.002	97723191	50.0	52.6	
						RPD = 4.70	
22 trans-Chlordane							
1	6.177	6.179	-0.002	734481709	50.0	54.7	
2	6.078	6.080	-0.002	100538832	50.0	51.5	
						RPD = 6.05	
23 cis-Chlordane							
1	6.318	6.320	-0.002	699829304	50.0	54.5	
2	6.233	6.235	-0.002	96451981	50.0	52.2	
						RPD = 4.31	
24 4,4'-DDE							
1	6.394	6.395	-0.001	698910565	50.0	51.9	
2	6.416	6.418	-0.002	98082323	50.0	51.1	
						RPD = 1.63	
25 Endosulfan I							
1	6.466	6.468	-0.002	649578362	50.0	55.1	
2	6.292	6.294	-0.002	91792647	50.0	52.4	
						RPD = 5.08	
27 Dieldrin							
1	6.720	6.722	-0.002	724256473	50.0	55.2	
2	6.582	6.584	-0.002	101307580	50.0	52.4	
						RPD = 5.21	
30 Endrin							
1	6.968	6.970	-0.002	665695473	50.0	58.4	
2	6.903	6.905	-0.002	94544368	50.0	55.4	
						RPD = 5.24	
32 4,4'-DDD							
1	7.029	7.031	-0.002	569185650	50.0	54.5	
2	7.031	7.033	-0.002	80399656	50.0	51.5	
						RPD = 5.75	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
34 Endosulfan II							
1	7.204	7.206	-0.002	605849419	50.0	56.6	
2	7.129	7.131	-0.002	86095892	50.0	52.1	
						RPD = 8.35	
35 4,4'-DDT							
1	7.323	7.325	-0.002	519870595	50.0	55.6	
2	7.363	7.364	-0.001	75841940	50.0	55.9	
						RPD = 0.64	
36 Endrin aldehyde							
1	7.648	7.650	-0.002	485974302	50.0	59.4	
2	7.488	7.490	-0.002	69386605	50.0	52.4	
						RPD = 12.49	
37 Methoxychlor							
1	7.828	7.830	-0.002	247969978	50.0	58.2	
2	8.093	8.094	-0.001	36078150	50.0	54.0	
						RPD = 7.48	
38 Mirex							
1	7.987	7.988	-0.001	393069904	50.0	57.6	
2	8.282	8.285	-0.003	57747391	50.0	51.5	
						RPD = 11.03	
39 Endosulfan sulfate							
1	8.107	8.109	-0.002	577222287	50.0	60.9	
2	7.780	7.782	-0.002	79814914	50.0	52.7	
						RPD = 14.37	
40 Endrin ketone							
1	8.398	8.400	-0.002	597710935	50.0	60.0	
2	8.333	8.335	-0.002	86471088	50.0	51.9	
						RPD = 14.43	
$ 41 DCB Decachlorobiphenyl							
1	9.413	9.415	-0.002	372491555	50.0	60.1	
2	9.603	9.605	-0.002	53947783	50.0	49.2	
						RPD = 19.86	
S 3 Endosulfan, Total							
1						172.6	
2						157.1	
						RPD = 9.36	

Reagents:

8081IcalL4_00031	Amount Added: 1.00	Units: mL	
8081_IS_00008	Amount Added: 75.00	Units: uL	Run Reagent

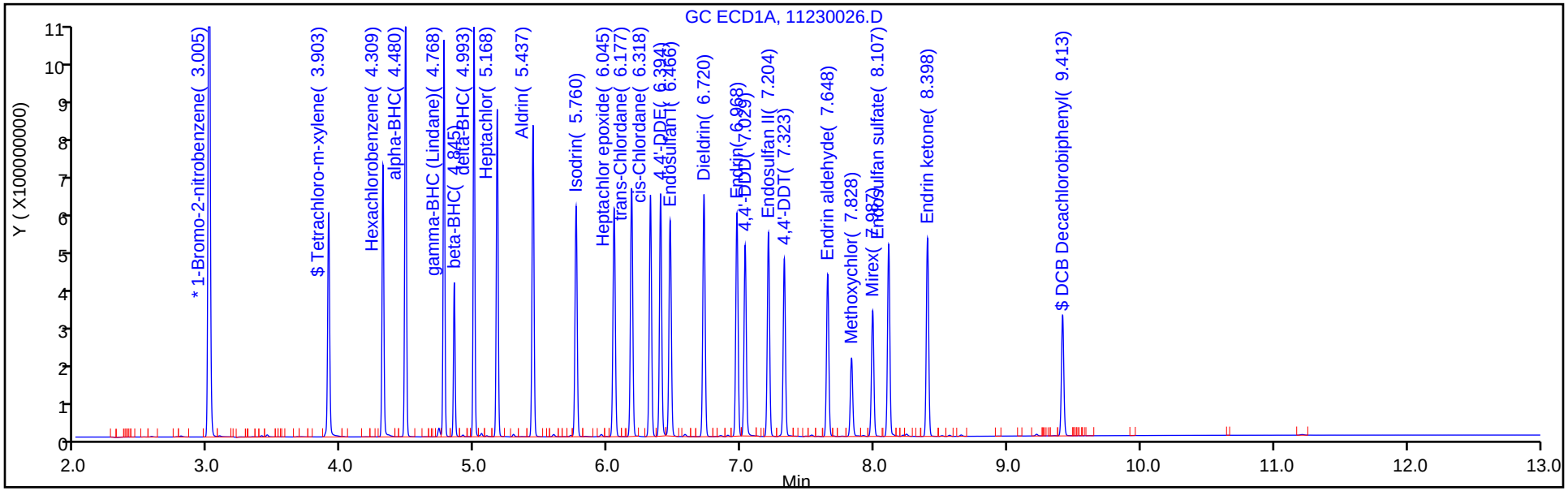
Report Date: 25-Nov-2018 19:32:36 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

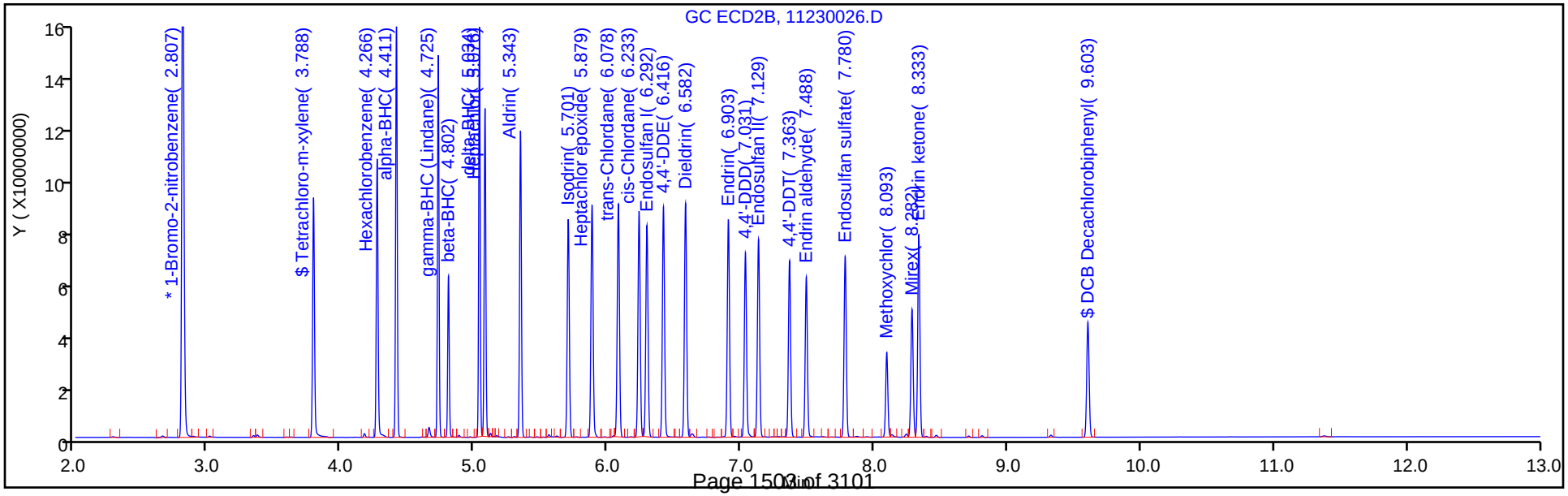
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230026.D

Injection Date:	23-Nov-2018 23:42:50	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	CCV AB			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-434851/1-A

Matrix: Water | Lab File ID: 11230014.D

Analysis Method: 8081B | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/25/2018 09:01

Sample wt/vol: 1000(mL) | Date Analyzed: 11/23/2018 20:11

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438595 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
72-54-8	4,4'-DDD	0.020	U	0.050	0.020	0.0077
72-55-9	4,4'-DDE	0.020	U	0.050	0.020	0.0075
50-29-3	4,4'-DDT	0.050	U	0.050	0.050	0.015
309-00-2	Aldrin	0.020	U	0.050	0.020	0.0059
319-84-6	alpha-BHC	0.020	U	0.050	0.020	0.0053
5103-71-9	alpha-Chlordane	0.020	U	0.050	0.020	0.0053
319-85-7	beta-BHC	0.020	U	0.050	0.020	0.0087
319-86-8	delta-BHC	0.020	U	0.050	0.020	0.0058
60-57-1	Dieldrin	0.020	U	0.050	0.020	0.0063
959-98-8	Endosulfan I	0.020	U	0.050	0.020	0.0058
33213-65-9	Endosulfan II	0.020	U	0.050	0.020	0.0070
1031-07-8	Endosulfan sulfate	0.020	U	0.050	0.020	0.0057
72-20-8	Endrin	0.020	U	0.050	0.020	0.0079
7421-93-4	Endrin aldehyde	0.020	U	0.050	0.020	0.0088
53494-70-5	Endrin ketone	0.020	U	0.050	0.020	0.0070
58-89-9	gamma-BHC (Lindane)	0.020	U	0.050	0.020	0.0069
5103-74-2	gamma-Chlordane	0.020	U	0.050	0.020	0.0091
76-44-8	Heptachlor	0.020	U	0.050	0.020	0.0077
1024-57-3	Heptachlor epoxide	0.020	U	0.050	0.020	0.0075
72-43-5	Methoxychlor	0.050	U	0.050	0.050	0.013
8001-35-2	Toxaphene	0.80	U	2.0	0.80	0.37

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	91		34-122
877-09-8	Tetrachloro-m-xylene	80		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230014.D
Lims ID: MB 280-434851/1-A
Client ID:
Sample Type: MB
Inject. Date: 23-Nov-2018 20:11:53 ALS Bottle#: 8 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-434851/1-
Misc. Info.: 280-0076490-014
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:32:43 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

First Level Reviewer: mooret Date: 25-Nov-2018 19:12:33

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
S 1 Hexachlorocyclohexane, technical							
1						0.7823	
2						0.0350	
						RPD = 182.88	
* 2 1-Bromo-2-nitrobenzene							
1	3.005	3.005	0.000	1692029547	150.0	150.0	
2	2.807	2.807	0.000	229702527	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.902	3.902	0.000	187672888	20.0	15.4	
2	3.789	3.790	-0.001	30664954	20.0	16.0	
						RPD = 4.00	
5 Hexachlorobenzene							
1	4.311	4.310	0.001	3120156		0.5315	
2	4.270	4.268	0.002	414172		-0.3622	
						RPD = 1055.79	
6 Diallate							
1		4.336				ND	
2		4.221					
7 Propachlor							
1	4.474	4.477	-0.003	123905		-2.63	
2	4.090	4.099	-0.009	126462		-0.0403	
						RPD = -193.97	
LOD = 0.002000							
8 alpha-BHC							
1		4.480				ND	
2		4.413					
9 gamma-BHC (Lindane)							
1		4.769				ND	
2		4.726					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
10 beta-BHC							
1		4.846				ND	
2		4.803					
11 2,4,5-Trichlorophenol							
1		4.861				ND	
2		4.772					
12 delta-BHC							
1	4.994	4.995	-0.001	2671930		0.7823	
2	5.042	5.035	0.007	347547		0.0350	
						RPD = 182.88	
14 Chlordane (technical)							
1		5.101				ND	
1		5.568					
1		6.179					
1		6.317					
1		7.132					
2		4.963					
2		5.483					
2		6.079					
2		6.235					
2		7.179					
13 Technical Chlordane							
1		5.101				ND	
1		5.568					
1		6.179					
1		6.317					
1		7.132					
2		4.963					
2		5.483					
2		6.079					
2		6.235					
2		7.179					
15 Heptachlor							
1		5.169				ND	
2		5.077					
16 Aldrin							
1		5.438				ND	
2		5.345					
17 Chlorpyrifos							
1		5.669				ND	
2		5.565					
18 Isodrin							
1		5.762				ND	
2		5.703					
19 Dicofol							
1		5.801				ND	
2		5.663					
20 2,4'-DDE							
1		6.031				ND	
2		6.086					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
21 Heptachlor epoxide							
1		6.048				ND	
2		5.881					
22 trans-Chlordane							
1		6.179				ND	
2		6.080					
28 Toxaphene							
1		6.215				ND	
1		6.821					
1		7.494					
1		7.853					
1		8.171					
2		5.728					
2		7.082					
2		7.221					
2		7.736					
2		8.031					
23 cis-Chlordane							
1		6.320				ND	
2		6.235					
24 4,4'-DDE							
1		6.395				ND	
2		6.418					
25 Endosulfan I							
1		6.468				ND	
2		6.294					
26 2,4'-DDD							
1		6.581				ND	
2		6.631					
27 Dieldrin							
1		6.722				ND	
2		6.584					
29 2,4'-DDT							
1		6.848				ND	
2		6.953					
30 Endrin							
1		6.970				ND	
2		6.905					
31 Kepone							
1		7.012				ND	
2		7.022					
32 4,4'-DDD							
1		7.031				ND	
2		7.033					
33 Chlorobenzilate							
1		7.045				ND	
2		6.900					
34 Endosulfan II							
1		7.206				ND	
2		7.131					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
35 4,4'-DDT							
1		7.325				ND	
2		7.364					
36 Endrin aldehyde							
1		7.650				ND	
2		7.490					
37 Methoxychlor							
1		7.830				ND	
2		8.094					
38 Mirex							
1		7.988				ND	
2		8.285					
39 Endosulfan sulfate							
1		8.109				ND	
2		7.782					
40 Endrin ketone							
1		8.400				ND	
2		8.335					
$ 41 DCB Decachlorobiphenyl							
1	9.413	9.415	-0.002	139541658	20.0	21.7	
2	9.605	9.605	0.000	20815825	20.0	18.2	
						RPD = 17.22	
42 Tris(2,3-dibromopropyl)phosphate							
1	11.207	11.209	-0.002	4200930		242.5	
2	11.380	11.380	0.000	520227		244.7	
						RPD = 0.88	
S 3 Endosulfan, Total							
1		0.000				ND	
2		0.000					

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Reagents:

8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

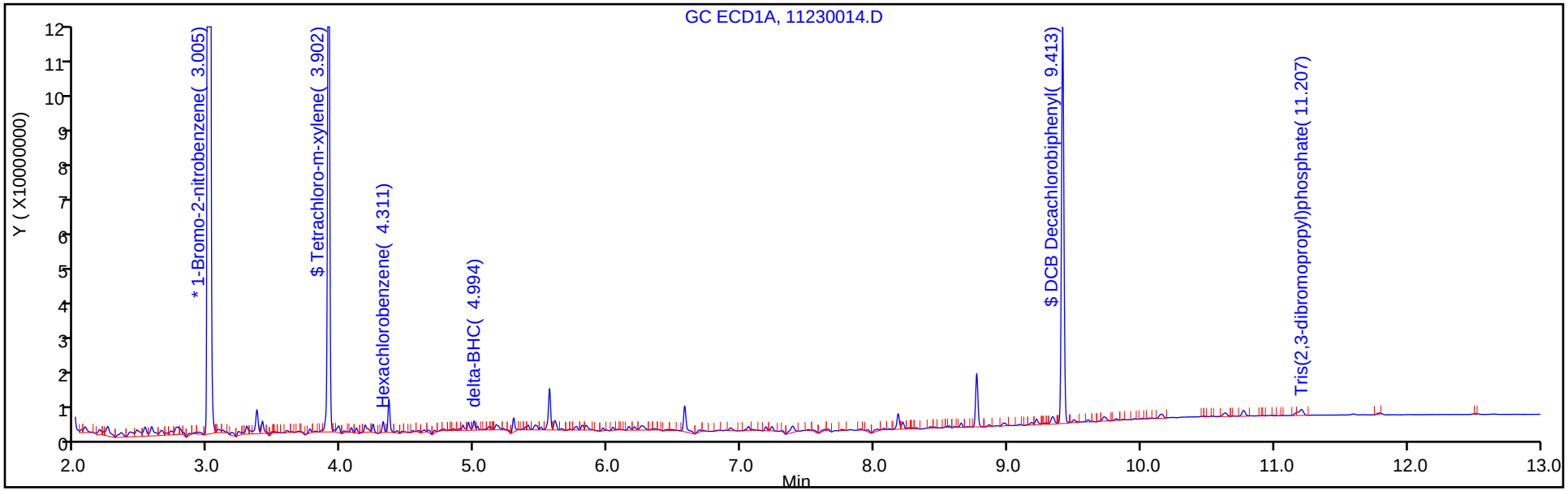
Report Date: 25-Nov-2018 19:32:57 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

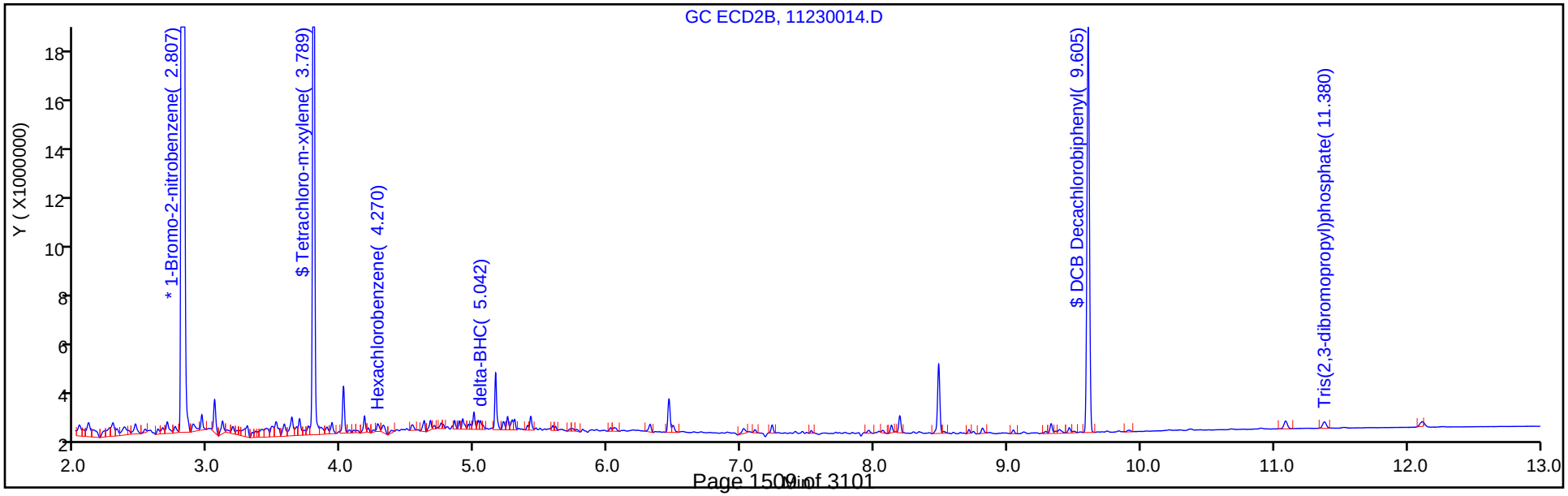
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230014.D

Injection Date:	23-Nov-2018 20:11:53	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	MB 280-434851/1-A			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230014.D				
Lims ID:	MB 280-434851/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	23-Nov-2018 20:11:53	ALS Bottle#:	8	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	MB 280-434851/1-				
Misc. Info.:	280-0076490-014				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	25-Nov-2018 19:32:43	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0312				
First Level Reviewer: mooret		Date:	25-Nov-2018 19:12:33		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.4	76.82
$ 41 DCB Decachlorobiphenyl	20.0	21.7	108.26

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	16.0	79.95
$ 41 DCB Decachlorobiphenyl	20.0	18.2	91.09

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-434851/2-A

Matrix: Water | Lab File ID: 11230015.D

Analysis Method: 8081B | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/25/2018 09:01

Sample wt/vol: 1000(mL) | Date Analyzed: 11/23/2018 20:29

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438595 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
72-54-8	4,4'-DDD	0.575		0.050	0.020	0.0077
72-55-9	4,4'-DDE	0.561		0.050	0.020	0.0075
50-29-3	4,4'-DDT	0.636		0.050	0.050	0.015
309-00-2	Aldrin	0.548		0.050	0.020	0.0059
319-84-6	alpha-BHC	0.533		0.050	0.020	0.0053
5103-71-9	alpha-Chlordane	0.573		0.050	0.020	0.0053
319-85-7	beta-BHC	0.505		0.050	0.020	0.0087
319-86-8	delta-BHC	0.546		0.050	0.020	0.0058
60-57-1	Dieldrin	0.569		0.050	0.020	0.0063
959-98-8	Endosulfan I	0.560		0.050	0.020	0.0058
33213-65-9	Endosulfan II	0.528		0.050	0.020	0.0070
1031-07-8	Endosulfan sulfate	0.579		0.050	0.020	0.0057
72-20-8	Endrin	0.612		0.050	0.020	0.0079
7421-93-4	Endrin aldehyde	0.367		0.050	0.020	0.0088
53494-70-5	Endrin ketone	0.575		0.050	0.020	0.0070
58-89-9	gamma-BHC (Lindane)	0.551		0.050	0.020	0.0069
5103-74-2	gamma-Chlordane	0.565		0.050	0.020	0.0091
76-44-8	Heptachlor	0.574		0.050	0.020	0.0077
1024-57-3	Heptachlor epoxide	0.577		0.050	0.020	0.0075
72-43-5	Methoxychlor	0.600		0.050	0.050	0.013

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	102		34-122
877-09-8	Tetrachloro-m-xylene	83		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230015.D
Lims ID: LCS 280-434851/2-A
Client ID:
Sample Type: LCS
Inject. Date: 23-Nov-2018 20:29:24 ALS Bottle#: 9 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-434851/2
Misc. Info.: 280-0076490-015
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:32:43 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.003	3.005	-0.001	1601711568	150.0	150.0	
2	2.806	2.807	-0.001	216263228	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.902	3.902	0.000	190192748	20.0	16.4	
2	3.789	3.790	-0.001	30010276	20.0	16.6	
						RPD = 1.37	
5 Hexachlorobenzene							
1	4.309	4.310	-0.001	534248478	50.0	43.4	
2	4.267	4.268	-0.001	85364630	50.0	45.9	
						RPD = 5.67	
8 alpha-BHC							
1	4.480	4.480	0.000	909750259	50.0	51.0	
2	4.413	4.413	0.000	127742664	50.0	53.3	
						RPD = 4.38	
9 gamma-BHC (Lindane)							
1	4.768	4.769	-0.001	825135325	50.0	54.2	
2	4.726	4.726	0.000	114803862	50.0	55.1	
						RPD = 1.63	
10 beta-BHC							
1	4.845	4.846	-0.001	309319411	50.0	53.0	
2	4.803	4.803	0.000	44990236	50.0	50.5	
						RPD = 4.81	
12 delta-BHC							
1	4.994	4.995	-0.001	862431319	50.0	55.7	
2	5.035	5.035	0.000	115250688	50.0	54.6	
						RPD = 1.96	
15 Heptachlor							
1	5.168	5.169	-0.001	787464253	50.0	58.3	
2	5.078	5.077	0.001	103290888	50.0	57.4	
						RPD = 1.59	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
16 Aldrin							
1	5.438	5.438	0.000	775123727	50.0	53.8	
2	5.344	5.345	-0.001	106304652	50.0	54.8	
						RPD = 1.79	
21 Heptachlor epoxide							
1	6.047	6.048	-0.001	737905774	50.0	60.3	
2	5.881	5.881	0.000	101735814	50.0	57.7	
						RPD = 4.43	
22 trans-Chlordane							
1	6.178	6.179	-0.001	786636875	50.0	59.8	
2	6.078	6.080	-0.002	104687420	50.0	56.5	
						RPD = 5.58	
23 cis-Chlordane							
1	6.319	6.320	-0.001	751973046	50.0	59.8	
2	6.234	6.235	-0.001	100324059	50.0	57.3	
						RPD = 4.24	
24 4,4'-DDE							
1	6.395	6.395	0.000	704950835	50.0	53.4	
2	6.418	6.418	0.000	102278904	50.0	56.1	
						RPD = 4.94	
25 Endosulfan I							
1	6.468	6.468	0.000	674262304	50.0	58.3	
2	6.293	6.294	-0.001	93041448	50.0	56.0	
						RPD = 4.19	
27 Dieldrin							
1	6.721	6.722	-0.001	787389911	50.0	61.2	
2	6.583	6.584	-0.001	104411473	50.0	56.9	
						RPD = 7.27	
30 Endrin							
1	6.968	6.970	-0.002	721790878	50.0	64.6	
2	6.905	6.905	0.000	99016633	50.0	61.2	
						RPD = 5.42	
32 4,4'-DDD							
1	7.029	7.031	-0.002	627840323	50.0	61.3	
2	7.033	7.033	0.000	85224722	50.0	57.5	
						RPD = 6.41	
34 Endosulfan II							
1	7.205	7.206	-0.001	603644981	50.0	57.6	
2	7.131	7.131	0.000	82845071	50.0	52.8	
						RPD = 8.63	
35 4,4'-DDT							
1	7.323	7.325	-0.002	521692075	50.0	56.9	
2	7.363	7.364	-0.001	81902592	50.0	63.6	
						RPD = 11.14	
36 Endrin aldehyde							
1	7.649	7.650	-0.001	326325339	50.0	40.7	
2	7.489	7.490	-0.001	46379088	50.0	36.7	
						RPD = 10.46	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
37 Methoxychlor							
1	7.828	7.830	-0.002	266763069	50.0	63.9	
2	8.093	8.094	-0.001	38020520	50.0	60.0	
						RPD = 6.29	
39 Endosulfan sulfate							
1	8.108	8.109	-0.001	638360321	50.0	68.7	
2	7.782	7.782	0.000	83058791	50.0	57.9	
						RPD = 17.10	
40 Endrin ketone							
1	8.399	8.400	-0.001	618412529	50.0	63.3	
2	8.334	8.335	-0.001	90841974	50.0	57.5	
						RPD = 9.63	
$ 41 DCB Decachlorobiphenyl							
1	9.413	9.415	-0.002	143686228	20.0	23.6	
2	9.604	9.605	-0.001	21832966	20.0	20.4	
						RPD = 14.34	

Reagents:

8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

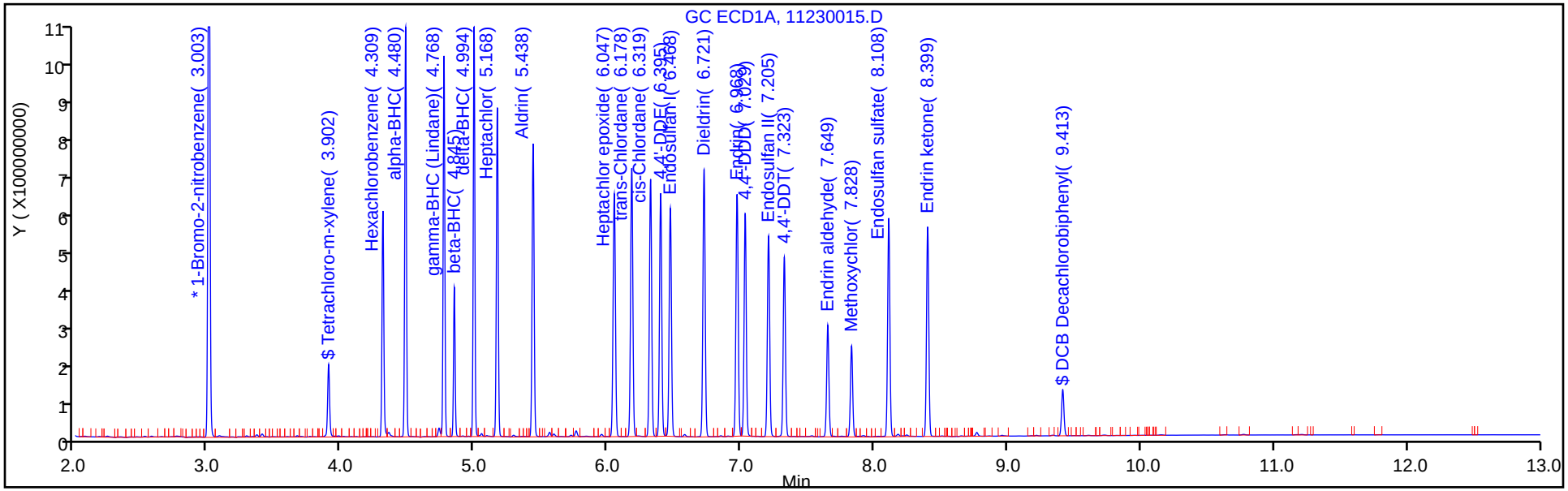
Report Date: 25-Nov-2018 19:32:56 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

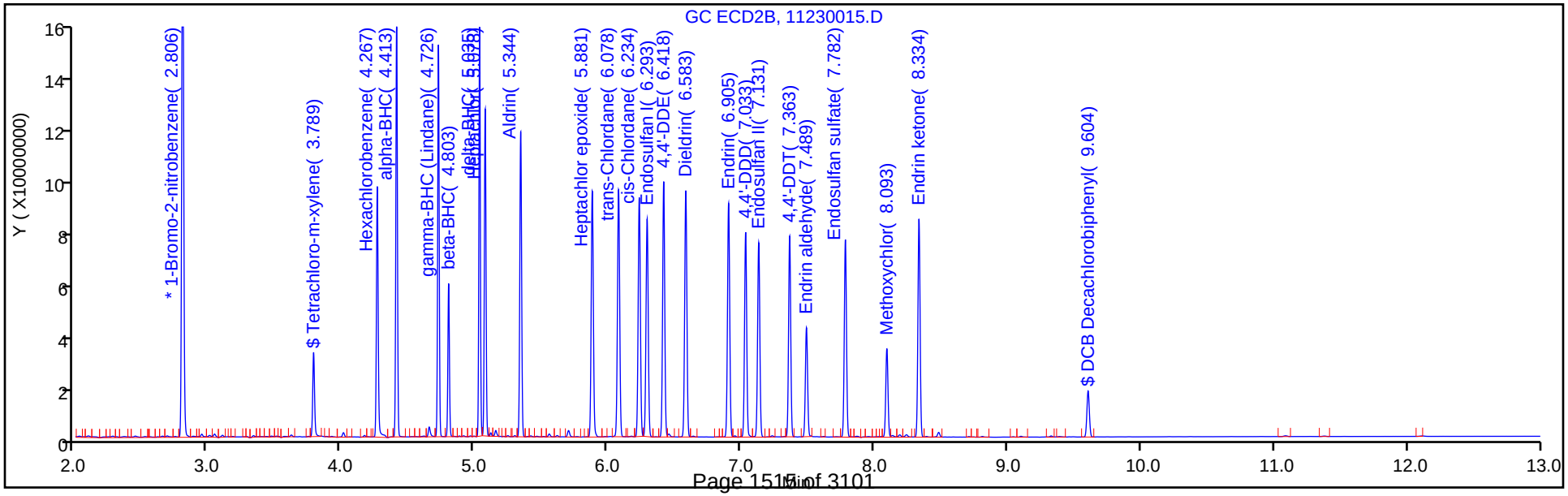
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230015.D

Injection Date:	23-Nov-2018 20:29:24	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	LCS 280-434851/2-A			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230015.D				
Lims ID:	LCS 280-434851/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	23-Nov-2018 20:29:24	ALS Bottle#:	9	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCS 280-434851/2				
Misc. Info.:	280-0076490-015				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	25-Nov-2018 19:32:43	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0312				

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	16.4	82.10
$ 41 DCB Decachlorobiphenyl	20.0	23.6	117.83

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	16.6	83.23
$ 41 DCB Decachlorobiphenyl	20.0	20.4	102.06

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-434851/11-A

Matrix: Water | Lab File ID: 11230021.D

Analysis Method: 8081B | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/25/2018 09:01

Sample wt/vol: 1000(mL) | Date Analyzed: 11/23/2018 22:14

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438595 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
8001-35-2	Toxaphene	2.58		2.0	0.80	0.37

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	94		34-122
877-09-8	Tetrachloro-m-xylene	80		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230021.D
Lims ID: LCS 280-434851/11-A
Client ID:
Sample Type: LCS
Inject. Date: 23-Nov-2018 22:14:44 ALS Bottle#: 15 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-434851/1
Misc. Info.: 280-0076490-021
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:32:43 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

First Level Reviewer: mooret Date: 25-Nov-2018 19:17:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.004	3.005	0.000	1601587143	150.0	150.0	
2	2.807	2.807	0.000	220457881	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.902	3.902	0.000	181594973	20.0	15.7	
2	3.789	3.790	-0.001	29469565	20.0	16.0	
						RPD = 1.99	
28 Toxaphene							a
1	6.204	6.215	-0.011	7402921	200.0	134.0	
1	6.820	6.821	-0.001	25040219	200.0	176.9	
1	7.489	7.494	-0.005	38688753	200.0	245.1	
1	7.856	7.853	0.003	19185818	200.0	295.3	
1	8.177	8.171	0.006	30139708	200.0	443.2	
		Average of Peak Amounts =				258.9	
2	5.727	5.728	-0.001	1743805	200.0	211.2	
2	7.079	7.082	-0.003	6606204	200.0	207.5	
2	7.219	7.221	-0.002	17275843	200.0	206.6	
2	7.724	7.736	-0.012	9523841	200.0	402.3	a
2	8.030	8.031	-0.001	12308050	200.0	263.8	
		Average of Peak Amounts =				258.2	
						RPD = 0.26	
$ 41 DCB Decachlorobiphenyl							
1	9.414	9.415	-0.001	136834571	20.0	22.4	
2	9.604	9.605	-0.001	20488365	20.0	18.7	
						RPD = 18.11	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

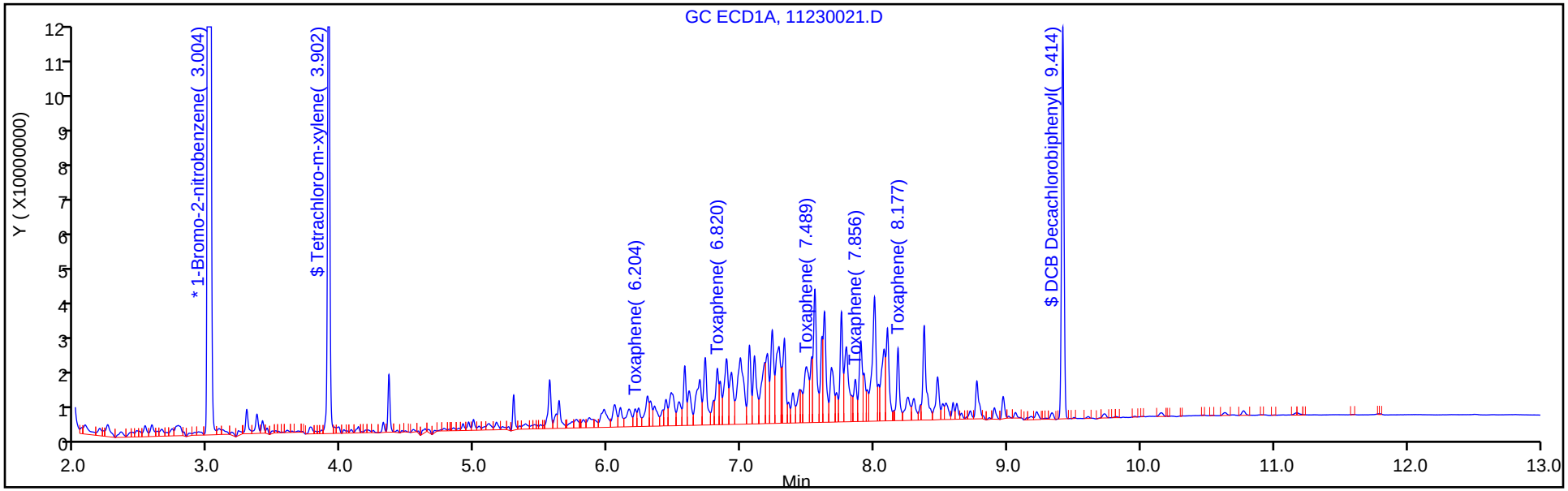
Report Date: 25-Nov-2018 19:32:48 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

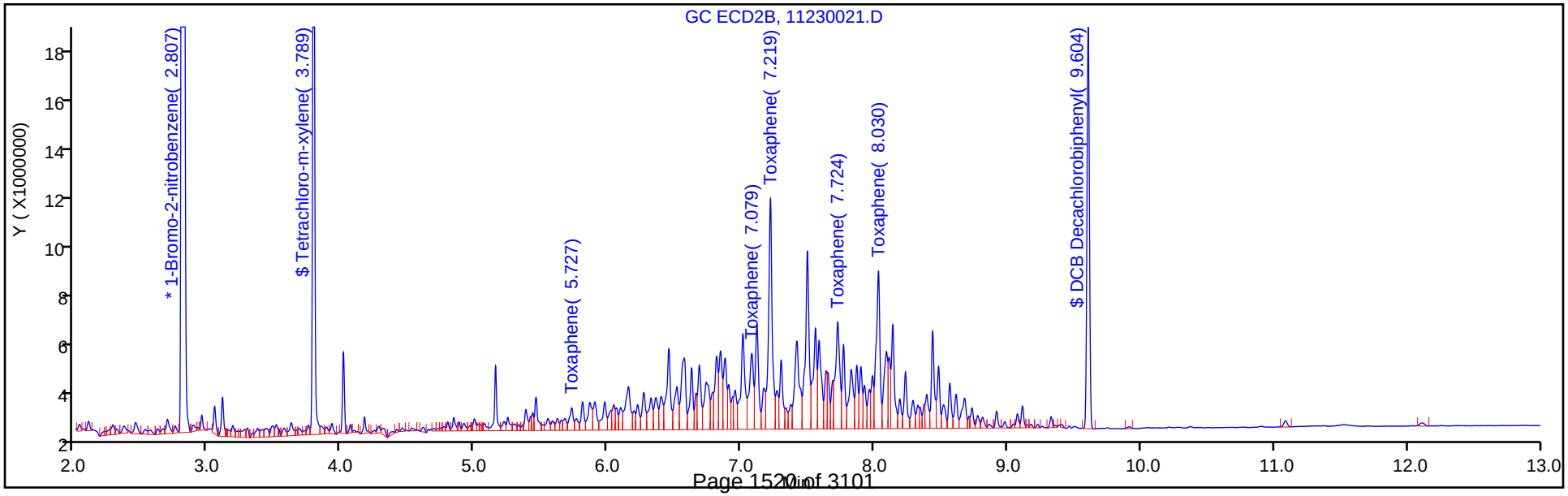
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230021.D

Injection Date:	23-Nov-2018 22:14:44	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	LCS 280-434851/11-A			Worklist Smp#:	21
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230021.D				
Lims ID:	LCS 280-434851/11-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	23-Nov-2018 22:14:44	ALS Bottle#:	15	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCS 280-434851/1				
Misc. Info.:	280-0076490-021				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	25-Nov-2018 19:32:43	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0312				
First Level Reviewer: mooret		Date:	25-Nov-2018 19:17:40		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.7	78.49
$ 41 DCB Decachlorobiphenyl	20.0	22.4	112.18

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	16.0	80.06
$ 41 DCB Decachlorobiphenyl	20.0	18.7	93.55

Report Date: 25-Nov-2018 19:32:48 Chrom Revision: 2.3 21-Nov-2018 13:56:44

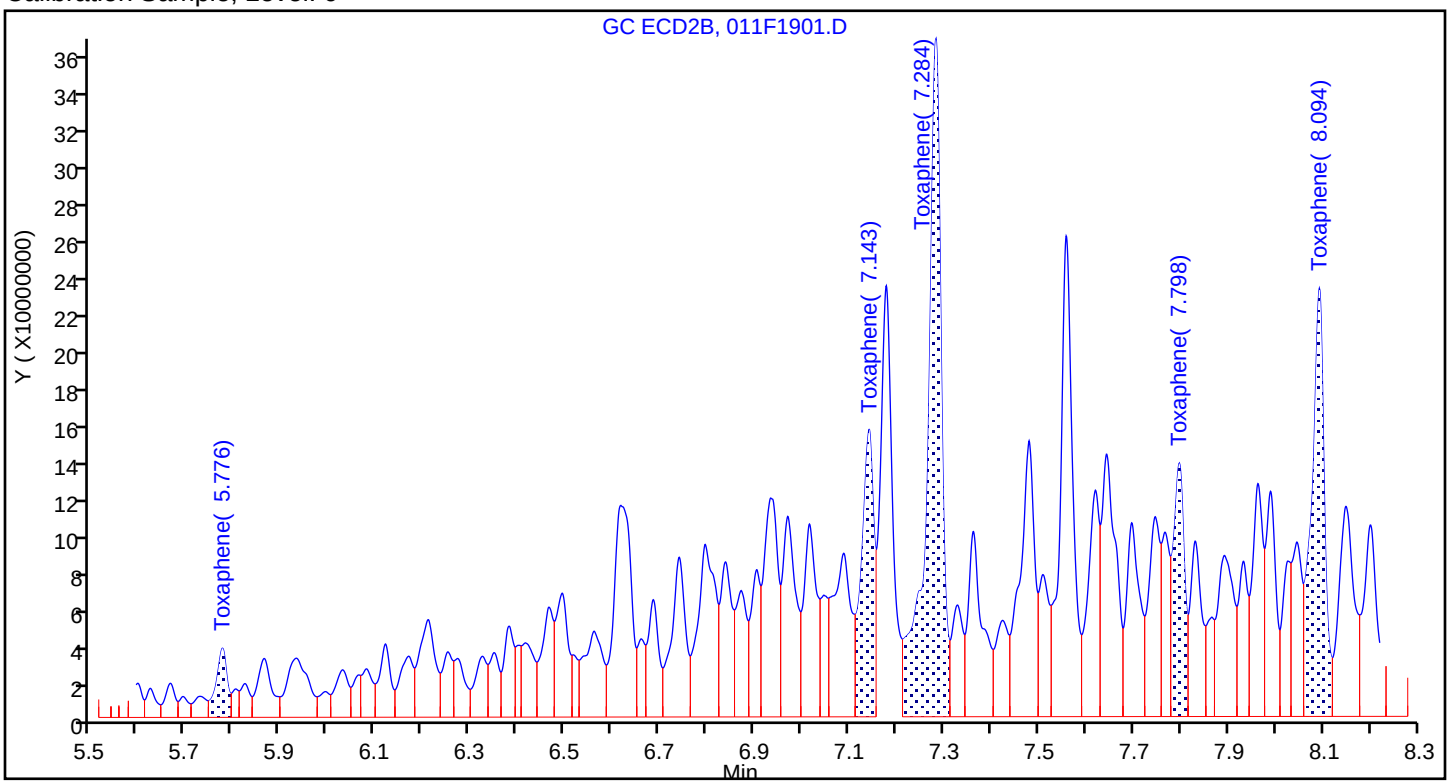
TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230021.D

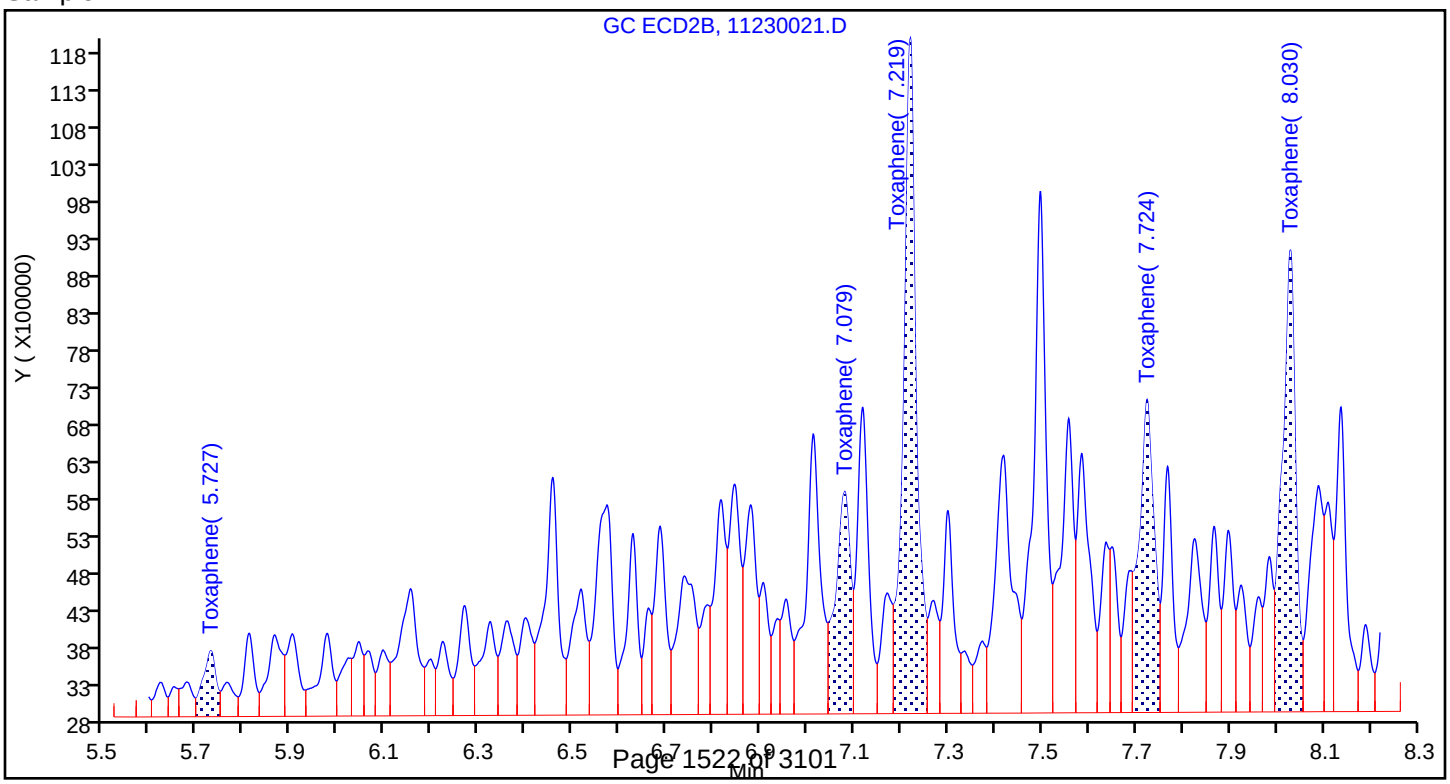
Injection Date:	23-Nov-2018 22:14:44	Instrument ID:	SGC_P2		
Lims ID:	LCS 280-434851/11-A				
Client ID:					
Operator ID:	TEM	ALS Bottle#:	15	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

28 Toxaphene, CAS: 8001-35-2

Calibration Sample, Level: 6



Sample



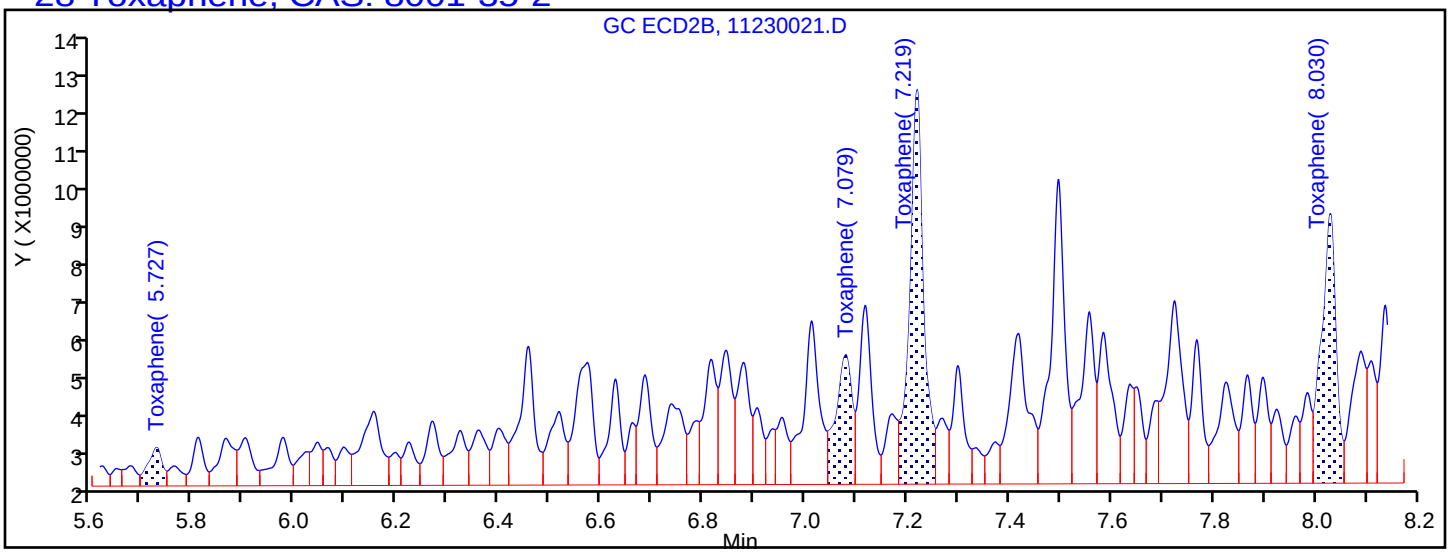
Report Date: 25-Nov-2018 19:32:48 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230021.D

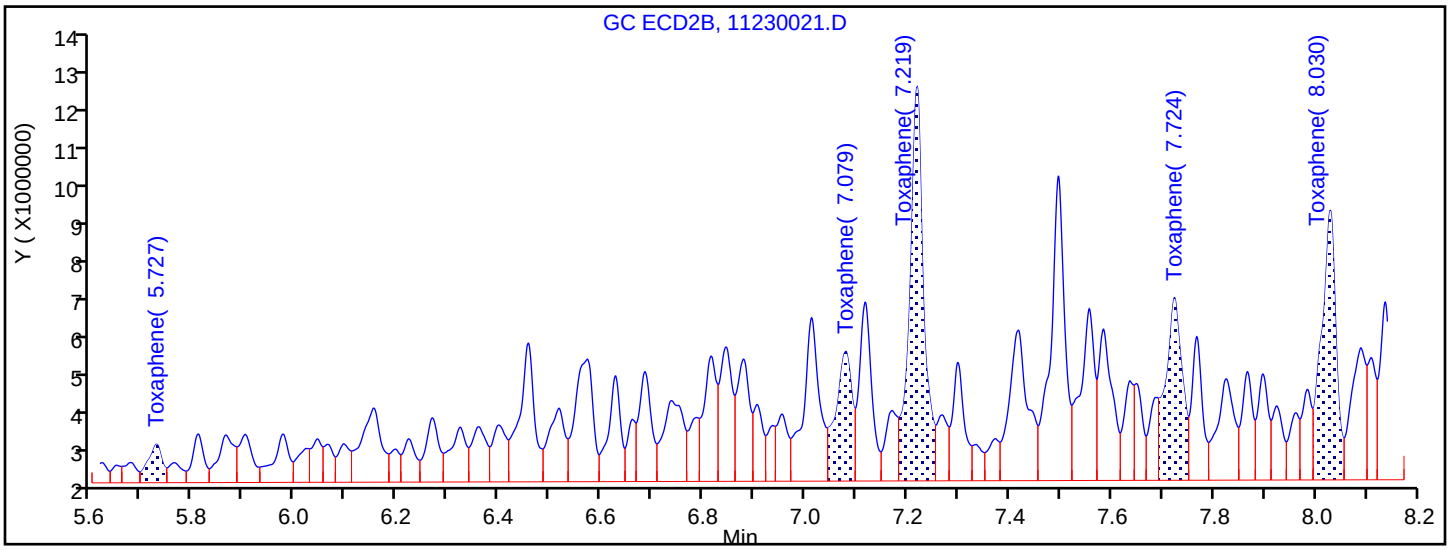
Injection Date:	23-Nov-2018 22:14:44	Instrument ID:	SGC_P2		
Lims ID:	LCS 280-434851/11-A				
Client ID:					
Operator ID:	TEM	ALS Bottle#:	15	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

5.727	Response = 1743805
7.079	Response = 6606204
7.219	Response = 17275843
7.736	Response = 0
8.030	Response = 12308050



Manual Integration Results

5.727	Response = 1743805	
7.079	Response = 6606204	
7.219	Response = 17275843	
7.724	Response = 9523841	M
8.030	Response = 12308050	

Reviewer: mooret, 25-Nov-2018 19:17:30

Audit Action: Assigned Compound ID Audit Reason:

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-434851/3-A

Matrix: Water | Lab File ID: 11230016.D

Analysis Method: 8081B | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/25/2018 09:01

Sample wt/vol: 1000(mL) | Date Analyzed: 11/23/2018 20:46

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438595 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
72-54-8	4,4'-DDD	0.569		0.050	0.020	0.0077
72-55-9	4,4'-DDE	0.556		0.050	0.020	0.0075
50-29-3	4,4'-DDT	0.628		0.050	0.050	0.015
309-00-2	Aldrin	0.553		0.050	0.020	0.0059
319-84-6	alpha-BHC	0.533		0.050	0.020	0.0053
5103-71-9	alpha-Chlordane	0.570		0.050	0.020	0.0053
319-85-7	beta-BHC	0.509		0.050	0.020	0.0087
319-86-8	delta-BHC	0.550		0.050	0.020	0.0058
60-57-1	Dieldrin	0.566		0.050	0.020	0.0063
959-98-8	Endosulfan I	0.557		0.050	0.020	0.0058
33213-65-9	Endosulfan II	0.521		0.050	0.020	0.0070
1031-07-8	Endosulfan sulfate	0.567		0.050	0.020	0.0057
72-20-8	Endrin	0.601		0.050	0.020	0.0079
7421-93-4	Endrin aldehyde	0.279		0.050	0.020	0.0088
53494-70-5	Endrin ketone	0.566		0.050	0.020	0.0070
58-89-9	gamma-BHC (Lindane)	0.555		0.050	0.020	0.0069
5103-74-2	gamma-Chlordane	0.564		0.050	0.020	0.0091
76-44-8	Heptachlor	0.583		0.050	0.020	0.0077
1024-57-3	Heptachlor epoxide	0.578		0.050	0.020	0.0075
72-43-5	Methoxychlor	0.616		0.050	0.050	0.013

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	100		34-122
877-09-8	Tetrachloro-m-xylene	81		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230016.D
Lims ID: LCSD 280-434851/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 23-Nov-2018 20:46:58 ALS Bottle#: 10 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-434851/
Misc. Info.: 280-0076490-016
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:32:43 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.005	3.005	0.000	1569423015	150.0	150.0	
2	2.806	2.807	-0.001	216045196	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.901	3.902	-0.001	182264702	20.0	16.1	
2	3.790	3.790	0.000	29353797	20.0	16.3	
						RPD = 1.34	
5 Hexachlorobenzene							
1	4.310	4.310	0.000	521959999	50.0	43.3	
2	4.267	4.268	-0.001	84853756	50.0	45.7	
						RPD = 5.45	
8 alpha-BHC							
1	4.480	4.480	0.000	892187648	50.0	51.1	
2	4.412	4.413	-0.001	127593744	50.0	53.3	
						RPD = 4.28	
9 gamma-BHC (Lindane)							
1	4.768	4.769	-0.001	816177524	50.0	54.7	
2	4.726	4.726	0.000	115571802	50.0	55.5	
						RPD = 1.46	
10 beta-BHC							
1	4.845	4.846	-0.001	307972002	50.0	53.9	
2	4.802	4.803	-0.001	45288200	50.0	50.9	
						RPD = 5.65	
12 delta-BHC							
1	4.994	4.995	-0.001	856016825	50.0	56.4	
2	5.035	5.035	0.000	115980042	50.0	55.0	
						RPD = 2.50	
15 Heptachlor							
1	5.169	5.169	0.000	788787313	50.0	59.6	
2	5.077	5.077	0.000	104824661	50.0	58.3	
						RPD = 2.20	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
16 Aldrin							
1	5.437	5.438	-0.001	771654448	50.0	54.7	
2	5.343	5.345	-0.002	107092212	50.0	55.3	
						RPD = 1.06	
21 Heptachlor epoxide							
1	6.046	6.048	-0.002	733400704	50.0	61.2	
2	5.880	5.881	-0.001	101835636	50.0	57.8	
						RPD = 5.65	
22 trans-Chlordane							
1	6.177	6.179	-0.002	779113724	50.0	60.4	
2	6.078	6.080	-0.002	104303502	50.0	56.4	
						RPD = 6.91	
23 cis-Chlordane							
1	6.319	6.320	-0.001	743462692	50.0	60.3	
2	6.234	6.235	-0.001	99767902	50.0	57.0	
						RPD = 5.59	
24 4,4'-DDE							
1	6.395	6.395	0.000	691183345	50.0	53.5	
2	6.417	6.418	-0.001	101155287	50.0	55.6	
						RPD = 3.87	
25 Endosulfan I							
1	6.467	6.468	-0.001	667576871	50.0	59.0	
2	6.293	6.294	-0.001	92584631	50.0	55.7	
						RPD = 5.62	
27 Dieldrin							
1	6.720	6.722	-0.002	774577564	50.0	61.5	
2	6.583	6.584	-0.001	103663768	50.0	56.6	
						RPD = 8.29	
30 Endrin							
1	6.969	6.970	-0.001	703998904	50.0	64.3	
2	6.904	6.905	-0.001	97162430	50.0	60.1	
						RPD = 6.76	
32 4,4'-DDD							
1	7.029	7.031	-0.002	617580426	50.0	61.5	
2	7.032	7.033	-0.001	84285143	50.0	56.9	
						RPD = 7.81	
34 Endosulfan II							
1	7.204	7.206	-0.002	592243214	50.0	57.6	
2	7.130	7.131	-0.001	81663318	50.0	52.1	
						RPD = 10.11	
35 4,4'-DDT							
1	7.323	7.325	-0.002	533119775	50.0	59.3	
2	7.363	7.364	-0.001	80738719	50.0	62.8	
						RPD = 5.68	
36 Endrin aldehyde							
1	7.650	7.650	0.000	243722915	50.0	31.1	
2	7.489	7.490	-0.001	35463643	50.0	27.9	
						RPD = 10.74	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
37 Methoxychlor							
1	7.827	7.830	-0.003	270922764	50.0	66.2	
2	8.093	8.094	-0.001	38990472	50.0	61.6	
						RPD = 7.23	
39 Endosulfan sulfate							
1	8.107	8.109	-0.002	621111619	50.0	68.2	
2	7.781	7.782	-0.001	81335906	50.0	56.7	
						RPD = 18.41	
40 Endrin ketone							
1	8.399	8.400	-0.001	607935740	50.0	63.6	
2	8.334	8.335	-0.001	89334265	50.0	56.6	
						RPD = 11.54	
$ 41 DCB Decachlorobiphenyl							
1	9.414	9.415	-0.001	142224262	20.0	23.8	
2	9.605	9.605	0.000	21467116	20.0	20.1	
						RPD = 17.01	

Reagents:

8081_IS_00008 Amount Added: 75.00 Units: uL Run Reagent

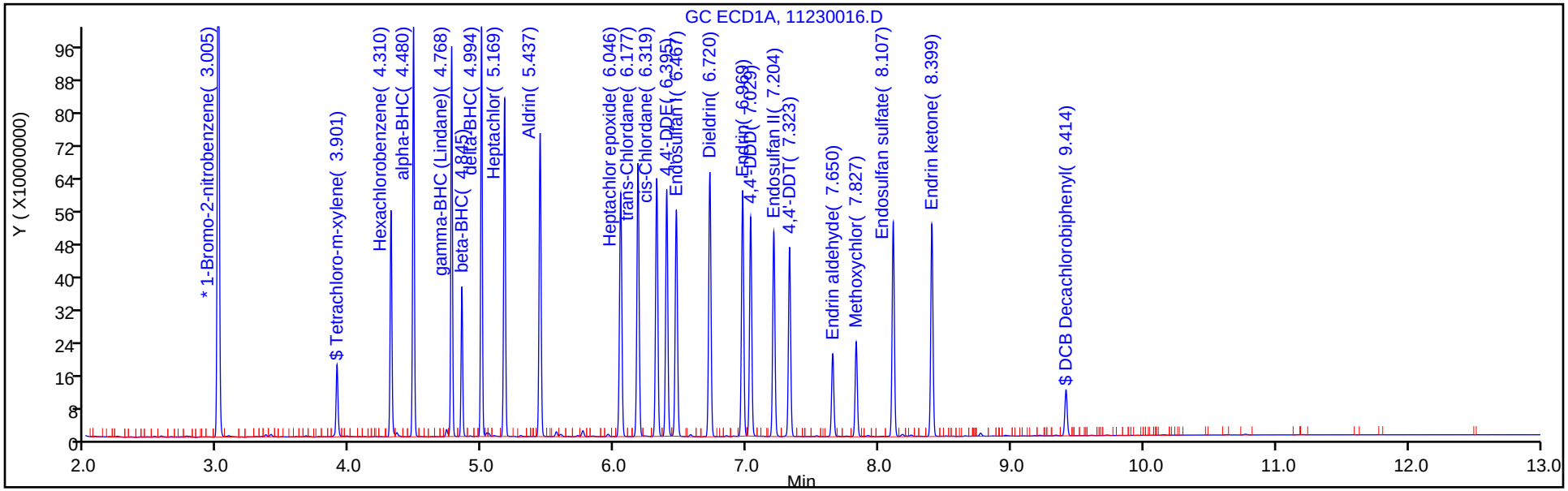
Report Date: 25-Nov-2018 19:32:54 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

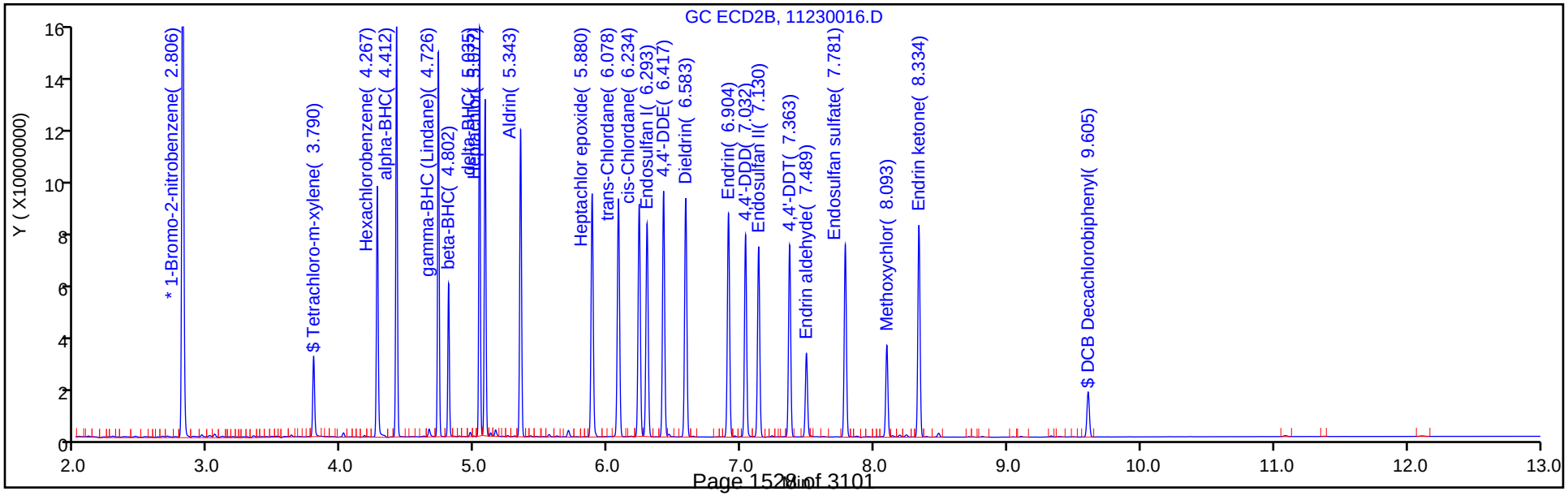
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230016.D

Injection Date:	23-Nov-2018 20:46:58	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	LCSD 280-434851/3-A			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230016.D				
Lims ID:	LCSD 280-434851/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	23-Nov-2018 20:46:58	ALS Bottle#:	10	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCSD 280-434851/				
Misc. Info.:	280-0076490-016				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	25-Nov-2018 19:32:43	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0312				

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	16.1	80.34
$ 41 DCB Decachlorobiphenyl	20.0	23.8	119.04

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	16.3	81.43
$ 41 DCB Decachlorobiphenyl	20.0	20.1	100.38

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-434851/12-A

Matrix: Water | Lab File ID: 11230022.D

Analysis Method: 8081B | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/25/2018 09:01

Sample wt/vol: 1000(mL) | Date Analyzed: 11/23/2018 22:32

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 438595 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
8001-35-2	Toxaphene	2.79	Q	2.0	0.80	0.37

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	86		34-122
877-09-8	Tetrachloro-m-xylene	77		44-124

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230022.D
Lims ID: LCSD 280-434851/12-A
Client ID:
Sample Type: LCSD
Inject. Date: 23-Nov-2018 22:32:26 ALS Bottle#: 16 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-434851/
Misc. Info.: 280-0076490-022
Operator ID: TEM Instrument ID: SGC_P2

Method: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m
Limit Group: GCSV - 8081A - IS
Last Update: 25-Nov-2018 19:32:43 Calib Date: 13-Oct-2018 20:49:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D

Column 1 : CLP1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0312

First Level Reviewer: mooret Date: 25-Nov-2018 19:19:02

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/mL	OnCol Amt ng/mL	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.004	3.005	-0.001	1688862458	150.0	150.0	
2	2.807	2.807	-0.001	229464786	150.0	150.0	
$ 4 Tetrachloro-m-xylene							
1	3.902	3.902	0.000	189335404	20.0	15.5	
2	3.789	3.790	-0.001	29620510	20.0	15.4	
						RPD = 0.54	
28 Toxaphene							Ma
1	6.203	6.215	-0.012	9848153	200.0	160.1	M
1	6.820	6.821	-0.001	26490706	200.0	177.3	M
1	7.489	7.494	-0.005	40477280	200.0	243.7	M
1	7.856	7.853	0.003	20296914	200.0	296.0	M
1	8.177	8.171	0.006	27642887	200.0	398.7	M
		Average of Peak Amounts =				255.2	
2	5.728	5.728	0.000	1927087	200.0	227.4	M
2	7.078	7.082	-0.004	6925591	200.0	209.0	M
2	7.218	7.221	-0.003	17873630	200.0	205.3	M
2	7.723	7.736	-0.013	12175764	200.0	492.2	M
2	8.029	8.031	-0.002	12664025	200.0	260.8	M
		Average of Peak Amounts =				278.9	
						RPD = 8.90	
$ 41 DCB Decachlorobiphenyl							
1	9.413	9.415	-0.002	128225639	20.0	19.9	
2	9.604	9.605	-0.001	19730321	20.0	17.2	
						RPD = 14.45	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

8081_IS_00008	Amount Added:	75.00	Units: uL	Run Reagent

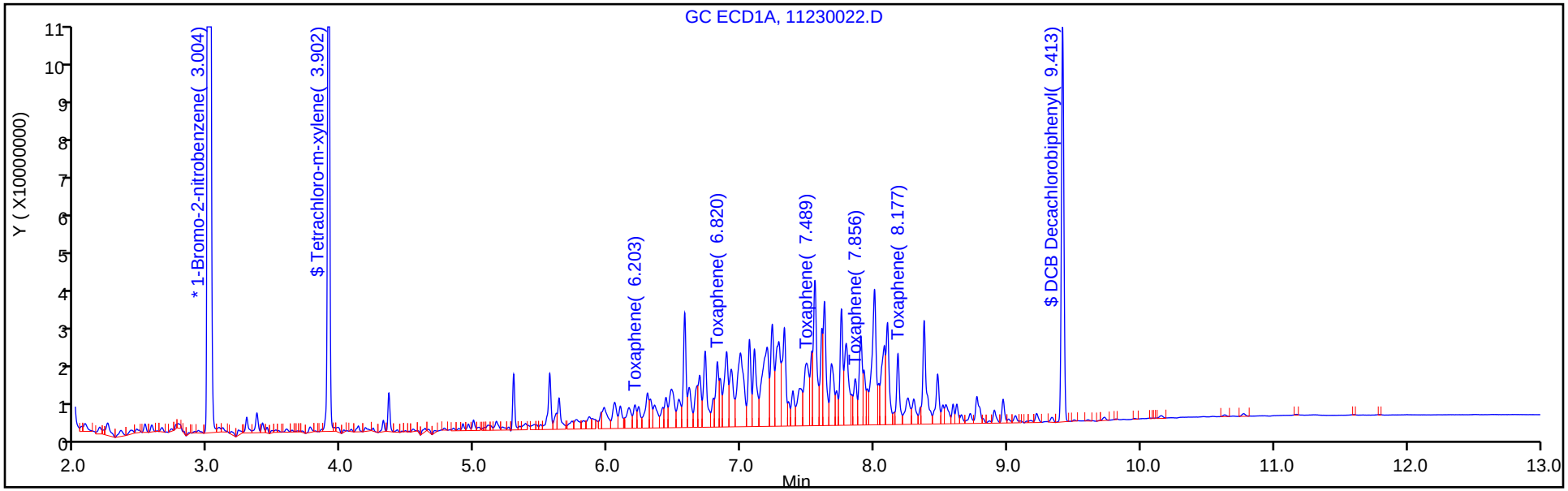
Report Date: 25-Nov-2018 19:32:46 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

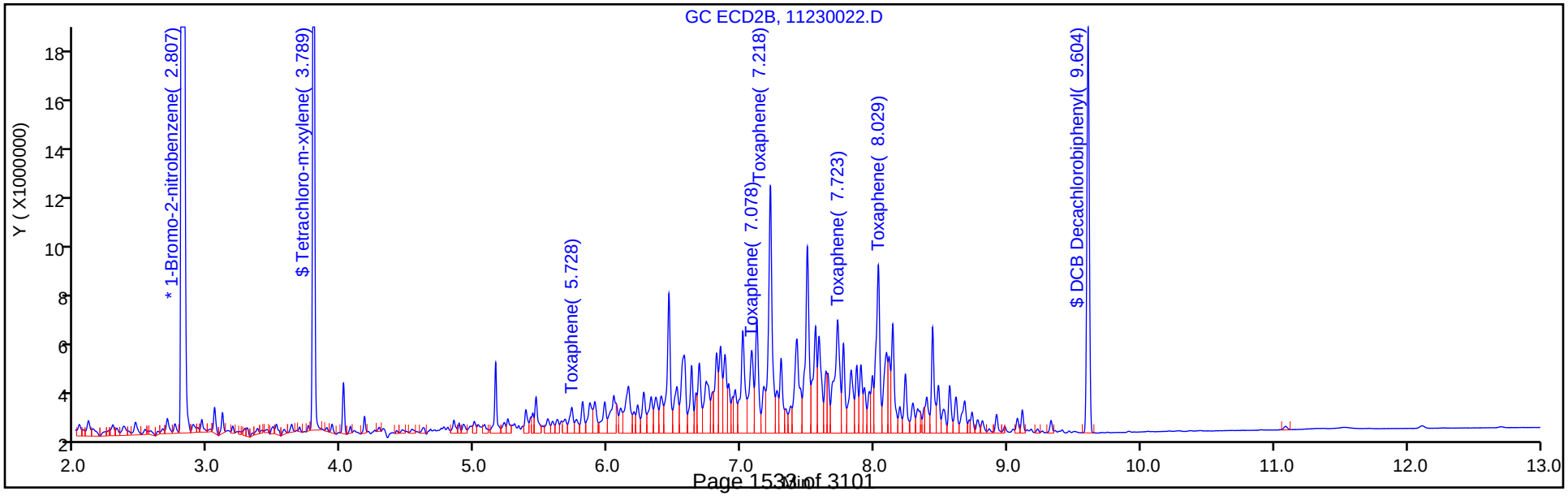
Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230022.D

Injection Date:	23-Nov-2018 22:32:26	Instrument ID:	SGC_P2	Operator ID:	TEM
Lims ID:	LCSD 280-434851/12-A			Worklist Smp#:	22
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		

Column: CLP1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Column: CLP2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Denver
Recovery Report

Data File:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230022.D				
Lims ID:	LCSD 280-434851/12-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	23-Nov-2018 22:32:26	ALS Bottle#:	16	Worklist Smp#:	22
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCSD 280-434851/				
Misc. Info.:	280-0076490-022				
Operator ID:	TEM	Instrument ID:	SGC_P2		
Method:	\\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\P2 8081 IS.m				
Limit Group:	GCSV - 8081A - IS				
Last Update:	25-Nov-2018 19:32:43	Calib Date:	13-Oct-2018 20:49:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_P2\20181013-75051.b\027F3501.D				
Column 1 :	CLP1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0312				
First Level Reviewer: mooret		Date:	25-Nov-2018 19:19:02		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.5	77.62
$ 41 DCB Decachlorobiphenyl	20.0	19.9	99.60

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 4 Tetrachloro-m-xylene	20.0	15.4	77.20
$ 41 DCB Decachlorobiphenyl	20.0	17.2	86.17

Report Date: 25-Nov-2018 19:32:46 Chrom Revision: 2.3 21-Nov-2018 13:56:44

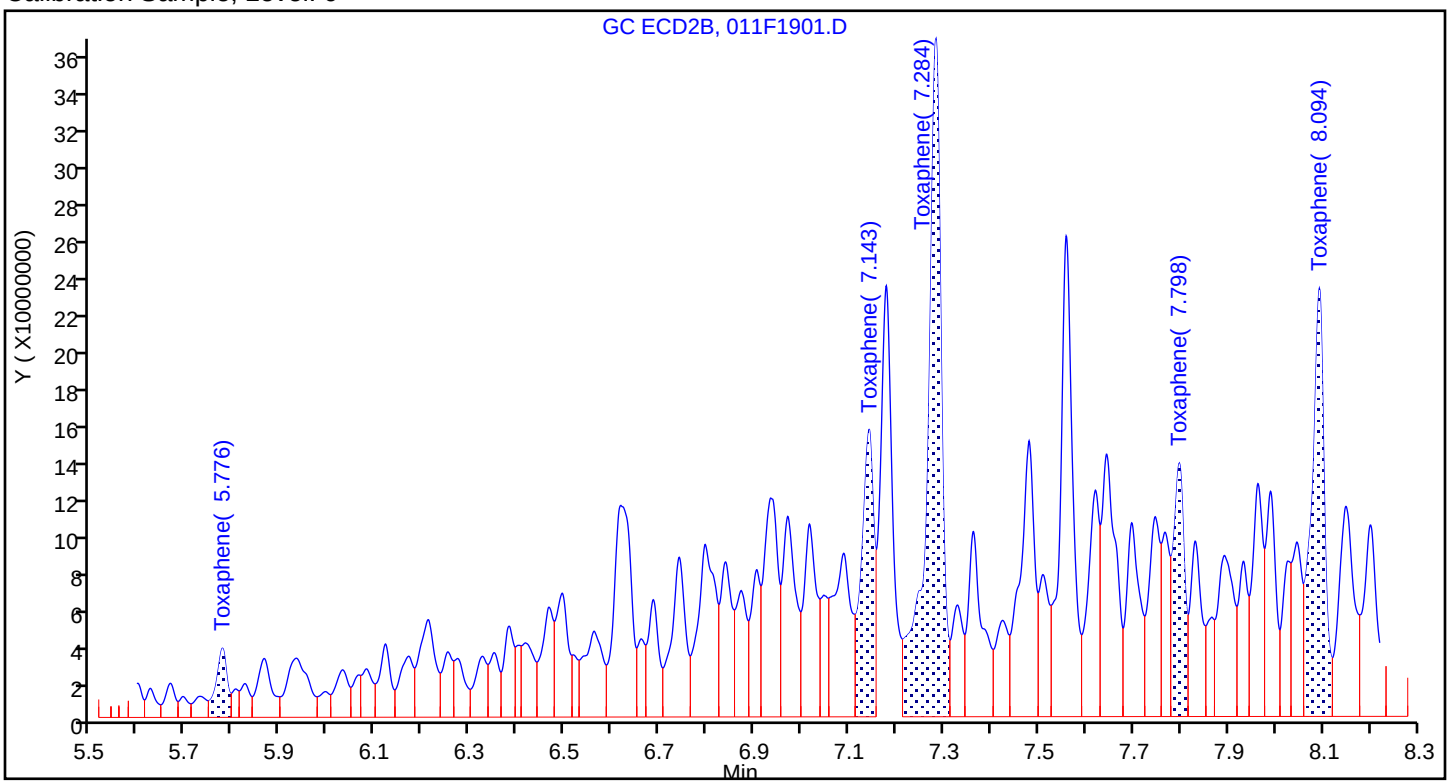
TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230022.D

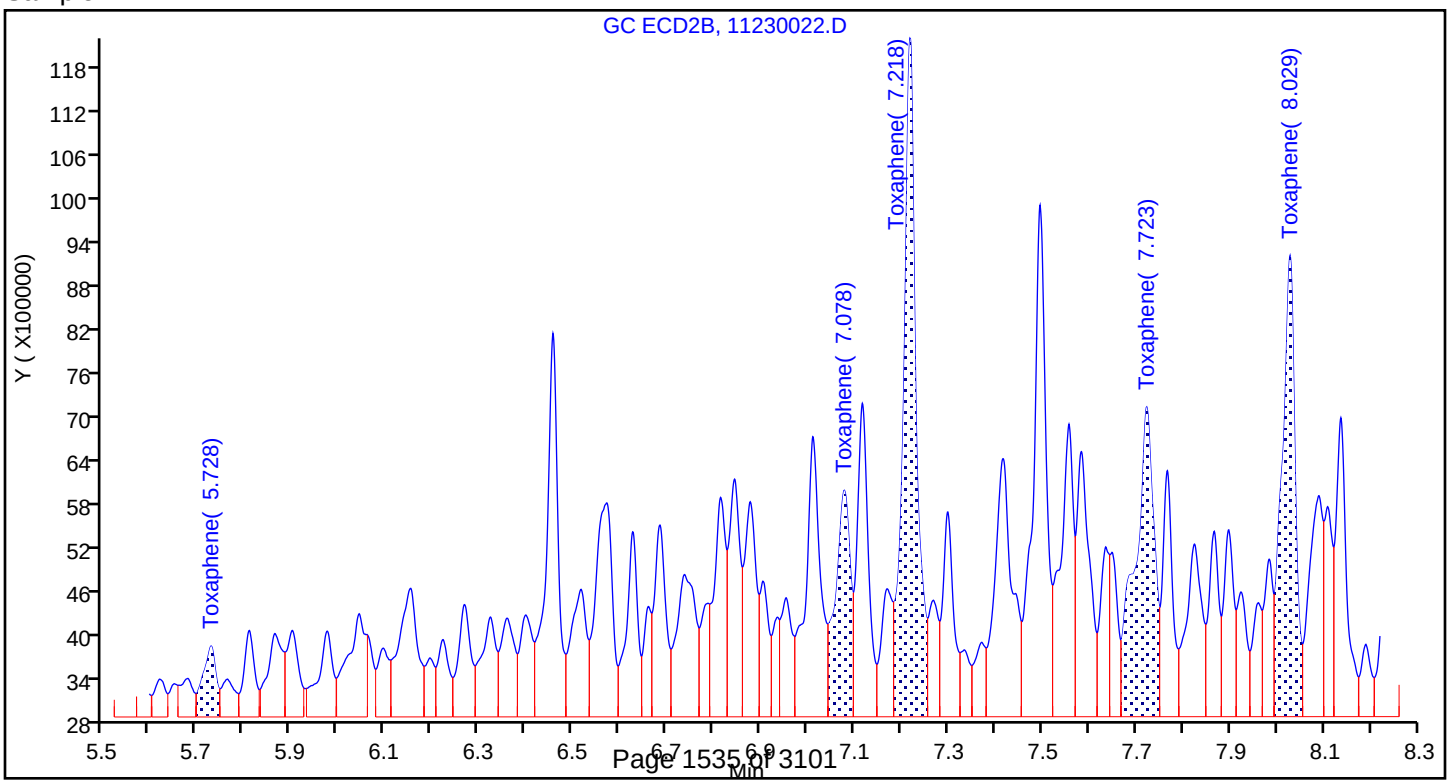
Injection Date:	23-Nov-2018 22:32:26	Instrument ID:	SGC_P2		
Lims ID:	LCSD 280-434851/12-A				
Client ID:					
Operator ID:	TEM	ALS Bottle#:	16	Worklist Smp#:	22
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

28 Toxaphene, CAS: 8001-35-2

Calibration Sample, Level: 6



Sample



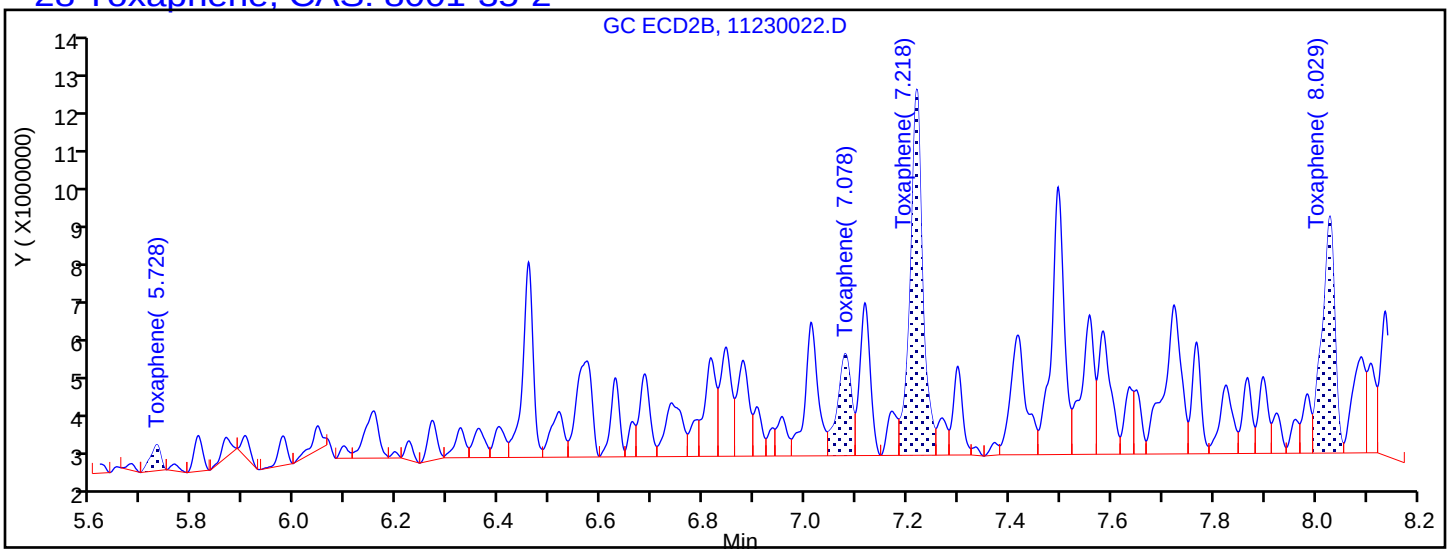
Report Date: 25-Nov-2018 19:32:46 Chrom Revision: 2.3 21-Nov-2018 13:56:44

TestAmerica Denver

Data File: \\chromdocs2018\q3\Denver\ChromData\SGC_P2\20181123-76490.b\11230022.D

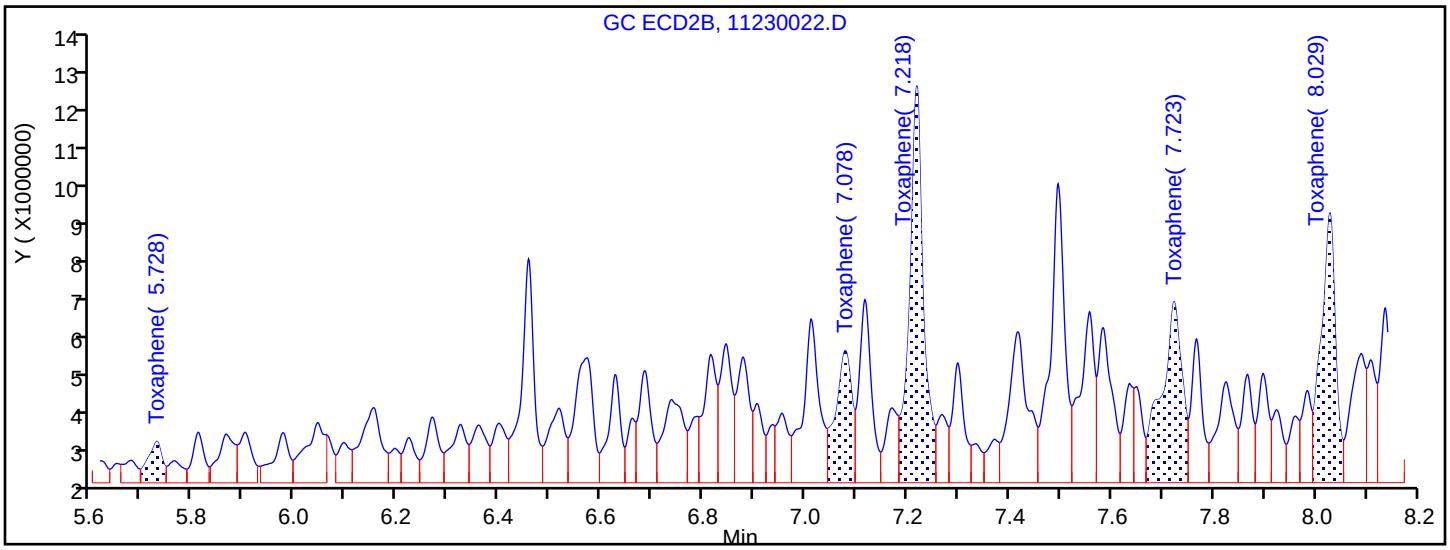
Injection Date:	23-Nov-2018 22:32:26	Instrument ID:	SGC_P2		
Lims ID:	LCSD 280-434851/12-A				
Client ID:					
Operator ID:	TEM	ALS Bottle#:	16	Worklist Smp#:	22
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	P2 8081 IS	Limit Group:	GCSV - 8081A - IS		
Column:	CLP2 (0.32 mm)	Detector	GC ECD2B		

28 Toxaphene, CAS: 8001-35-2



Processing Integration Results

5.728	Response = 858279
7.078	Response = 4594158
7.218	Response = 14710536
7.736	Response = 0
8.029	Response = 9826891



Manual Integration Results

5.728	Response = 1927087	M
7.078	Response = 6925591	M
7.218	Response = 17873630	M
7.723	Response = 12175764	M
8.029	Response = 12664025	M

Reviewer: mooret, 25-Nov-2018 19:18:59

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

PESTICIDES ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_P2 Start Date: 10/13/2018 13:16

Analysis Batch Number: 433303 End Date: 10/14/2018 04:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 280-433303/6		10/13/2018 13:16	1		CLP1 0.32(mm)
PEM 280-433303/6		10/13/2018 13:16	1		CLP2 0.32(mm)
STD7 280-433303/9 IC		10/13/2018 14:08	1		CLP1 0.32(mm)
STD7 280-433303/9 IC		10/13/2018 14:08	1		CLP2 0.32(mm)
STD6 280-433303/10 IC		10/13/2018 14:26	1		CLP1 0.32(mm)
STD6 280-433303/10 IC		10/13/2018 14:26	1		CLP2 0.32(mm)
STD5 280-433303/11 IC		10/13/2018 14:43	1		CLP1 0.32(mm)
STD5 280-433303/11 IC		10/13/2018 14:43	1		CLP2 0.32(mm)
STD4 280-433303/12 IC		10/13/2018 15:01	1		CLP1 0.32(mm)
STD4 280-433303/12 IC		10/13/2018 15:01	1		CLP2 0.32(mm)
STD3 280-433303/13 IC		10/13/2018 15:18	1		CLP1 0.32(mm)
STD3 280-433303/13 IC		10/13/2018 15:18	1		CLP2 0.32(mm)
STD2 280-433303/14 IC		10/13/2018 15:35	1		CLP1 0.32(mm)
STD2 280-433303/14 IC		10/13/2018 15:35	1		CLP2 0.32(mm)
STD1 280-433303/15 IC		10/13/2018 15:53	1		CLP1 0.32(mm)
STD1 280-433303/15 IC		10/13/2018 15:53	1		CLP2 0.32(mm)
STD6 280-433303/16 IC		10/13/2018 16:10	1	011F1901.D	CLP1 0.32(mm)
STD6 280-433303/16 IC		10/13/2018 16:10	1	011F1901.D	CLP2 0.32(mm)
STD5 280-433303/17 IC		10/13/2018 16:28	1	012F2001.D	CLP1 0.32(mm)
STD5 280-433303/17 IC		10/13/2018 16:28	1	012F2001.D	CLP2 0.32(mm)
STD4 280-433303/18 IC		10/13/2018 16:45	1	013F2101.D	CLP1 0.32(mm)
STD4 280-433303/18 IC		10/13/2018 16:45	1	013F2101.D	CLP2 0.32(mm)
STD3 280-433303/19 IC		10/13/2018 17:03	1	014F2201.D	CLP1 0.32(mm)
STD3 280-433303/19 IC		10/13/2018 17:03	1	014F2201.D	CLP2 0.32(mm)
STD2 280-433303/20 IC		10/13/2018 17:20	1	015F2301.D	CLP1 0.32(mm)
STD2 280-433303/20 IC		10/13/2018 17:20	1	015F2301.D	CLP2 0.32(mm)
STD1 280-433303/21 IC		10/13/2018 17:37	1	016F2401.D	CLP1 0.32(mm)
STD1 280-433303/21 IC		10/13/2018 17:37	1	016F2401.D	CLP2 0.32(mm)
STD5 280-433303/22 IC		10/13/2018 17:55	1		CLP1 0.32(mm)
STD5 280-433303/22 IC		10/13/2018 17:55	1		CLP2 0.32(mm)
STD4 280-433303/23 IC		10/13/2018 18:12	1		CLP1 0.32(mm)
STD4 280-433303/23 IC		10/13/2018 18:12	1		CLP2 0.32(mm)
STD3 280-433303/24 IC		10/13/2018 18:30	1		CLP1 0.32(mm)

PESTICIDES ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_P2 Start Date: 10/13/2018 13:16

Analysis Batch Number: 433303 End Date: 10/14/2018 04:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD3 280-433303/24 IC		10/13/2018 18:30	1		CLP2 0.32(mm)
STD2 280-433303/25 IC		10/13/2018 18:47	1		CLP1 0.32(mm)
STD2 280-433303/25 IC		10/13/2018 18:47	1		CLP2 0.32(mm)
STD1 280-433303/26 IC		10/13/2018 19:05	1		CLP1 0.32(mm)
STD1 280-433303/26 IC		10/13/2018 19:05	1		CLP2 0.32(mm)
STD6 280-433303/27 IC		10/13/2018 19:22	1	022F3001.D	CLP1 0.32(mm)
STD6 280-433303/27 IC		10/13/2018 19:22	1	022F3001.D	CLP2 0.32(mm)
STD5 280-433303/28 IC		10/13/2018 19:39	1	023F3101.D	CLP1 0.32(mm)
STD5 280-433303/28 IC		10/13/2018 19:39	1	023F3101.D	CLP2 0.32(mm)
STD4 280-433303/29 ICIS		10/13/2018 19:57	1	024F3201.D	CLP1 0.32(mm)
STD4 280-433303/29 ICIS		10/13/2018 19:57	1	024F3201.D	CLP2 0.32(mm)
STD3 280-433303/30 IC		10/13/2018 20:14	1	025F3301.D	CLP1 0.32(mm)
STD3 280-433303/30 IC		10/13/2018 20:14	1	025F3301.D	CLP2 0.32(mm)
STD2 280-433303/31 IC		10/13/2018 20:32	1	026F3401.D	CLP1 0.32(mm)
STD2 280-433303/31 IC		10/13/2018 20:32	1	026F3401.D	CLP2 0.32(mm)
STD1 280-433303/32 IC		10/13/2018 20:49	1	027F3501.D	CLP1 0.32(mm)
STD1 280-433303/32 IC		10/13/2018 20:49	1	027F3501.D	CLP2 0.32(mm)
ICV 280-433303/33		10/13/2018 21:07	1	028F3601.D	CLP1 0.32(mm)
ICV 280-433303/33		10/13/2018 21:07	1	028F3601.D	CLP2 0.32(mm)
ICV 280-433303/34		10/13/2018 21:24	1	029F3701.D	CLP1 0.32(mm)
ICV 280-433303/34		10/13/2018 21:24	1	029F3701.D	CLP2 0.32(mm)
ICV 280-433303/35		10/13/2018 21:41	1	030F3801.D	CLP1 0.32(mm)
ICV 280-433303/35		10/13/2018 21:41	1	030F3801.D	CLP2 0.32(mm)
ICV 280-433303/36		10/13/2018 21:59	1	031F3901.D	CLP1 0.32(mm)
ICV 280-433303/36		10/13/2018 21:59	1	031F3901.D	CLP2 0.32(mm)
PEM 280-433303/37		10/13/2018 22:16	1		CLP1 0.32(mm)
PEM 280-433303/37		10/13/2018 22:16	1		CLP2 0.32(mm)
ZZZZZ		10/13/2018 22:34	1		CLP1 0.32(mm)
ZZZZZ		10/13/2018 22:34	1		CLP2 0.32(mm)
ZZZZZ		10/13/2018 22:51	1		CLP1 0.32(mm)
ZZZZZ		10/13/2018 22:51	1		CLP2 0.32(mm)
ZZZZZ		10/13/2018 23:08	1		CLP1 0.32(mm)
ZZZZZ		10/13/2018 23:08	1		CLP2 0.32(mm)
ZZZZZ		10/13/2018 23:26	1		CLP1 0.32(mm)
ZZZZZ		10/13/2018 23:26	1		CLP2 0.32(mm)
ZZZZZ		10/13/2018 23:43	1		CLP1 0.32(mm)
ZZZZZ		10/13/2018 23:43	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 00:00	1		CLP1 0.32(mm)

PESTICIDES ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_P2 Start Date: 10/13/2018 13:16

Analysis Batch Number: 433303 End Date: 10/14/2018 04:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		10/14/2018 00:00	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 00:18	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 00:18	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 00:35	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 00:35	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 00:53	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 00:53	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 01:10	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 01:10	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 01:27	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 01:27	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 01:45	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 01:45	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 02:02	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 02:02	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 02:19	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 02:19	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 02:37	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 02:37	1		CLP2 0.32(mm)
ZZZZZ		10/14/2018 02:54	1		CLP1 0.32(mm)
ZZZZZ		10/14/2018 02:54	1		CLP2 0.32(mm)
CCV 280-433303/54		10/14/2018 03:11	1		CLP1 0.32(mm)
CCV 280-433303/54		10/14/2018 03:11	1		CLP2 0.32(mm)
CCV 280-433303/55		10/14/2018 03:29	1		CLP1 0.32(mm)
CCV 280-433303/55		10/14/2018 03:29	1		CLP2 0.32(mm)
CCV 280-433303/56		10/14/2018 03:46	1		CLP1 0.32(mm)
CCV 280-433303/56		10/14/2018 03:46	1		CLP2 0.32(mm)
CCV 280-433303/57		10/14/2018 04:03	1		CLP1 0.32(mm)
CCV 280-433303/57		10/14/2018 04:03	1		CLP2 0.32(mm)

PESTICIDES ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_P2 Start Date: 11/23/2018 18:09

Analysis Batch Number: 438595 End Date: 11/24/2018 07:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 280-438595/7		11/23/2018 18:09	1	11230007.D	CLP1 0.32(mm)
PEM 280-438595/7		11/23/2018 18:09	1	11230007.D	CLP2 0.32(mm)
CCV 280-438595/10		11/23/2018 19:01	1		CLP1 0.32(mm)
CCV 280-438595/10		11/23/2018 19:01	1		CLP2 0.32(mm)
CCV 280-438595/11		11/23/2018 19:19	1	11230011.D	CLP1 0.32(mm)
CCV 280-438595/11		11/23/2018 19:19	1	11230011.D	CLP2 0.32(mm)
CCV 280-438595/12		11/23/2018 19:36	1		CLP1 0.32(mm)
CCV 280-438595/12		11/23/2018 19:36	1		CLP2 0.32(mm)
CCVIS 280-438595/13		11/23/2018 19:54	1	11230013.D	CLP1 0.32(mm)
CCVIS 280-438595/13		11/23/2018 19:54	1	11230013.D	CLP2 0.32(mm)
MB 280-434851/1-A		11/23/2018 20:11	1	11230014.D	CLP1 0.32(mm)
MB 280-434851/1-A		11/23/2018 20:11	1	11230014.D	CLP2 0.32(mm)
LCS 280-434851/2-A		11/23/2018 20:29	1	11230015.D	CLP1 0.32(mm)
LCS 280-434851/2-A		11/23/2018 20:29	1	11230015.D	CLP2 0.32(mm)
LCSD 280-434851/3-A		11/23/2018 20:46	1	11230016.D	CLP1 0.32(mm)
LCSD 280-434851/3-A		11/23/2018 20:46	1	11230016.D	CLP2 0.32(mm)
280-115950-2		11/23/2018 21:04	1	11230017.D	CLP1 0.32(mm)
280-115950-2		11/23/2018 21:04	1	11230017.D	CLP2 0.32(mm)
280-115950-3		11/23/2018 21:22	1	11230018.D	CLP1 0.32(mm)
280-115950-3		11/23/2018 21:22	1	11230018.D	CLP2 0.32(mm)
280-115950-4		11/23/2018 21:39	1	11230019.D	CLP1 0.32(mm)
280-115950-4		11/23/2018 21:39	1	11230019.D	CLP2 0.32(mm)
280-115950-5		11/23/2018 21:57	1	11230020.D	CLP1 0.32(mm)
280-115950-5		11/23/2018 21:57	1	11230020.D	CLP2 0.32(mm)
LCS 280-434851/11-A		11/23/2018 22:14	1	11230021.D	CLP1 0.32(mm)
LCS 280-434851/11-A		11/23/2018 22:14	1	11230021.D	CLP2 0.32(mm)
LCSD 280-434851/12-A		11/23/2018 22:32	1	11230022.D	CLP1 0.32(mm)
LCSD 280-434851/12-A		11/23/2018 22:32	1	11230022.D	CLP2 0.32(mm)
CCV 280-438595/23		11/23/2018 22:50	1		CLP1 0.32(mm)
CCV 280-438595/23		11/23/2018 22:50	1		CLP2 0.32(mm)
CCV 280-438595/24		11/23/2018 23:07	1	11230024.D	CLP1 0.32(mm)
CCV 280-438595/24		11/23/2018 23:07	1	11230024.D	CLP2 0.32(mm)
CCV 280-438595/25		11/23/2018 23:25	1		CLP1 0.32(mm)
CCV 280-438595/25		11/23/2018 23:25	1		CLP2 0.32(mm)
CCV 280-438595/26		11/23/2018 23:42	1	11230026.D	CLP1 0.32(mm)
CCV 280-438595/26		11/23/2018 23:42	1	11230026.D	CLP2 0.32(mm)
ZZZZZ		11/24/2018 00:00	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 00:00	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 00:17	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 00:17	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 00:35	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 00:35	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 00:53	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 00:53	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 01:10	1		CLP1 0.32(mm)

PESTICIDES ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_P2 Start Date: 11/23/2018 18:09

Analysis Batch Number: 438595 End Date: 11/24/2018 07:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		11/24/2018 01:10	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 01:28	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 01:28	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 01:45	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 01:45	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 02:03	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 02:03	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 02:20	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 02:20	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 02:38	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 02:38	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 02:55	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 02:55	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 03:13	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 03:13	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 03:30	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 03:30	1		CLP2 0.32(mm)
CCV 280-438595/40		11/24/2018 03:48	1		CLP1 0.32(mm)
CCV 280-438595/40		11/24/2018 03:48	1		CLP2 0.32(mm)
CCV 280-438595/41		11/24/2018 04:06	1		CLP1 0.32(mm)
CCV 280-438595/41		11/24/2018 04:06	1		CLP2 0.32(mm)
CCV 280-438595/42		11/24/2018 04:23	1		CLP1 0.32(mm)
CCV 280-438595/42		11/24/2018 04:23	1		CLP2 0.32(mm)
CCV 280-438595/43		11/24/2018 04:41	1		CLP1 0.32(mm)
CCV 280-438595/43		11/24/2018 04:41	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 05:16	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 05:16	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 05:34	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 05:34	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 05:51	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 05:51	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 06:09	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 06:09	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 06:26	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 06:26	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 06:44	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 06:44	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 07:01	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 07:01	1		CLP2 0.32(mm)
ZZZZZ		11/24/2018 07:19	1		CLP1 0.32(mm)
ZZZZZ		11/24/2018 07:19	1		CLP2 0.32(mm)

PESTICIDES BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 434851 Batch Start Date: 10/25/18 09:01 Batch Analyst: Stewart, Klaudia J

Batch Method: 3510C Batch End Date: 10/25/18 21:14

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	8081 LCS 00448
MB 280-434851/1		3510C, 8081B				1000 mL	10 mL	7 SU	
LCS 280-434851/2		3510C, 8081B				1000 mL	10 mL	7 SU	1 mL
LCSD 280-434851/3		3510C, 8081B				1000 mL	10 mL	7 SU	1 mL
280-115950-D-2	LL1mw-088-181001-GW	3510C, 8081B	T	1447.1 g	501.1 g	946 mL	10 mL	7 SU	
280-115950-D-3	LL1mw-088-181002-GW	3510C, 8081B	T	1454.7 g	501.0 g	953.7 mL	10 mL	7 SU	
280-115950-C-4	RQLmw-007-181001-GW	3510C, 8081B	T	1536.3 g	501.5 g	1034.8 mL	10 mL	7 SU	
280-115950-C-5	RQLmw-008-181001-GW	3510C, 8081B	T	1471.3 g	499.2 g	972.1 mL	10 mL	7 SU	
LCS 280-434851/11		3510C, 8081B				1000 mL	10 mL	7 SU	
LCSD 280-434851/12		3510C, 8081B				1000 mL	10 mL	7 SU	

Lab Sample ID	Client Sample ID	Method Chain	Basis	8081/82 Surr 00105	8081Toxaphene 00031	AnalysisComment			
MB 280-434851/1		3510C, 8081B		1 mL					
LCS 280-434851/2		3510C, 8081B		1 mL		8081			
LCSD 280-434851/3		3510C, 8081B		1 mL		8081			
280-115950-D-2	LL1mw-088-181001-GW	3510C, 8081B	T	1 mL					
280-115950-D-3	LL1mw-088-181002-GW	3510C, 8081B	T	1 mL					
280-115950-C-4	RQLmw-007-181001-GW	3510C, 8081B	T	1 mL					
280-115950-C-5	RQLmw-008-181001-GW	3510C, 8081B	T	1 mL					
LCS 280-434851/11		3510C, 8081B		1 mL	1 mL	TOX			
LCSD 280-434851/12		3510C, 8081B		1 mL	1 mL	TOX			

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

PESTICIDES BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 434851 Batch Start Date: 10/25/18 09:01 Batch Analyst: Stewart, Klaudia J

Batch Method: 3510C Batch End Date: 10/25/18 21:14

Batch Notes	
Balance ID	24750399
Batch Comment	DV-OP-0006/0007 BB8 @ 10.0mL
Analyst ID - Concentration	MM
Concentration 1 Corrected Temperature	88/88 Degrees C
Equipment ID - Concentration 1	A/B
Exchange Solvent ID	Hexane_cycl_010053
Analyst ID - Extraction	KS (trainee) + AMB (trainer)
Glass Wool ID	Glass wool
Method/Fraction	3510C/808/1A/8081B_DOD5/8082/8082A_DOD5/608
Na2SO4 ID	0000205461_00008
NaCl ID	17831
Pipette/Syringe/Dispenser ID	1n2s
Prep Solvent ID	MeCl2_Cycl_00409
Prep Solvent Volume Used	180 mL
Analyst ID - Spike Analyst	KS
Analyst ID - Spike Witness Analyst	Reviewer: JZ
Sufficient Volume for Batch QC	No
Concentration 1 Uncorrected Temperature	89/87 Degrees C
Reagent Water ID	S. Elga

Basis	Basis Description
T	Total/NA

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

8082A_DOD5

Polychlorinated Biphenyls (PCBs) by Gas Chromatography

FORM II
PCBS SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): CLP2 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCX1 #	DCBP1 #
RQLmw-007-181001-GW	280-115950-4	87	67
RQLmw-008-181001-GW	280-115950-5	84	69
	MB 280-434851/1-A	81	89
	LCS 280-434851/4-A	83	90
	LCSD 280-434851/5-A	86	94

	QC LIMITS
TCX = Tetrachloro-m-xylene	25-120
DCBP = DCB Decachlorobiphenyl	30-136

Column to be used to flag recovery values

FORM II 8082A

FORM III
PCBS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11151842.D

Lab ID: LCS 280-434851/4-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
PCB-1016	2.00	1.94	97	46-129	M
PCB-1260	2.00	1.98	99	45-134	M

Column to be used to flag recovery and RPD values

FORM III 8082A

FORM III
PCBS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11151843.D

Lab ID: LCSD 280-434851/5-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
PCB-1016	2.00	2.00	100	3	30	46-129	M
PCB-1260	2.00	2.06	103	4	30	45-134	M

Column to be used to flag recovery and RPD values

FORM III 8082A

FORM IV
PCBS METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: MB 280-434851/1-A

Matrix: Water Date Extracted: 10/25/2018 09:01

Lab File ID:(1) 11151841.D Lab File ID:(2) 11151841.D

Date Analyzed:(1) 11/16/2018 01:42 Date Analyzed:(2) 11/16/2018 01:42

Instrument ID:(1) SGC_J Instrument ID:(2) SGC_J

GC Column:(1) CLP2 ID: 0.32(mm) GC Column:(2) CLP1 ID: 0.32(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-434851/4-A	11/16/2018 02:03	11/16/2018 02:03
	LCSD 280-434851/5-A	11/16/2018 02:24	11/16/2018 02:24
RQLmw-007-181001-GW	280-115950-4	11/16/2018 03:07	11/16/2018 03:07
RQLmw-008-181001-GW	280-115950-5	11/16/2018 03:28	11/16/2018 03:28

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Sample No.: STDL51660 280-437583/21 Date Analyzed: 11/14/2018 18:46

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm)

Lab File ID (Standard): 11141821.D Heated Purge: (Y/N) N

Calibration ID: 34318

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		19722596	2.05				
UPPER LIMIT		39445192	2.55				
LOWER LIMIT		9861298	1.55				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-437583/40		21220748	2.04				
ICV 280-437583/41		22661076	2.05				
ICV 280-437583/42		22553037	2.05				
ICV 280-437583/43		22734063	2.05				
ICV 280-437583/44		22376022	2.05				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Sample No.: STDL51660 280-437583/21 Date Analyzed: 11/14/2018 18:46

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm)

Lab File ID (Standard): 11141821.D Heated Purge: (Y/N) N

Calibration ID: 34319

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		124805946	1.82				
UPPER LIMIT		249611892	2.32				
LOWER LIMIT		62402973	1.32				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-437583/40		128643593	1.81				
ICV 280-437583/41		136994076	1.82				
ICV 280-437583/42		134930138	1.82				
ICV 280-437583/43		136792833	1.82				
ICV 280-437583/44		134460546	1.82				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Sample No.: CCVIS 280-437748/4 Date Analyzed: 11/15/2018 12:38

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm)

Lab File ID (Standard): 11151804.D Heated Purge: (Y/N) N

Calibration ID: 34326

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		20318614	2.05				
UPPER LIMIT		40637228	2.55				
LOWER LIMIT		10159307	1.55				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 280-437748/40		20029391	2.07				
MB 280-434851/1-A		19803874	2.07				
LCS 280-434851/4-A		19999699	2.07				
LCSD 280-434851/5-A		19767455	2.06				
280-115950-4	RQLmw-007-181001-GW	19752421	2.07				
280-115950-5	RQLmw-008-181001-GW	20216189	2.07				
CCV 280-437748/52		21998245	2.06				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Sample No.: CCVIS 280-437748/4 Date Analyzed: 11/15/2018 12:38

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm)

Lab File ID (Standard): 11151804.D Heated Purge: (Y/N) N

Calibration ID: 34327

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		122699372	1.82				
UPPER LIMIT		245398744	2.32				
LOWER LIMIT		61349686	1.32				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 280-437748/40		116381949	1.83				
MB 280-434851/1-A		116221630	1.84				
LCS 280-434851/4-A		116901174	1.84				
LCSD 280-434851/5-A		115751577	1.83				
280-115950-4	RQLmw-007-181001-GW	115323893	1.84				
280-115950-5	RQLmw-008-181001-GW	118705350	1.84				
CCV 280-437748/52		122481313	1.83				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8082A

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 280-434851/4-A

Instrument ID (1): SGC_J Instrument ID (2): SGC_J

Date Analyzed (1): 11/16/2018 02:03 Date Analyzed (2): 11/16/2018 02:03

GC Column (1): CLP2 ID: 0.32(mm) GC Column (2): CLP1 ID: 0.32(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
PCB-1016	1	1	3.42	3.16	3.66	2.03	1.94	7.5
		2	3.84	3.57	4.07	1.89		
		3	4.32	4.05	4.55	1.89		
		4	4.47	4.20	4.70	1.92		
		5	4.71	4.44	4.94	1.99		
	2	1	3.42	3.15	3.65	2.00	1.80	
		2	3.80	3.53	4.03	1.78		
		3	4.32	4.04	4.54	1.69		
		4	4.47	4.20	4.70	1.77		
		5	4.96	4.68	5.18	1.77		
PCB-1260	1	1	6.93	6.65	7.15	2.20	1.98	8.6
		2	7.41	7.13	7.63	2.35		
		3	7.94	7.66	8.16	1.76		
		4	8.31	8.03	8.53	1.79		
		5	8.82	8.54	9.04	1.83		
	2	1	6.52	6.24	6.74	2.01	1.82	
		2	7.28	7.00	7.50	2.13		
		3	7.78	7.50	8.00	1.61		
		4	8.23	7.95	8.45	1.58		
		5	8.63	8.34	8.84	1.78		

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 280-434851/5-A

Instrument ID (1): SGC_J Instrument ID (2): SGC_J

Date Analyzed (1): 11/16/2018 02:24 Date Analyzed (2): 11/16/2018 02:24

GC Column (1): CLP2 ID: 0.32(mm) GC Column (2): CLP1 ID: 0.32(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
PCB-1016	1	1	3.42	3.16	3.66	2.13	2.00	7.5
		2	3.84	3.57	4.07	1.98		
		3	4.32	4.05	4.55	1.94		
		4	4.47	4.20	4.70	1.97		
		5	4.71	4.44	4.94	2.00		
	2	1	3.42	3.15	3.65	2.06	1.86	
		2	3.80	3.53	4.03	1.85		
		3	4.32	4.04	4.54	1.73		
		4	4.47	4.20	4.70	1.83		
		5	4.96	4.68	5.18	1.81		
PCB-1260	1	1	6.93	6.65	7.15	2.25	2.06	8.1
		2	7.41	7.13	7.63	2.42		
		3	7.94	7.66	8.16	1.84		
		4	8.31	8.03	8.53	1.85		
		5	8.82	8.54	9.04	1.92		
	2	1	6.52	6.24	6.74	2.08	1.90	
		2	7.28	7.00	7.50	2.21		
		3	7.78	7.50	8.00	1.69		
		4	8.23	7.95	8.45	1.65		
		5	8.63	8.34	8.84	1.86		

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: RQLmw-007-181001-GW | Lab Sample ID: 280-115950-4

Matrix: Water | Lab File ID: 11151845.D

Analysis Method: 8082A | Date Collected: 10/22/2018 12:50

Extraction Method: 3510C | Date Extracted: 10/25/2018 09:01

Sample wt/vol: 1034.8(mL) | Date Analyzed: 11/16/2018 03:07

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 437748 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	0.39	U	0.97	0.39	0.12
11104-28-2	PCB-1221	0.24	U M	0.97	0.24	0.21
11141-16-5	PCB-1232	0.58	U M	0.97	0.58	0.16
53469-21-9	PCB-1242	0.29	U	0.97	0.29	0.10
12672-29-6	PCB-1248	0.29	U	0.97	0.29	0.088
11097-69-1	PCB-1254	0.24	U	0.97	0.24	0.11
11096-82-5	PCB-1260	0.39	U	0.97	0.39	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	87		25-120
2051-24-3	DCB Decachlorobiphenyl	67		30-136

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151845.D
Lims ID: 280-115950-C-4-A
Client ID: RQLmw-007-181001-GW
Sample Type: Client
Inject. Date: 16-Nov-2018 03:07:06 ALS Bottle#: 45 Worklist Smp#: 45
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-C-4-A
Misc. Info.: 280-0076236-045
Operator ID: ALS Instrument ID: SGC_J

Method: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 19-Nov-2018 11:13:15 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0332

First Level Reviewer: patadiab Date: 19-Nov-2018 10:59:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene						
1	2.065	2.053	0.012	19752421	1000.0	
2	1.835	1.823	0.012	115323893	1000.0	
					RPD = 0.00	
$ 14 Tetrachloro-m-xylene						
1	3.009	2.993	0.016	6619289	14.3	
2	2.905	2.890	0.015	23611337	17.4	
					RPD = 19.91	
7 PCB-1232						U
1		3.199			ND	
1		3.396				
1		4.289				
1		4.439				
1		4.926				
2		3.403				
2		3.816				
2		4.296				
2		4.446				
2		5.136				
3 PCB-1221						U
1		3.202			ND	
1		3.356				
1		3.396				
2		3.209				
2		3.346				
2		3.406				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
1 PCB-1016						
1		3.399			ND	
1		3.779				
1		4.293				
1		4.446				
1		4.933				
2		3.406				
2		3.820				
2		4.300				
2		4.450				
2		4.690				
4 PCB-1248						
1		3.767			ND	
1		4.277				
1		4.917				
1		5.717				
1		6.227				
2		4.287				
2		4.681				
2		4.984				
2		5.127				
2		6.331				
10 PCB-1242						
1		3.770			ND	
1		4.280				
1		4.434				
1		5.440				
1		5.467				
2		3.807				
2		4.287				
2		4.437				
2		4.984				
2		5.127				
9 PCB-1254						
1		5.392			ND	
1		5.729				
1		6.076				
1		6.862				
1		7.239				
2		5.752				
2		6.186				
2		6.646				
2		6.892				
2		7.372				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
5 PCB-1262						
1		6.486			ND	
1		7.406				
1		7.746				
1		8.189				
1		8.583				
2		6.896				
2		7.503				
2		7.906				
2		8.276				
2		8.783				
12 PCB-1260						
1		6.493			ND	
1		7.249				
1		7.753				
1		8.196				
1		8.593				
2		6.900				
2		7.376				
2		7.913				
2		8.280				
2		8.793				
13 PCB-1268						U
1		8.634			ND	
1		8.687				
1		8.964				
1		9.484				
1		9.900				
2		8.770				
2		8.834				
2		9.187				
2		9.620				
2		10.087				
$ 15 DCB Decachlorobiphenyl						
1	10.229	10.193	0.036	3639258	12.5	
2	10.505	10.473	0.032	16404032	13.3	
					RPD = 6.41	
S 8 Polychlorinated biphenyls, Total						
1		0.000			ND	
2		0.000				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
2 PCB-5460						
1		0.000			ND	
1		12.739				
1		0.000				
1		13.802				
1		14.259				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
6 PCB-5432						
1		7.063			ND	
1		7.693				
1		8.203				
1		9.029				
1		9.459				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
11 PCB-5442						
1		9.459			ND	
1		9.923				
1		10.079				
1		10.289				
1		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

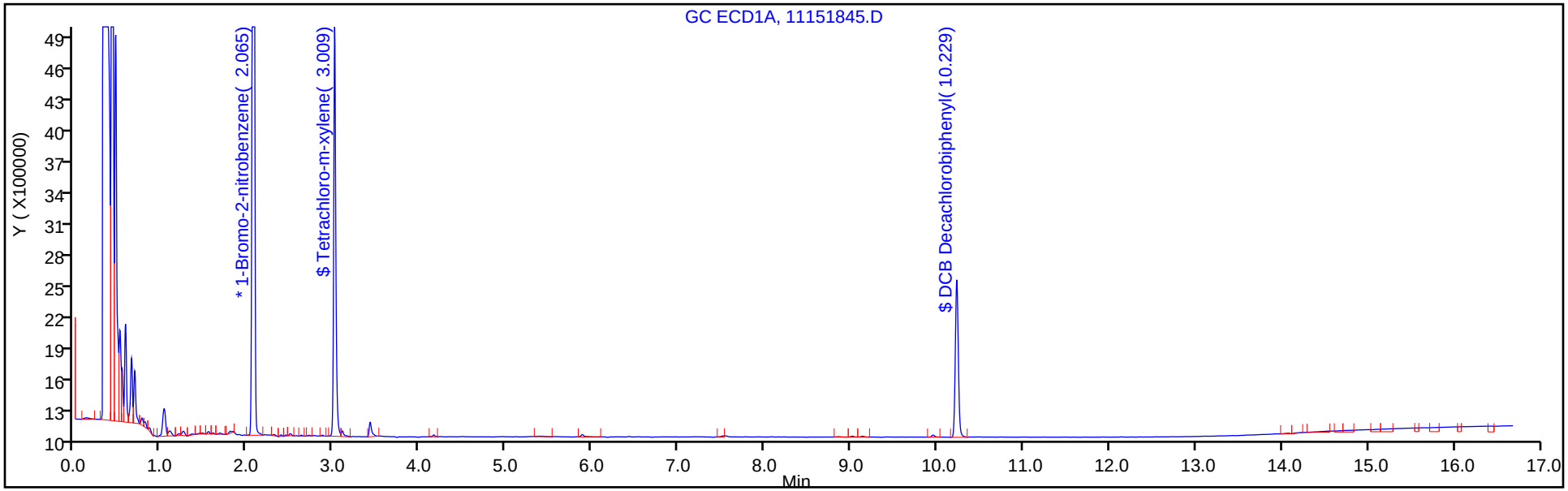
Report Date: 19-Nov-2018 11:13:34 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

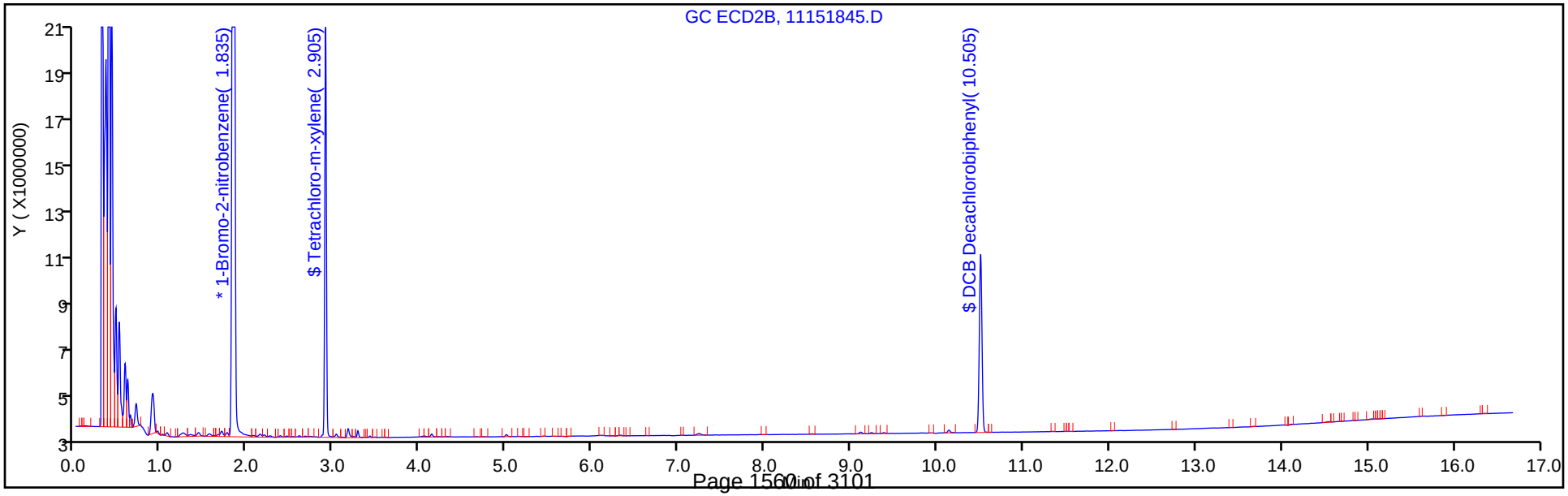
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151845.D

Injection Date:	16-Nov-2018 03:07:06	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	280-115950-C-4-A	Lab Sample ID:	280-115950-4	Worklist Smp#:	45
Client ID:	RQLmw-007-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	45
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151845.D				
Lims ID:	280-115950-C-4-A				
Client ID:	RQLmw-007-181001-GW				
Sample Type:	Client				
Inject. Date:	16-Nov-2018 03:07:06	ALS Bottle#:	45	Worklist Smp#:	45
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-115950-C-4-A				
Misc. Info.:	280-0076236-045				
Operator ID:	ALS	Instrument ID:	SGC_J		
Method:	\\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\8082_J.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	19-Nov-2018 11:13:15	Calib Date:	15-Nov-2018 01:07:13		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0332				
First Level Reviewer: patadiab		Date:	19-Nov-2018 10:59:14		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	14.3	71.35
$ 15 DCB Decachlorobiphenyl	20.0	12.5	62.43

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	17.4	87.12
$ 15 DCB Decachlorobiphenyl	20.0	13.3	66.56

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: RQLmw-008-181001-GW | Lab Sample ID: 280-115950-5

Matrix: Water | Lab File ID: 11151846.D

Analysis Method: 8082A | Date Collected: 10/22/2018 10:05

Extraction Method: 3510C | Date Extracted: 10/25/2018 09:01

Sample wt/vol: 972.1(mL) | Date Analyzed: 11/16/2018 03:28

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 437748 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	0.41	U M	1.0	0.41	0.13
11104-28-2	PCB-1221	0.26	U M	1.0	0.26	0.22
11141-16-5	PCB-1232	0.62	U M	1.0	0.62	0.17
53469-21-9	PCB-1242	0.31	U M	1.0	0.31	0.11
12672-29-6	PCB-1248	0.31	U M	1.0	0.31	0.094
11097-69-1	PCB-1254	0.26	U	1.0	0.26	0.12
11096-82-5	PCB-1260	0.41	U	1.0	0.41	0.16

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	84		25-120
2051-24-3	DCB Decachlorobiphenyl	69		30-136

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151846.D
Lims ID: 280-115950-C-5-A
Client ID: RQLmw-008-181001-GW
Sample Type: Client
Inject. Date: 16-Nov-2018 03:28:17 ALS Bottle#: 46 Worklist Smp#: 46
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-C-5-A
Misc. Info.: 280-0076236-046
Operator ID: ALS Instrument ID: SGC_J

Method: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 19-Nov-2018 11:13:15 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0332

First Level Reviewer: patadiab Date: 19-Nov-2018 10:59:35

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene						
1	2.065	2.053	0.012	20216189	1000.0	
2	1.835	1.823	0.012	118705350	1000.0	
					RPD = 0.00	
$ 14 Tetrachloro-m-xylene						
1	3.008	2.993	0.015	6541060	13.8	
2	2.905	2.890	0.015	23494627	16.8	
					RPD = 19.88	
7 PCB-1232						U
1		3.199			ND	
1		3.396				
1		4.289				
1		4.439				
1		4.926				
2		3.403				
2		3.816				
2		4.296				
2		4.446				
2		5.136				
3 PCB-1221						U
1		3.202			ND	
1		3.356				
1		3.396				
2		3.209				
2		3.346				
2		3.406				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
1 PCB-1016						U
1		3.399			ND	
1		3.779				
1		4.293				
1		4.446				
1		4.933				
2		3.406				
2		3.820				
2		4.300				
2		4.450				
2		4.690				
4 PCB-1248						U
1		3.767			ND	
1		4.277				
1		4.917				
1		5.717				
1		6.227				
2		4.287				
2		4.681				
2		4.984				
2		5.127				
2		6.331				
10 PCB-1242						U
1		3.770			ND	
1		4.280				
1		4.434				
1		5.440				
1		5.467				
2		3.807				
2		4.287				
2		4.437				
2		4.984				
2		5.127				
9 PCB-1254						
1		5.392			ND	
1		5.729				
1		6.076				
1		6.862				
1		7.239				
2		5.752				
2		6.186				
2		6.646				
2		6.892				
2		7.372				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
5 PCB-1262						
1		6.486			ND	
1		7.406				
1		7.746				
1		8.189				
1		8.583				
2		6.896				
2		7.503				
2		7.906				
2		8.276				
2		8.783				
12 PCB-1260						
1		6.493			ND	
1		7.249				
1		7.753				
1		8.196				
1		8.593				
2		6.900				
2		7.376				
2		7.913				
2		8.280				
2		8.793				
13 PCB-1268						U
1		8.634			ND	
1		8.687				
1		8.964				
1		9.484				
1		9.900				
2		8.770				
2		8.834				
2		9.187				
2		9.620				
2		10.087				
$ 15 DCB Decachlorobiphenyl						
1	10.228	10.193	0.035	3828027	12.8	
2	10.505	10.473	0.032	17370911	13.7	
					RPD = 6.52	
S 8 Polychlorinated biphenyls, Total						
1		0.000			ND	
2		0.000				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ml	Flags
2 PCB-5460						
1		0.000			ND	
1		12.739				
1		0.000				
1		13.802				
1		14.259				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
6 PCB-5432						
1		7.063			ND	
1		7.693				
1		8.203				
1		9.029				
1		9.459				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
11 PCB-5442						
1		9.459			ND	
1		9.923				
1		10.079				
1		10.289				
1		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				
2		0.000				

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

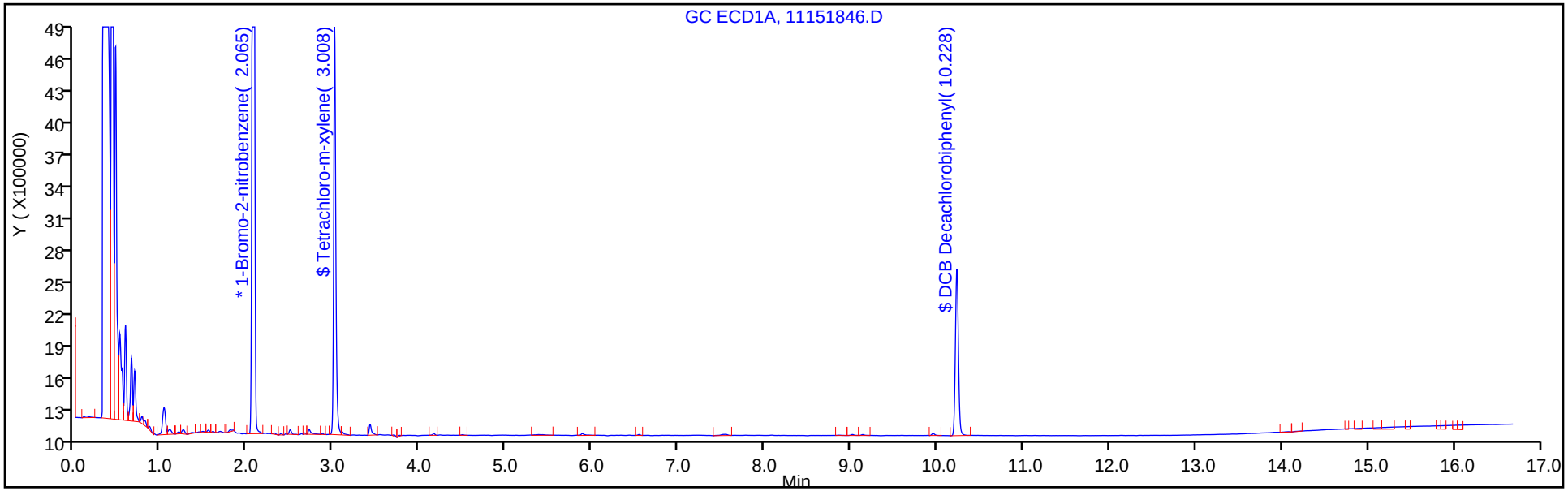
Report Date: 19-Nov-2018 11:13:37 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

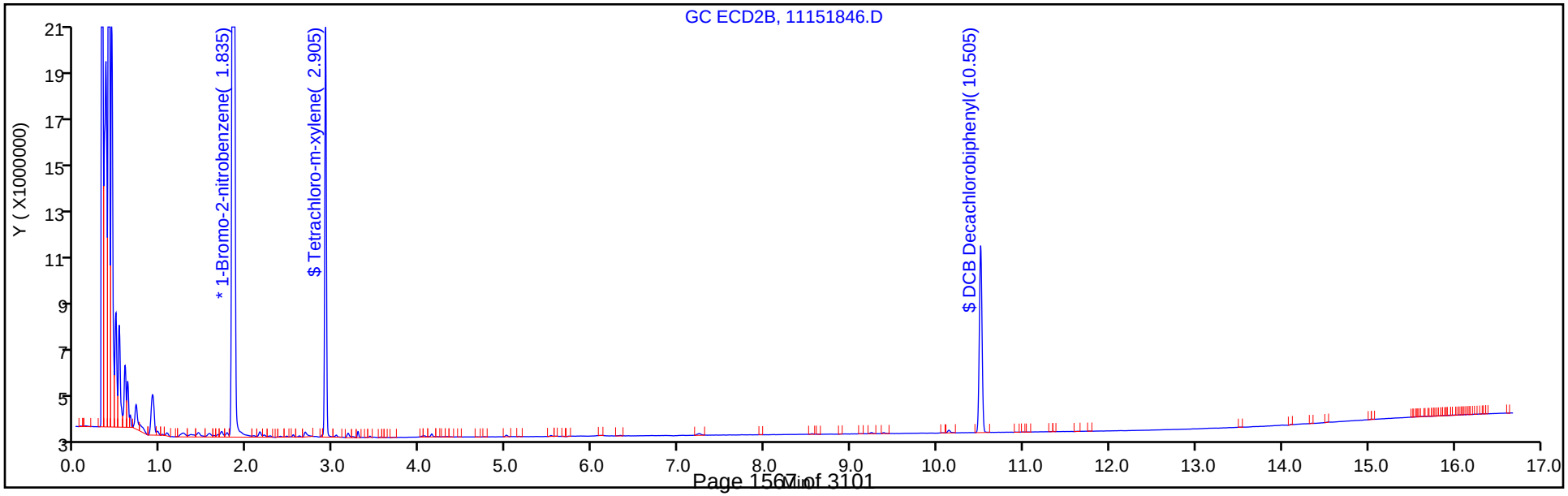
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151846.D

Injection Date:	16-Nov-2018 03:28:17	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	280-115950-C-5-A	Lab Sample ID:	280-115950-5	Worklist Smp#:	46
Client ID:	RQLmw-008-181001-GW				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	46
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151846.D				
Lims ID:	280-115950-C-5-A				
Client ID:	RQLmw-008-181001-GW				
Sample Type:	Client				
Inject. Date:	16-Nov-2018 03:28:17	ALS Bottle#:	46	Worklist Smp#:	46
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-115950-C-5-A				
Misc. Info.:	280-0076236-046				
Operator ID:	ALS	Instrument ID:	SGC_J		
Method:	\\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\8082_J.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	19-Nov-2018 11:13:15	Calib Date:	15-Nov-2018 01:07:13		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0332				
First Level Reviewer: patadiab		Date:	19-Nov-2018 10:59:35		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	13.8	68.92
$ 15 DCB Decachlorobiphenyl	20.0	12.8	64.23

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	16.8	84.14
$ 15 DCB Decachlorobiphenyl	20.0	13.7	68.56

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 13:07 Calibration End Date: 11/14/2018 15:14 Calibration ID: 34310

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11248 280-437583/11	11141811.D
Level 2	STDL21248 280-437583/10	11141810.D
Level 3	STDL31248 280-437583/9	11141809.D
Level 4	STDL41248 280-437583/8	11141808.D
Level 5	STDL51248 280-437583/7	11141807.D
Level 6	STDL61248 280-437583/6	11141806.D
Level 7	STDL71248 280-437583/5	11141805.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1248 Peak 1	0.8951 0.3406	0.5051 0.3469	0.4480	0.3961	0.3734	Lin1	12.321	0.3343							0.9970		0.9900
PCB-1248 Peak 2	0.8435 0.6637	0.7527 0.6929	0.7500	0.6981	0.7086	Lin1	4.3326	0.6814							0.9990		0.9900
PCB-1248 Peak 3	0.9350 0.7064	0.8480 0.7283	0.8306	0.7593	0.7586	Lin1	6.5853	0.7215							0.9990		0.9900
PCB-1248 Peak 4	0.5742 0.4489	0.5361 0.4705	0.5386	0.4847	0.4883	Lin1	3.7388	0.4640							0.9990		0.9900
PCB-1248 Peak 5	0.3887 0.3089	0.3631 0.3093	0.3525	0.3235	0.3283	Lin1	2.5359	0.3108							0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 13:07 Calibration End Date: 11/14/2018 15:14 Calibration ID: 34310

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11248 280-437583/11	11141811.D
Level 2	STDL21248 280-437583/10	11141810.D
Level 3	STDL31248 280-437583/9	11141809.D
Level 4	STDL41248 280-437583/8	11141808.D
Level 5	STDL51248 280-437583/7	11141807.D
Level 6	STDL61248 280-437583/6	11141806.D
Level 7	STDL71248 280-437583/5	11141805.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1248 Peak 1	BNB	Lin1	464571 5196279	493168 6634340	903044	2077555	3862703	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 2	BNB	Lin1	437766 10126096	734985 13252267	1511967	3661460	7329917	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 3	BNB	Lin1	485249 10777532	828015 13929607	1674443	3982544	7847660	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 4	BNB	Lin1	297987 6848742	523461 8998759	1085673	2542040	5050862	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 5	BNB	Lin1	201719 4712705	354519 5916325	710541	1696519	3395871	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141805.D
Lims ID: STDL71248
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 14-Nov-2018 13:07:31 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL71248
Misc. Info.: 280-0076197-005
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:01 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 14-Nov-2018 14:24:32

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.044	0.002	19126335	1000.0	1000.0	
2	1.817	1.814	0.003	129918484	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							M
1	3.770	3.767	0.003	6634340	1000.0	1000.8	
1	4.283	4.277	0.006	13252267	1000.0	1010.4	
1	4.920	4.917	0.003	13929607	1000.0	1000.3	M
1	5.720	5.717	0.003	8998759	1000.0	1005.9	M
1	6.230	6.227	0.003	5916325	1000.0	987.1	
		Average of Peak Amounts =				1000.9	
2	4.290	4.287	0.003	50295073	1000.0	982.7	
2	4.683	4.681	0.002	27433294	1000.0	970.6	
2	4.987	4.984	0.003	36884176	1000.0	973.7	
2	5.127	5.127	0.000	40924869	1000.0	980.5	
2	6.330	6.331	-0.001	26529685	1000.0	978.0	
		Average of Peak Amounts =				977.1	
						RPD = 2.41	
S 8 Polychlorinated biphenyls, Total							
1						1000.9	
2						977.1	
						RPD = 2.41	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1248_L7_00017	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

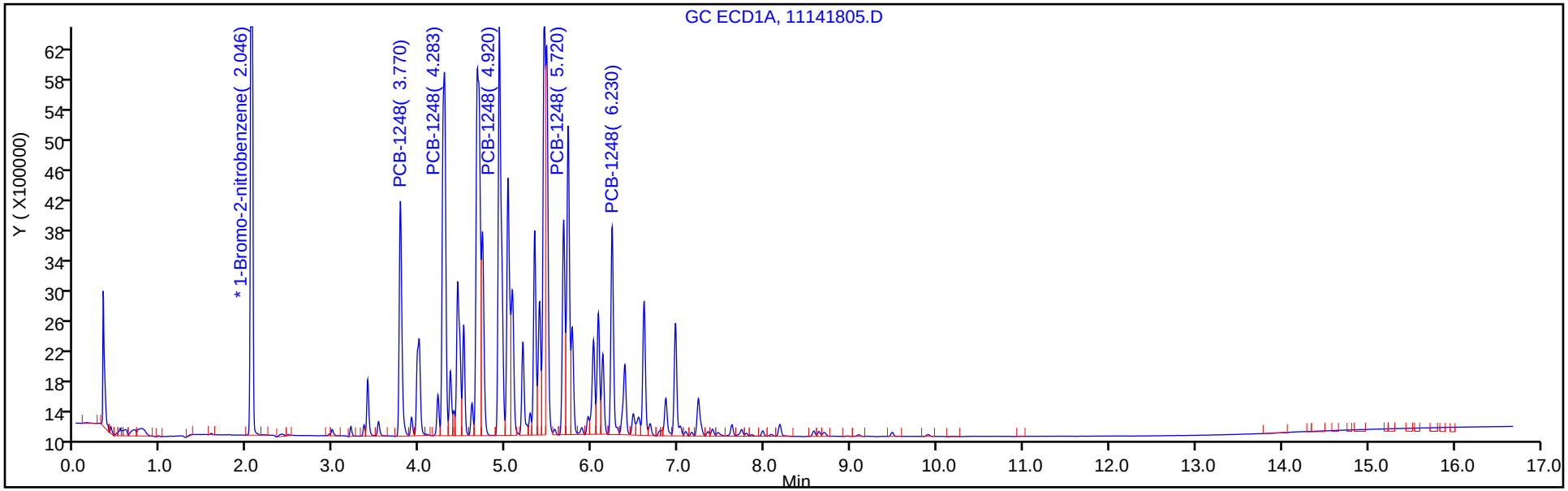
Report Date: 15-Nov-2018 16:08:02 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

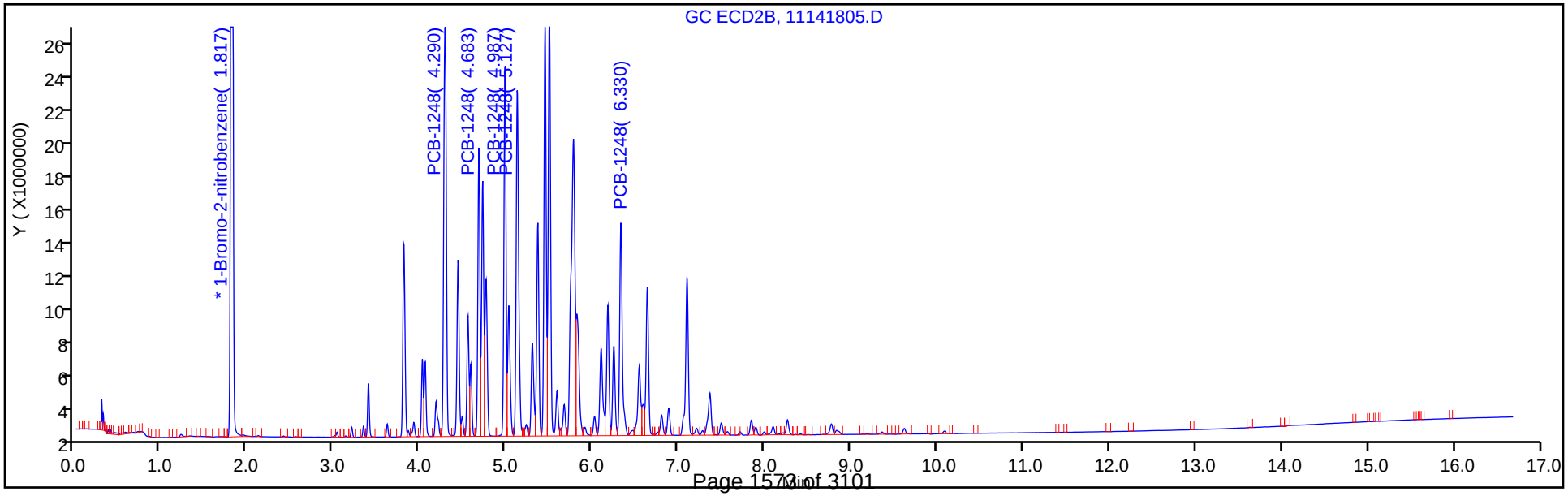
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141805.D

Injection Date:	14-Nov-2018 13:07:31	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL71248			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 15-Nov-2018 16:08:02 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141805.D

Injection Date: 14-Nov-2018 13:07:31 Instrument ID: SGC_J

Lims ID: STDL71248

Client ID:

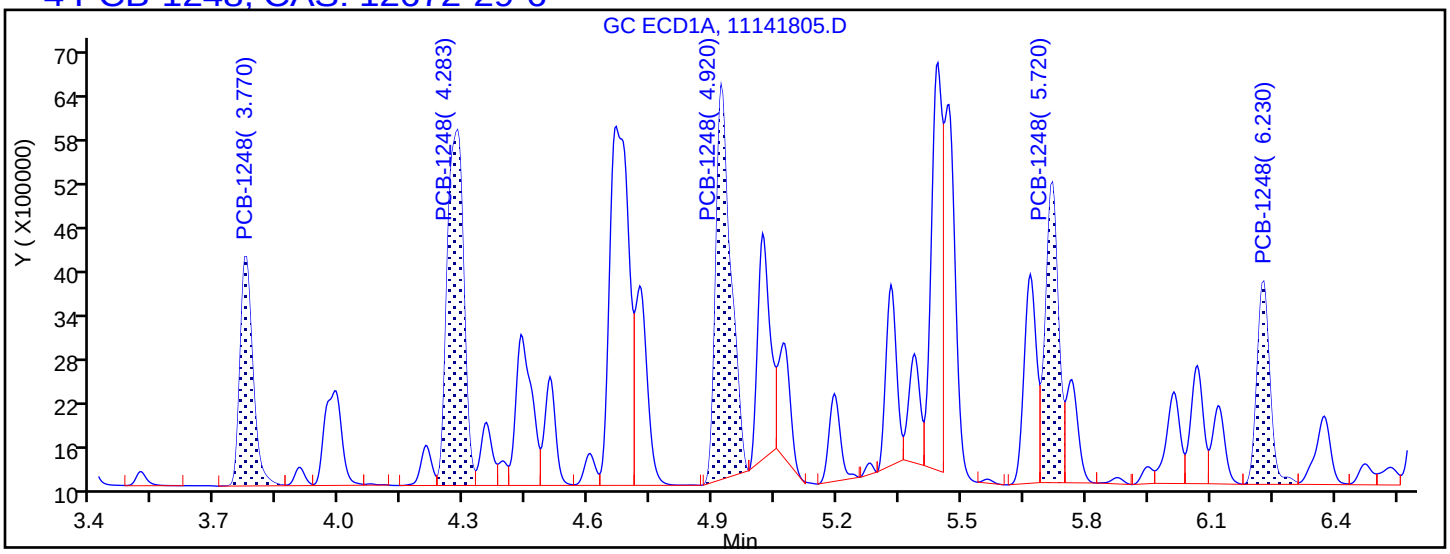
Operator ID: ALS ALS Bottle#: 5 Worklist Smp#: 5

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

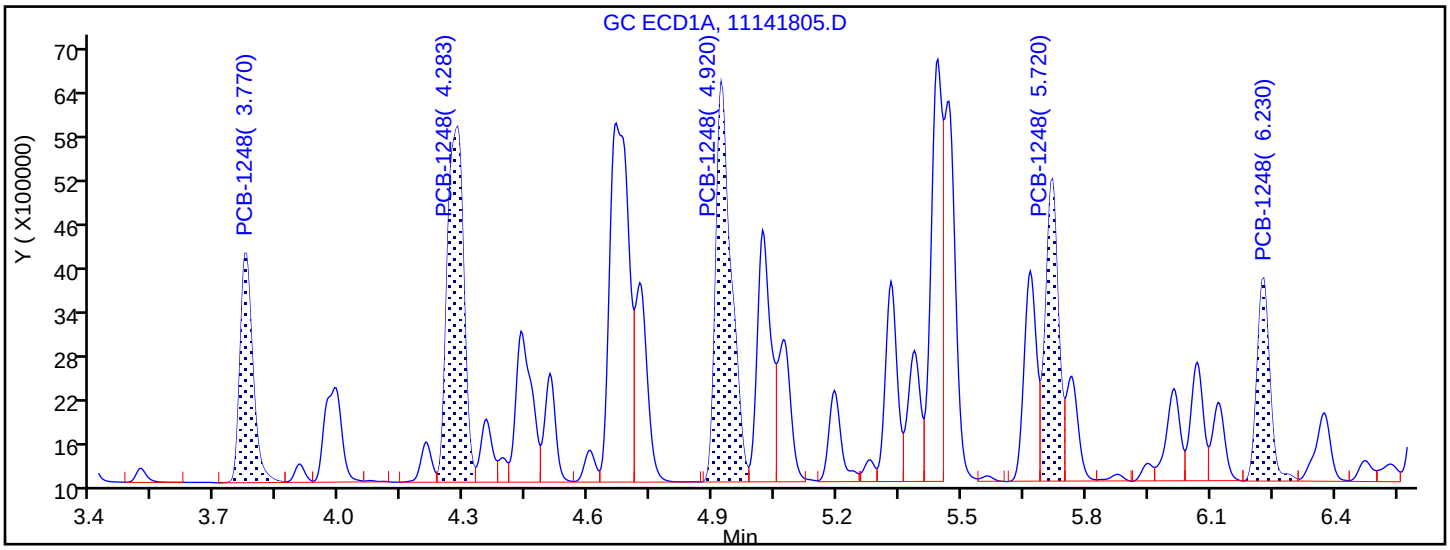
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

4 PCB-1248, CAS: 12672-29-6



Processing Integration Results

3.770	Response = 6634340
4.283	Response = 13252267
4.920	Response = 13285306
5.720	Response = 8914800
6.230	Response = 5916325



Manual Integration Results

3.770	Response = 6634340	
4.283	Response = 13252267	
4.920	Response = 13929607	M
5.720	Response = 8998759	M
6.230	Response = 5916325	

Reviewer: patadiab, 14-Nov-2018 14:22:51

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141806.D
Lims ID: STDL61248
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 14-Nov-2018 13:28:43 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL61248
Misc. Info.: 280-0076197-006
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:04 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 15:44:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.043	2.044	-0.001	20343128	1000.0	1000.0	
2	1.813	1.814	-0.001	136157005	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.769	3.767	0.002	5196279	750.0	727.3	
1	4.279	4.277	0.002	10126096	750.0	724.1	
1	4.916	4.917	-0.001	10777532	750.0	725.2	
1	5.716	5.717	-0.001	6848742	750.0	717.5	
1	6.226	6.227	-0.001	4712705	750.0	737.2	
		Average of Peak Amounts =				726.2	
2	4.286	4.287	-0.001	39423239	750.0	730.6	
2	4.680	4.681	-0.001	22112246	750.0	742.0	
2	4.983	4.984	-0.001	29362949	750.0	734.5	
2	5.126	5.127	-0.001	32217017	750.0	732.4	
2	6.330	6.331	-0.001	21030487	750.0	736.4	
		Average of Peak Amounts =				735.2	
						RPD = 1.23	
S 8 Polychlorinated biphenyls, Total							
1						726.2	
2						735.2	
						RPD = 1.23	

Reagents:

AR_1248_L6_00019	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

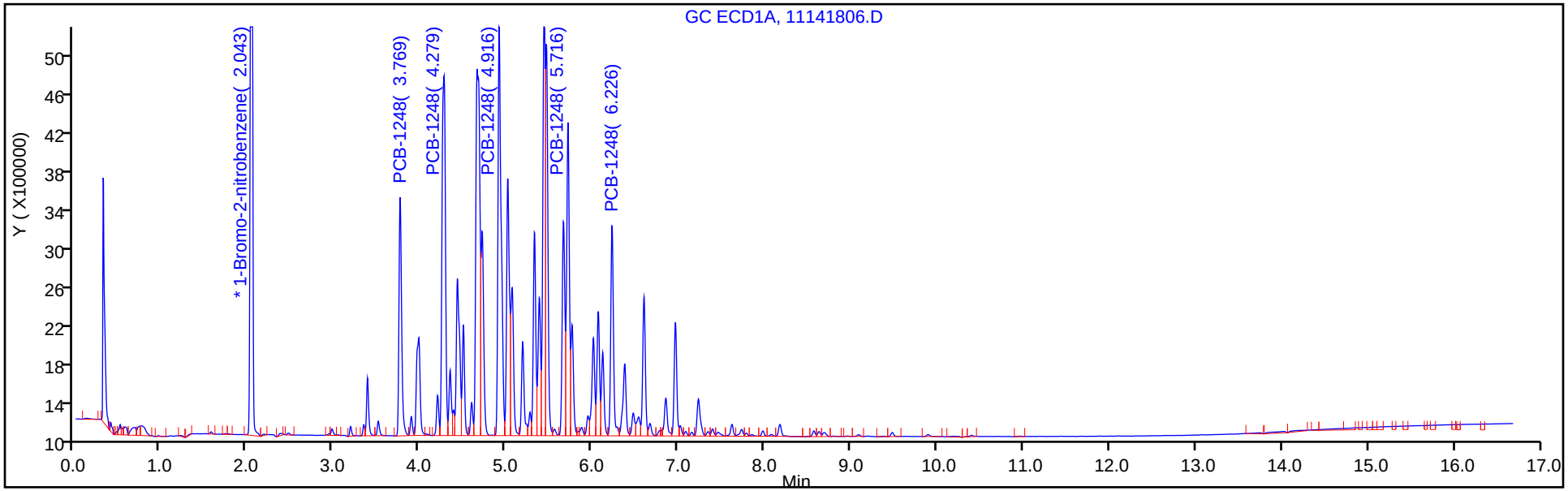
Report Date: 15-Nov-2018 16:08:05 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

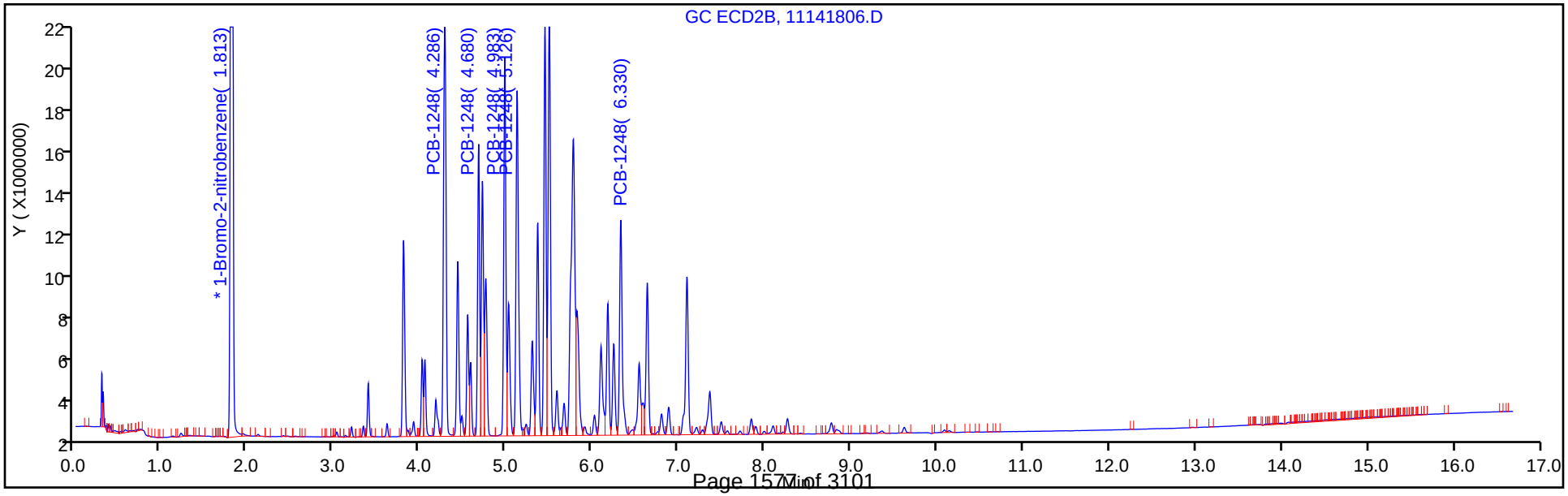
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141806.D

Injection Date:	14-Nov-2018 13:28:43	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL61248			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141807.D
Lims ID: STDL51248
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 14-Nov-2018 13:49:52 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL51248
Misc. Info.: 280-0076197-007
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:07 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 14-Nov-2018 14:21:09

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.044	2.044	0.000	20689337	1000.0	1000.0	
2	1.814	1.814	0.000	137750248	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.767	3.767	0.000	3862703	500.0	521.6	
1	4.277	4.277	0.000	7329917	500.0	513.5	
1	4.917	4.917	0.000	7847660	500.0	516.6	
1	5.717	5.717	0.000	5050862	500.0	518.0	
1	6.227	6.227	0.000	3395871	500.0	520.0	
		Average of Peak Amounts =				518.0	
2	4.287	4.287	0.000	28679544	500.0	520.5	
2	4.681	4.681	0.000	15747458	500.0	516.6	
2	4.984	4.984	0.000	21417814	500.0	523.7	
2	5.127	5.127	0.000	23266390	500.0	518.1	
2	6.331	6.331	0.000	15064927	500.0	517.3	
		Average of Peak Amounts =				519.3	
						RPD = 0.25	

Reagents:

AR_1248_L5_00021 Amount Added: 1.00 Units: mL
BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

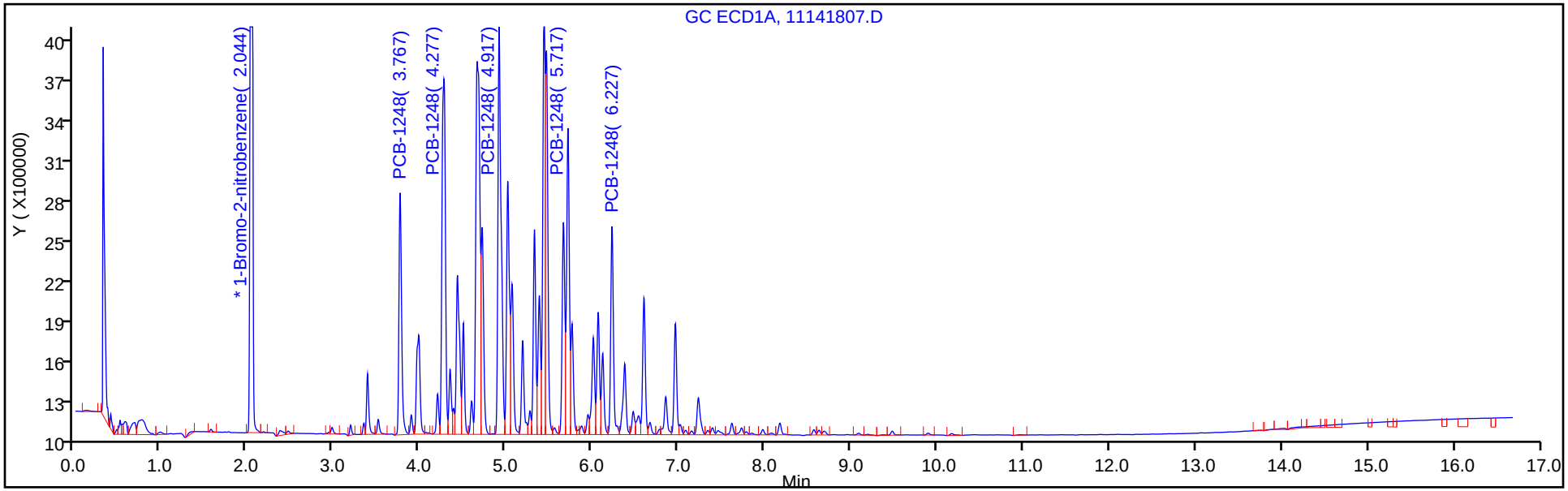
Report Date: 15-Nov-2018 16:08:08 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

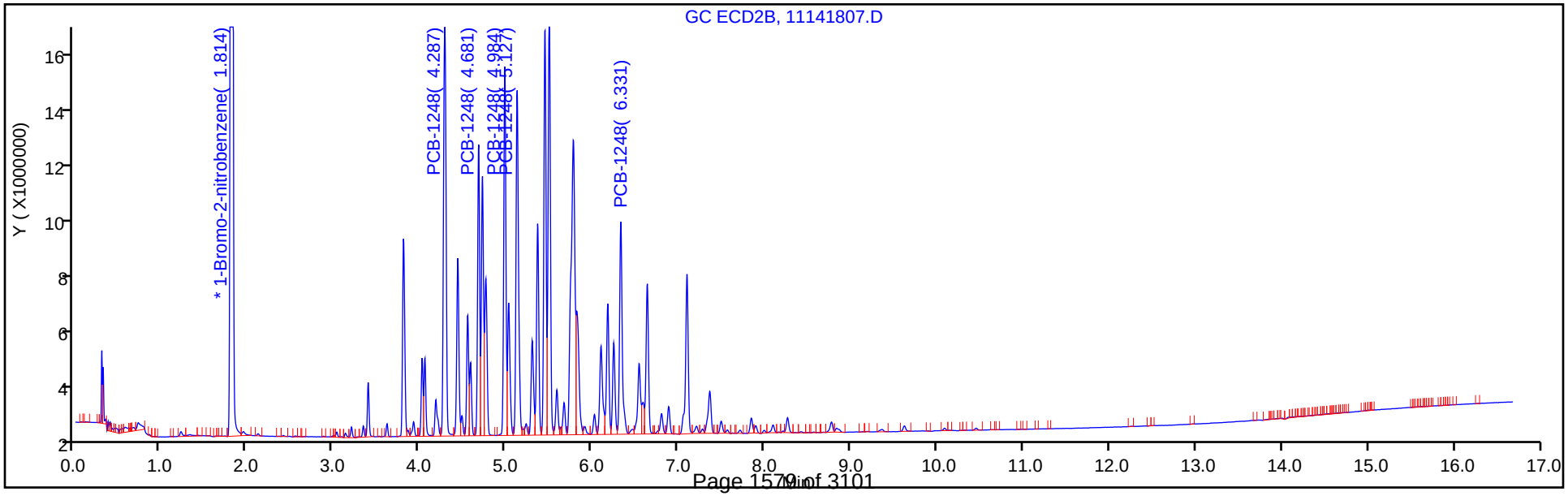
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141807.D

Injection Date:	14-Nov-2018 13:49:52	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL51248			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141808.D
Lims ID: STDL41248
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 14-Nov-2018 14:11:02 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL41248
Misc. Info.: 280-0076197-008
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:09 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 14-Nov-2018 14:48:12

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.045	2.044	0.001	20978742	1000.0	1000.0	
2	1.815	1.814	0.001	139237186	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.771	3.767	0.004	2077555	250.0	259.4	
1	4.281	4.277	0.004	3661460	250.0	249.8	
1	4.921	4.917	0.004	3982544	250.0	254.0	
1	5.718	5.717	0.001	2542040	250.0	253.1	
1	6.231	6.227	0.004	1696519	250.0	252.0	
		Average of Peak Amounts =				253.7	
2	4.288	4.287	0.001	14974092	250.0	260.5	
2	4.681	4.681	0.000	8383027	250.0	263.0	
2	4.985	4.984	0.001	11241360	250.0	261.8	
2	5.128	5.127	0.001	12275568	250.0	262.5	
2	6.331	6.331	0.000	7879878	250.0	261.0	
		Average of Peak Amounts =				261.8	
						RPD = 3.14	
S 8 Polychlorinated biphenyls, Total							
1						253.7	
2						261.8	
						RPD = 3.14	

Reagents:

AR_1248_L4_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

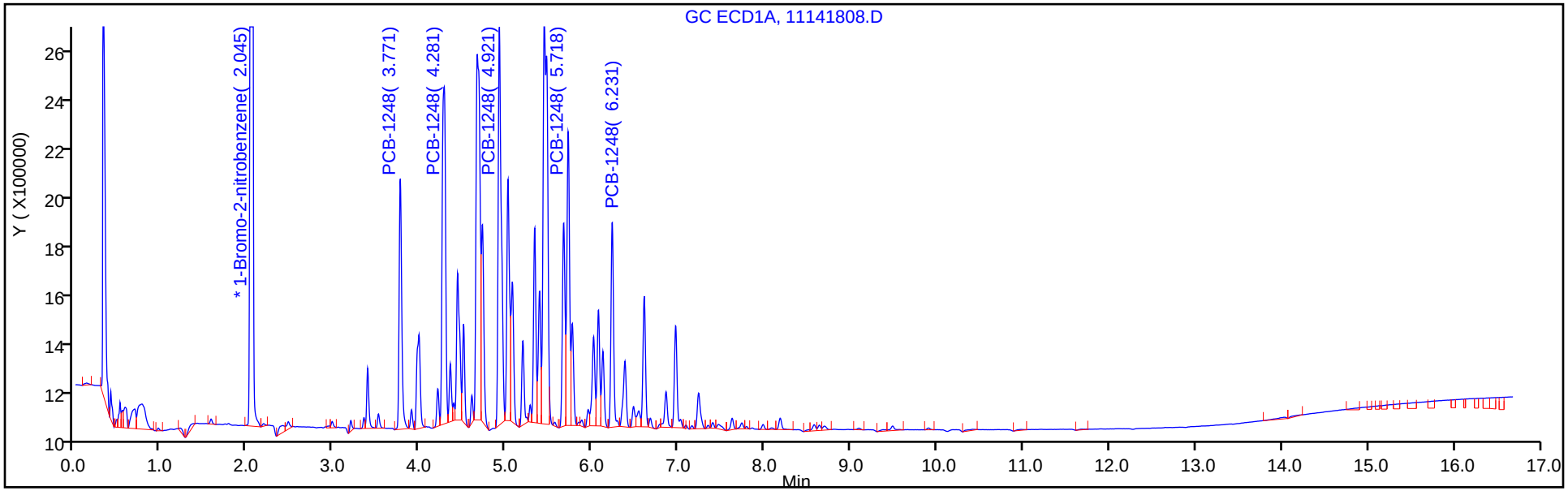
Report Date: 15-Nov-2018 16:08:10 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

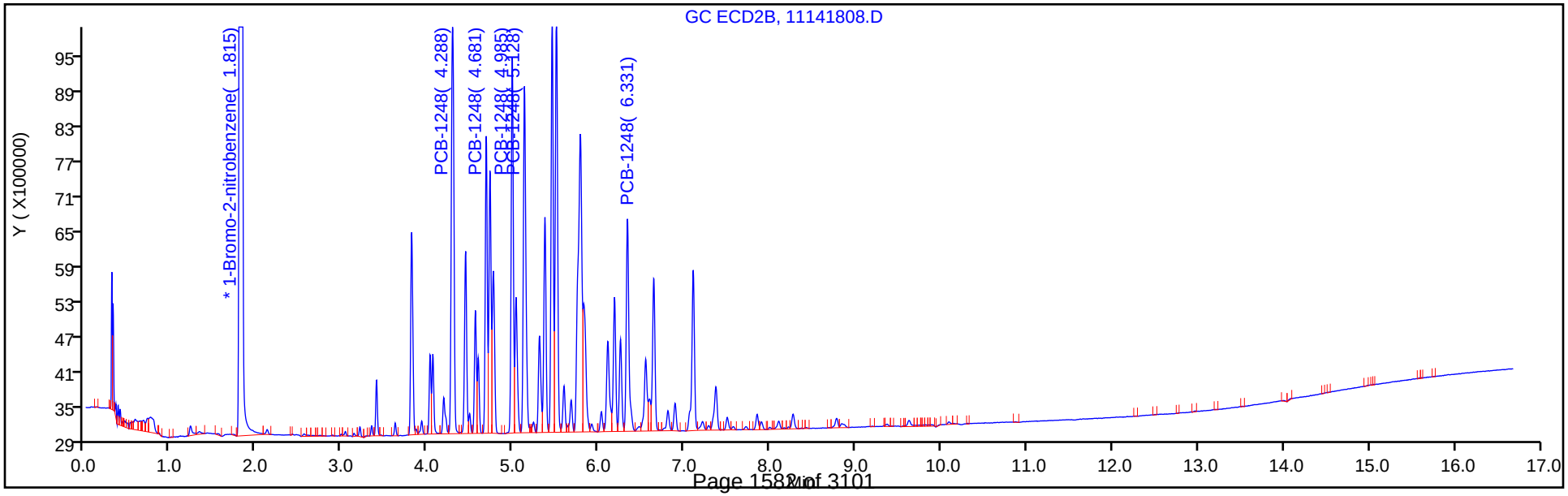
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141808.D

Injection Date:	14-Nov-2018 14:11:02	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL41248			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141809.D
Lims ID: STDL31248
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 14-Nov-2018 14:32:14 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL31248
Misc. Info.: 280-0076197-009
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:12 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 14-Nov-2018 14:55:20

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.043	2.044	-0.001	20159129	1000.0	1000.0	
2	1.814	1.814	0.000	132732993	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.770	3.767	0.003	903044	100.0	97.1	
1	4.280	4.277	0.003	1511967	100.0	103.7	
1	4.920	4.917	0.003	1674443	100.0	106.0	
1	5.720	5.717	0.003	1085673	100.0	108.0	
1	6.230	6.227	0.003	710541	100.0	105.3	
		Average of Peak Amounts =				104.0	
2	4.290	4.287	0.003	6417099	100.0	107.6	
2	4.680	4.681	-0.001	3646039	100.0	109.5	
2	4.987	4.984	0.003	4919024	100.0	108.7	
2	5.130	5.127	0.003	5233134	100.0	108.3	
2	6.334	6.331	0.003	3348924	100.0	108.6	
		Average of Peak Amounts =				108.5	
						RPD = 4.25	
S 8 Polychlorinated biphenyls, Total							
1						104.0	
2						108.5	
						RPD = 4.25	

Reagents:

AR_1248_L3_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

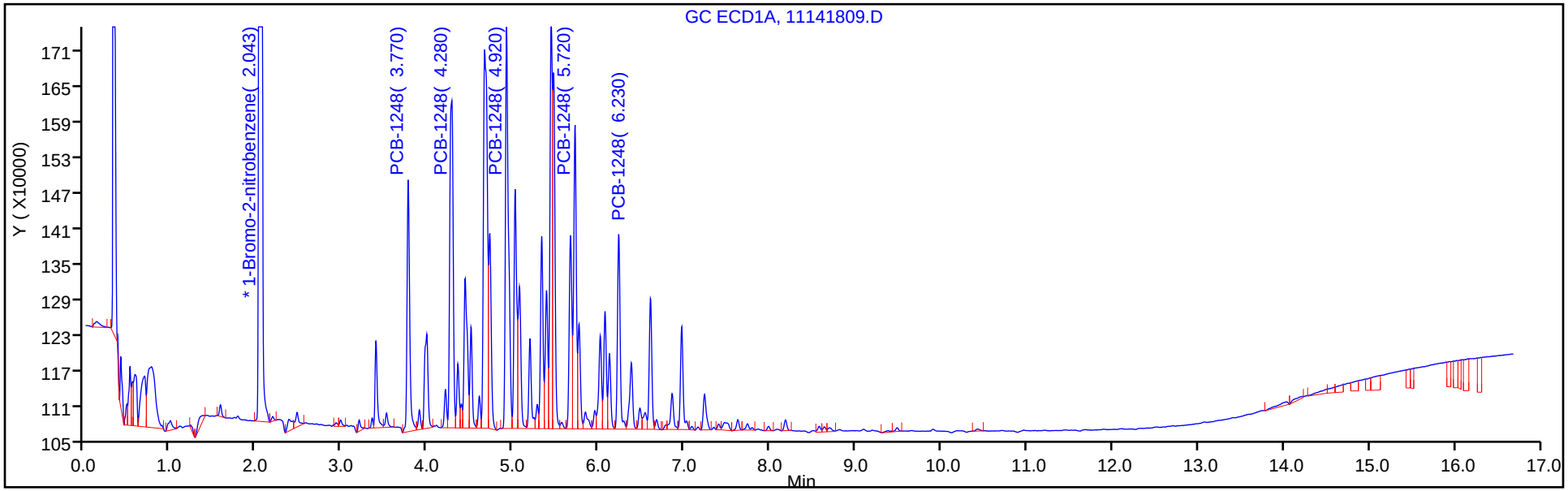
Report Date: 15-Nov-2018 16:08:12 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

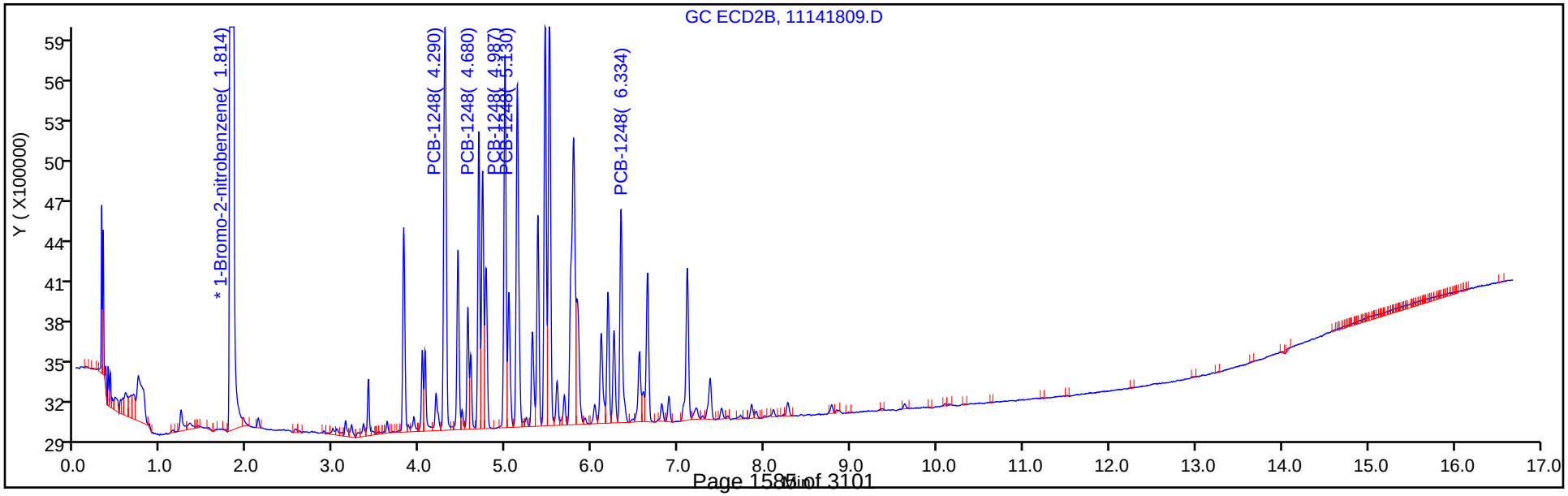
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141809.D

Injection Date:	14-Nov-2018 14:32:14	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL31248			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141810.D
Lims ID: STDL21248
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 14-Nov-2018 14:53:28 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL21248
Misc. Info.: 280-0076197-010
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:14 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.043	2.044	-0.001	19528346	1000.0	1000.0	
2	1.817	1.814	0.003	128288661	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.770	3.767	0.003	493168	50.0	38.7	
1	4.280	4.277	0.003	734985	50.0	48.9	
1	4.920	4.917	0.003	828015	50.0	49.6	
1	5.720	5.717	0.003	523461	50.0	49.7	
1	6.230	6.227	0.003	354519	50.0	50.3	
		Average of Peak Amounts =				47.4	
2	4.290	4.287	0.003	3426174	50.0	51.7	
2	4.683	4.681	0.002	1993978	50.0	53.6	
2	4.987	4.984	0.003	2679150	50.0	52.0	
2	5.130	5.127	0.003	2800431	50.0	52.6	
2	6.333	6.331	0.002	1785257	50.0	53.6	
		Average of Peak Amounts =				52.7	
						RPD = 10.55	
S 8 Polychlorinated biphenyls, Total							
1						47.4	
2						52.7	
						RPD = 10.55	

Reagents:

AR_1248_L2_00021 Amount Added: 1.00 Units: mL
BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

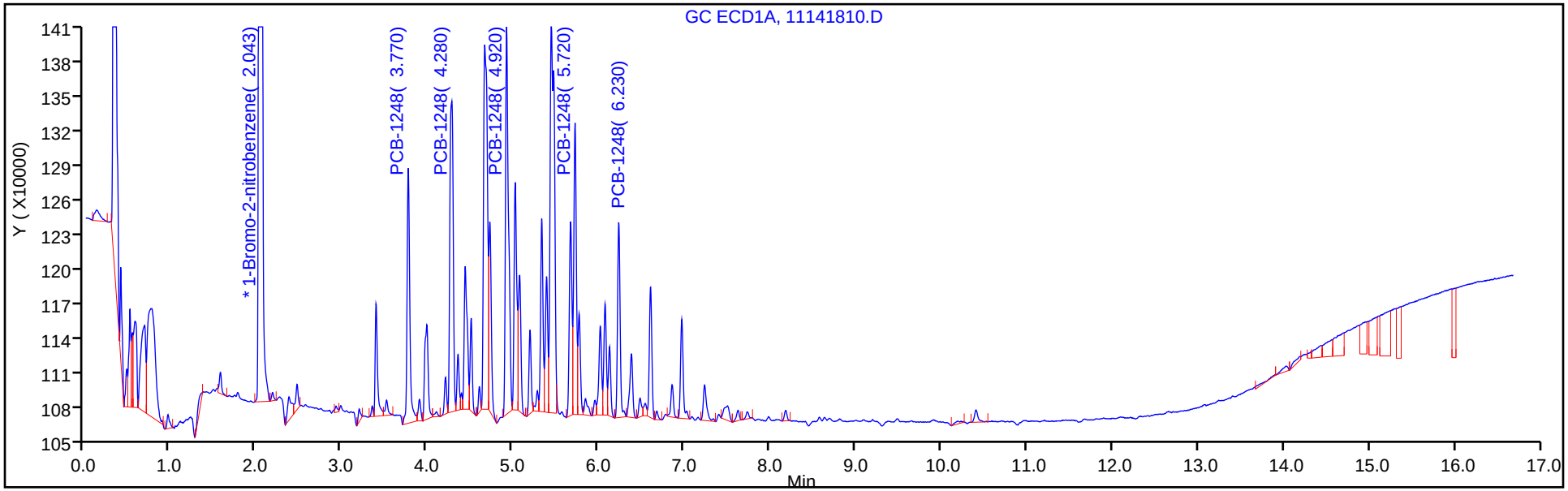
Report Date: 15-Nov-2018 16:08:15 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

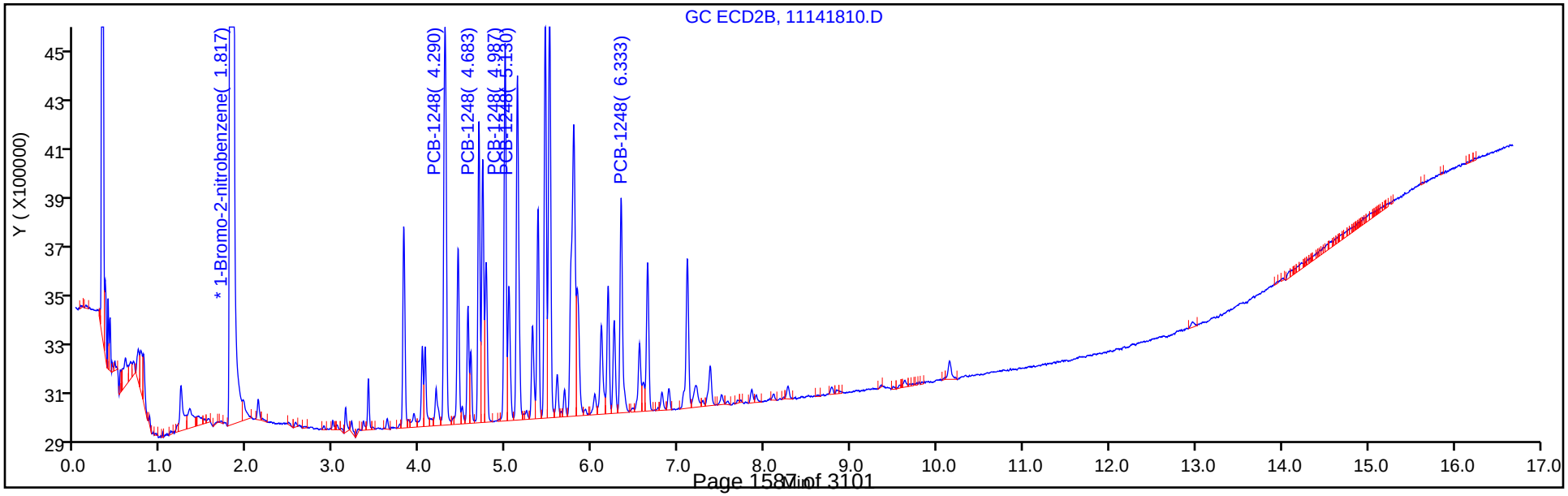
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141810.D

Injection Date:	14-Nov-2018 14:53:28	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL21248			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141811.D
Lims ID: STDL11248
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 14-Nov-2018 15:14:41 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL11248
Misc. Info.: 280-0076197-011
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:17 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.044	2.044	0.000	20760203	1000.0	1000.0	
2	1.814	1.814	0.000	135301832	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.771	3.767	0.004	464571	25.0	30.1	
1	4.281	4.277	0.004	437766	25.0	24.6	
1	4.918	4.917	0.001	485249	25.0	23.3	
1	5.718	5.717	0.001	297987	25.0	22.9	
1	6.231	6.227	0.004	201719	25.0	23.1	
		Average of Peak Amounts =				24.8	
2	4.288	4.287	0.001	2015562	25.0	21.2	
2	4.681	4.681	0.000	1125196	25.0	19.7	
2	4.984	4.984	0.000	1613123	25.0	20.6	
2	5.128	5.127	0.001	1584673	25.0	20.6	
2	6.331	6.331	0.000	947477	25.0	20.1	
		Average of Peak Amounts =				20.4	
						RPD = 19.23	
S 8 Polychlorinated biphenyls, Total							
1						24.8	
2						20.4	
						RPD = 19.23	

Reagents:

AR_1248_L1_00022 Amount Added: 1.00 Units: mL
BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

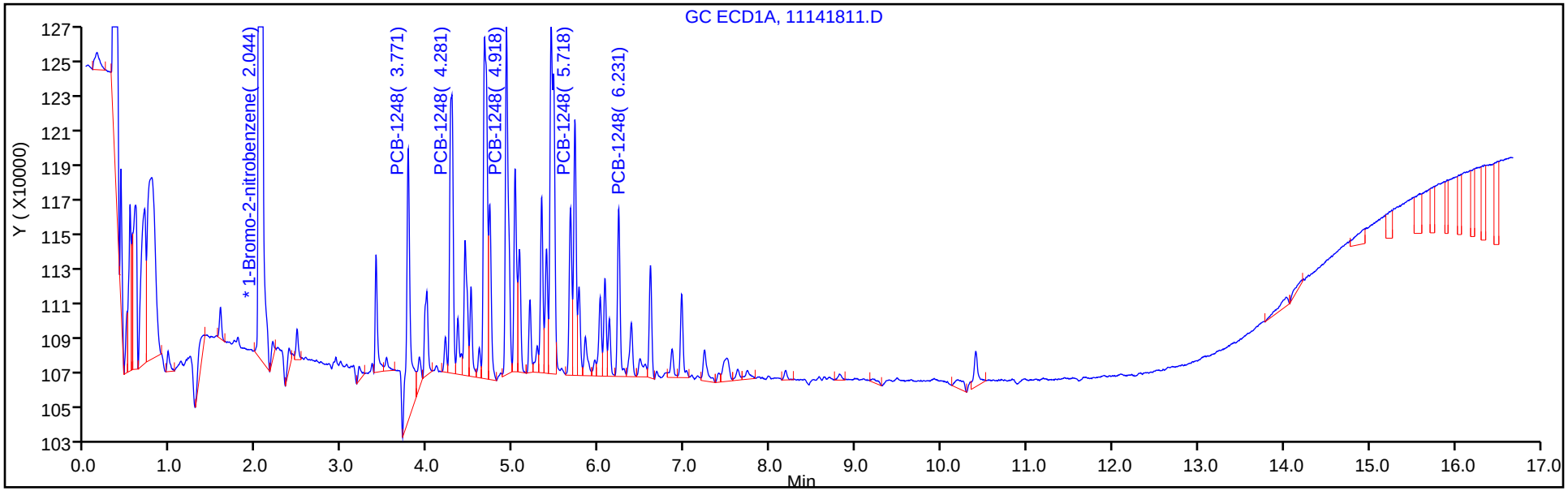
Report Date: 15-Nov-2018 16:08:17 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

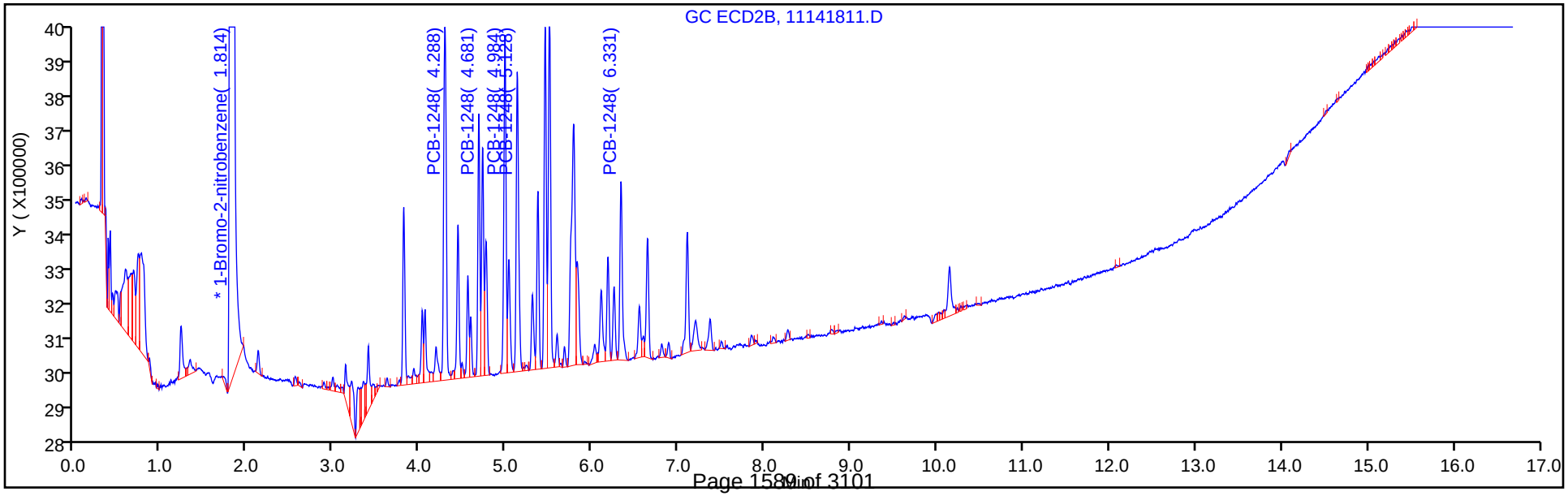
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141811.D

Injection Date:	14-Nov-2018 15:14:41	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL11248			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 13:07 Calibration End Date: 11/14/2018 15:14 Calibration ID: 34311

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11248 280-437583/11	11141811.D
Level 2	STDL21248 280-437583/10	11141810.D
Level 3	STDL31248 280-437583/9	11141809.D
Level 4	STDL41248 280-437583/8	11141808.D
Level 5	STDL51248 280-437583/7	11141807.D
Level 6	STDL61248 280-437583/6	11141806.D
Level 7	STDL71248 280-437583/5	11141805.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1248 Peak 1	0.5959 0.3861	0.5341 0.3871	0.4835	0.4302	0.4164	Lin1	6.6795	0.3871							0.9980		0.9900
PCB-1248 Peak 2	0.3326 0.2165	0.3109 0.2112	0.2747	0.2408	0.2286	Lin1	4.1122	0.2133							0.9980		0.9900
PCB-1248 Peak 3	0.4769 0.2875	0.4177 0.2839	0.3706	0.3229	0.3110	Lin1	6.0367	0.2854							0.9980		0.9900
PCB-1248 Peak 4	0.4685 0.3155	0.4366 0.3150	0.3943	0.3527	0.3378	Lin1	5.2178	0.3159							0.9980		0.9900
PCB-1248 Peak 5	0.2801 0.2059	0.2783 0.2042	0.2523	0.2264	0.2187	Lin1	2.8723	0.2059							0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 13:07 Calibration End Date: 11/14/2018 15:14 Calibration ID: 34311

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11248 280-437583/11	11141811.D
Level 2	STDL21248 280-437583/10	11141810.D
Level 3	STDL31248 280-437583/9	11141809.D
Level 4	STDL41248 280-437583/8	11141808.D
Level 5	STDL51248 280-437583/7	11141807.D
Level 6	STDL61248 280-437583/6	11141806.D
Level 7	STDL71248 280-437583/5	11141805.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1248 Peak 1	BNB	Lin1	2015562 39423239	3426174 50295073	6417099	14974092	28679544	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 2	BNB	Lin1	1125196 22112246	1993978 27433294	3646039	8383027	15747458	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 3	BNB	Lin1	1613123 29362949	2679150 36884176	4919024	11241360	21417814	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 4	BNB	Lin1	1584673 32217017	2800431 40924869	5233134	12275568	23266390	25.0 750	50.0 1000	100	250	500
PCB-1248 Peak 5	BNB	Lin1	947477 21030487	1785257 26529685	3348924	7879878	15064927	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141805.D
Lims ID: STDL71248
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 14-Nov-2018 13:07:31 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL71248
Misc. Info.: 280-0076197-005
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:01 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 14-Nov-2018 14:24:32

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.044	0.002	19126335	1000.0	1000.0	
2	1.817	1.814	0.003	129918484	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							M
1	3.770	3.767	0.003	6634340	1000.0	1000.8	
1	4.283	4.277	0.006	13252267	1000.0	1010.4	
1	4.920	4.917	0.003	13929607	1000.0	1000.3	M
1	5.720	5.717	0.003	8998759	1000.0	1005.9	M
1	6.230	6.227	0.003	5916325	1000.0	987.1	
		Average of Peak Amounts =				1000.9	
2	4.290	4.287	0.003	50295073	1000.0	982.7	
2	4.683	4.681	0.002	27433294	1000.0	970.6	
2	4.987	4.984	0.003	36884176	1000.0	973.7	
2	5.127	5.127	0.000	40924869	1000.0	980.5	
2	6.330	6.331	-0.001	26529685	1000.0	978.0	
		Average of Peak Amounts =				977.1	
						RPD = 2.41	
S 8 Polychlorinated biphenyls, Total							
1						1000.9	
2						977.1	
						RPD = 2.41	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1248_L7_00017	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

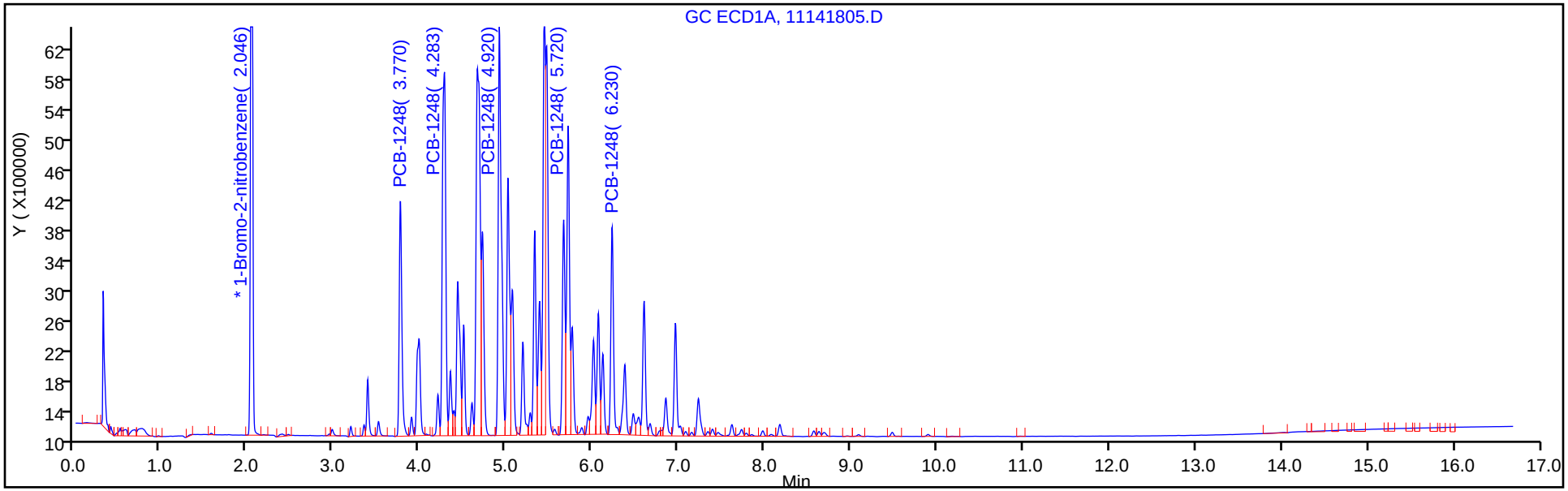
Report Date: 15-Nov-2018 16:08:02 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

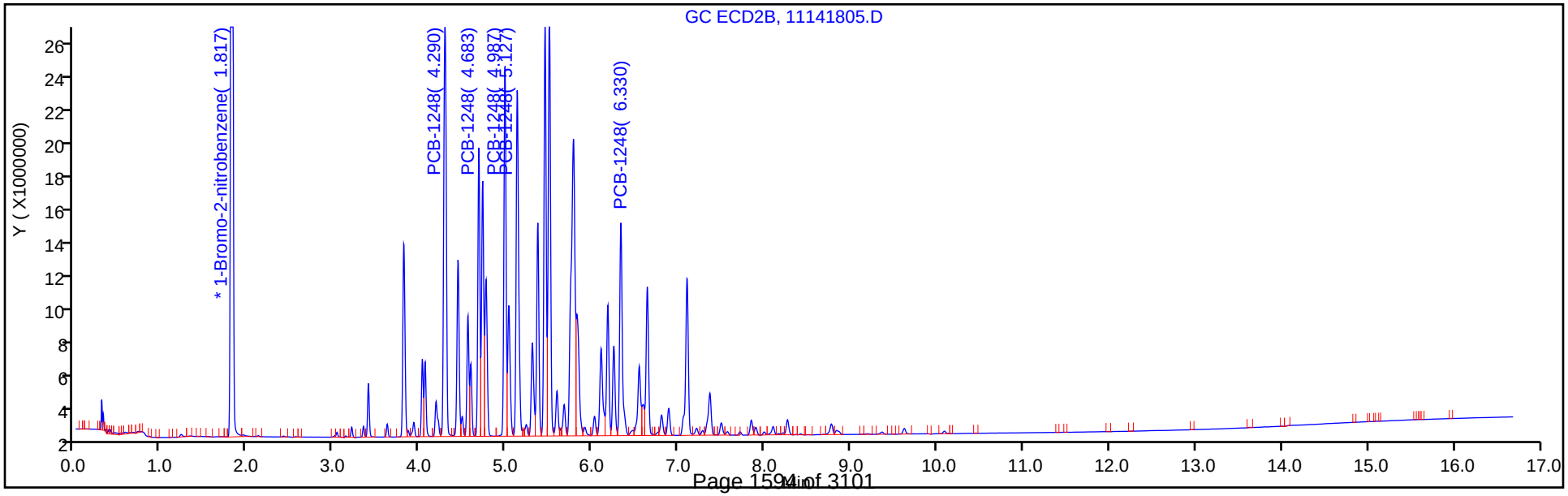
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141805.D

Injection Date:	14-Nov-2018 13:07:31	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL71248			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141806.D
Lims ID: STDL61248
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 14-Nov-2018 13:28:43 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL61248
Misc. Info.: 280-0076197-006
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:04 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 15:44:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.043	2.044	-0.001	20343128	1000.0	1000.0	
2	1.813	1.814	-0.001	136157005	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.769	3.767	0.002	5196279	750.0	727.3	
1	4.279	4.277	0.002	10126096	750.0	724.1	
1	4.916	4.917	-0.001	10777532	750.0	725.2	
1	5.716	5.717	-0.001	6848742	750.0	717.5	
1	6.226	6.227	-0.001	4712705	750.0	737.2	
		Average of Peak Amounts =				726.2	
2	4.286	4.287	-0.001	39423239	750.0	730.6	
2	4.680	4.681	-0.001	22112246	750.0	742.0	
2	4.983	4.984	-0.001	29362949	750.0	734.5	
2	5.126	5.127	-0.001	32217017	750.0	732.4	
2	6.330	6.331	-0.001	21030487	750.0	736.4	
		Average of Peak Amounts =				735.2	
						RPD = 1.23	
S 8 Polychlorinated biphenyls, Total							
1						726.2	
2						735.2	
						RPD = 1.23	

Reagents:

AR_1248_L6_00019	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

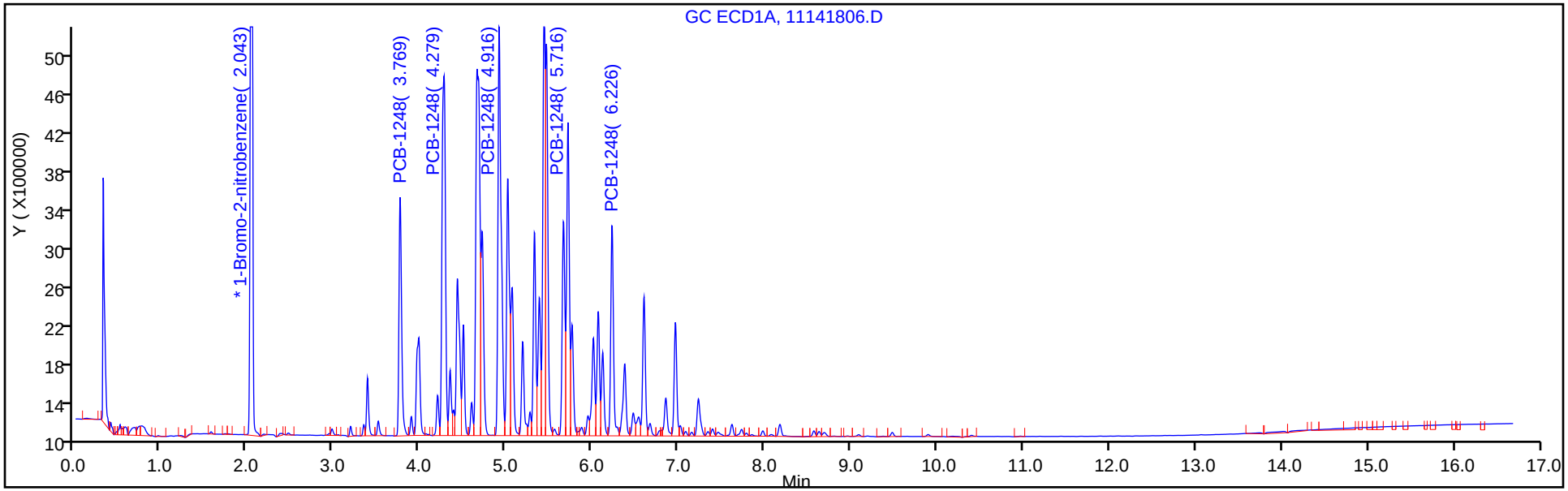
Report Date: 15-Nov-2018 16:08:05 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

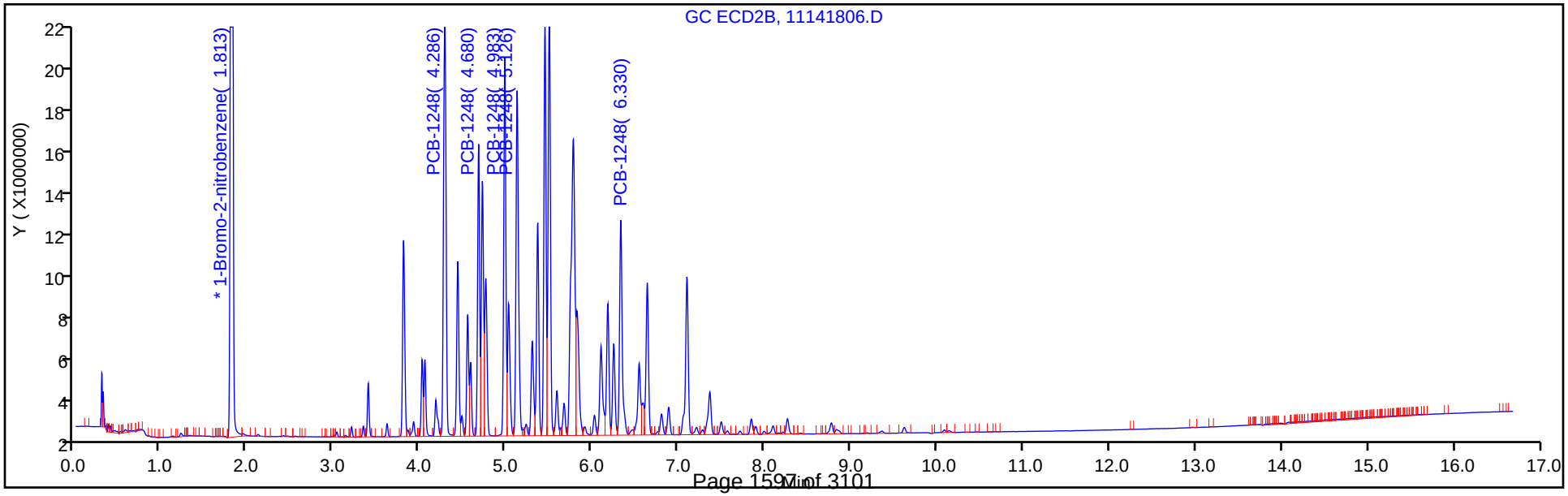
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141806.D

Injection Date:	14-Nov-2018 13:28:43	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL61248			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141807.D
Lims ID: STDL51248
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 14-Nov-2018 13:49:52 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL51248
Misc. Info.: 280-0076197-007
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:07 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 14-Nov-2018 14:21:09

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.044	2.044	0.000	20689337	1000.0	1000.0	
2	1.814	1.814	0.000	137750248	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.767	3.767	0.000	3862703	500.0	521.6	
1	4.277	4.277	0.000	7329917	500.0	513.5	
1	4.917	4.917	0.000	7847660	500.0	516.6	
1	5.717	5.717	0.000	5050862	500.0	518.0	
1	6.227	6.227	0.000	3395871	500.0	520.0	
		Average of Peak Amounts =				518.0	
2	4.287	4.287	0.000	28679544	500.0	520.5	
2	4.681	4.681	0.000	15747458	500.0	516.6	
2	4.984	4.984	0.000	21417814	500.0	523.7	
2	5.127	5.127	0.000	23266390	500.0	518.1	
2	6.331	6.331	0.000	15064927	500.0	517.3	
		Average of Peak Amounts =				519.3	
						RPD = 0.25	

Reagents:

AR_1248_L5_00021 Amount Added: 1.00 Units: mL
BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

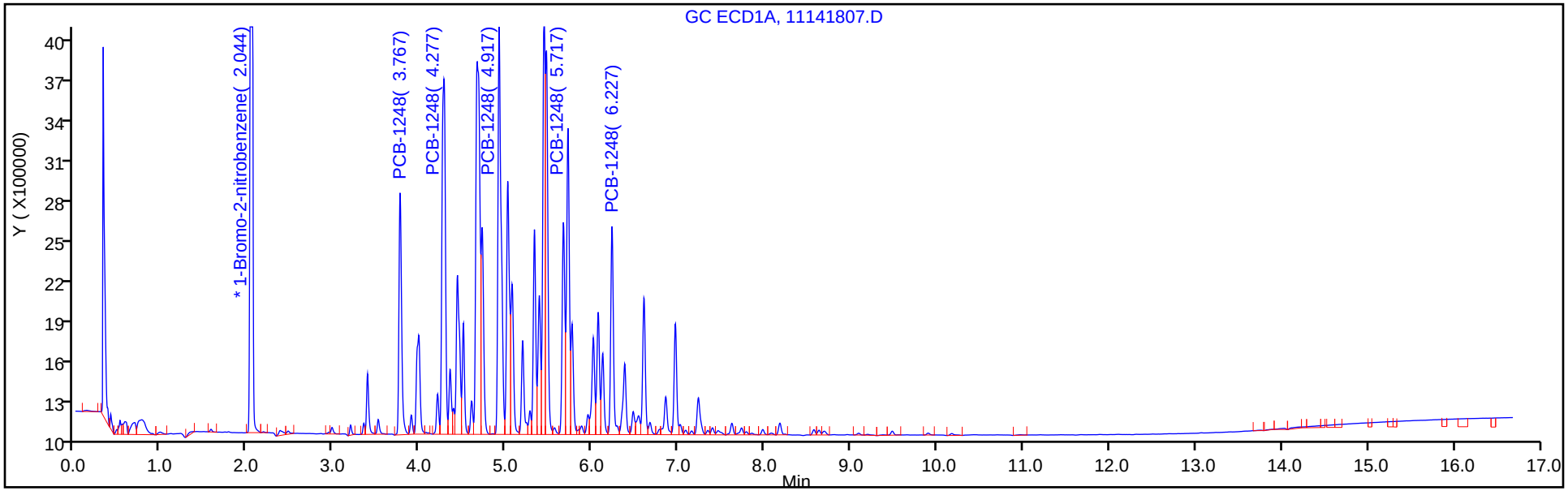
Report Date: 15-Nov-2018 16:08:08 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

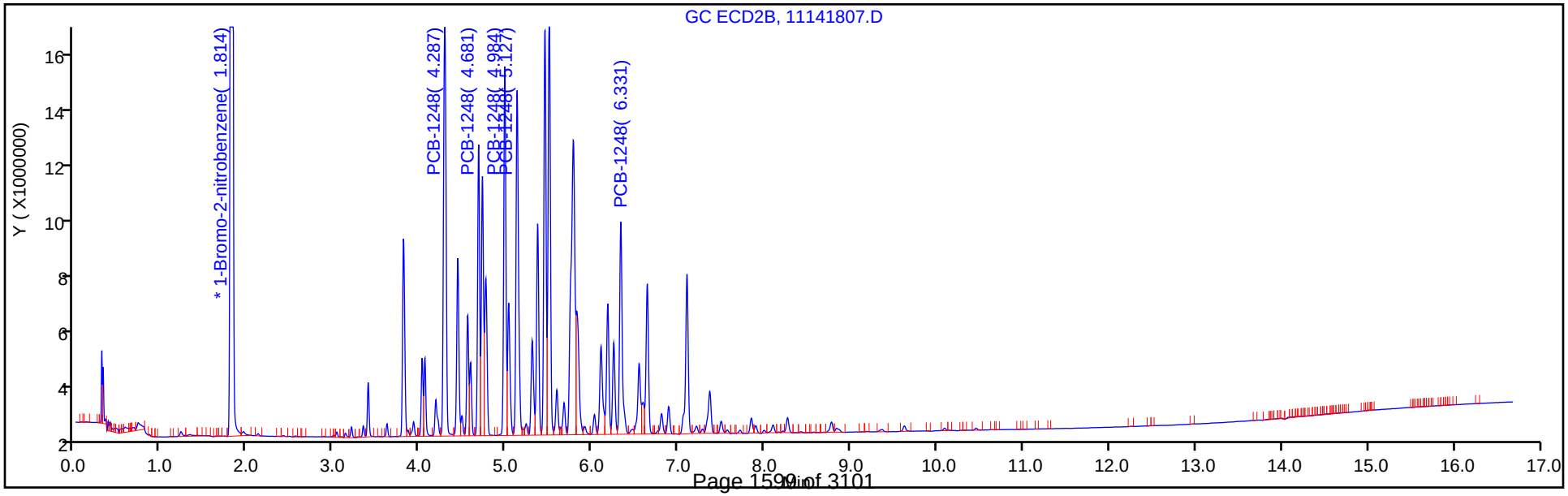
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141807.D

Injection Date:	14-Nov-2018 13:49:52	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL51248			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141808.D
Lims ID: STDL41248
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 14-Nov-2018 14:11:02 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL41248
Misc. Info.: 280-0076197-008
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:09 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 14-Nov-2018 14:48:12

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.045	2.044	0.001	20978742	1000.0	1000.0	
2	1.815	1.814	0.001	139237186	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.771	3.767	0.004	2077555	250.0	259.4	
1	4.281	4.277	0.004	3661460	250.0	249.8	
1	4.921	4.917	0.004	3982544	250.0	254.0	
1	5.718	5.717	0.001	2542040	250.0	253.1	
1	6.231	6.227	0.004	1696519	250.0	252.0	
		Average of Peak Amounts =				253.7	
2	4.288	4.287	0.001	14974092	250.0	260.5	
2	4.681	4.681	0.000	8383027	250.0	263.0	
2	4.985	4.984	0.001	11241360	250.0	261.8	
2	5.128	5.127	0.001	12275568	250.0	262.5	
2	6.331	6.331	0.000	7879878	250.0	261.0	
		Average of Peak Amounts =				261.8	
						RPD = 3.14	
S 8 Polychlorinated biphenyls, Total							
1						253.7	
2						261.8	
						RPD = 3.14	

Reagents:

AR_1248_L4_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

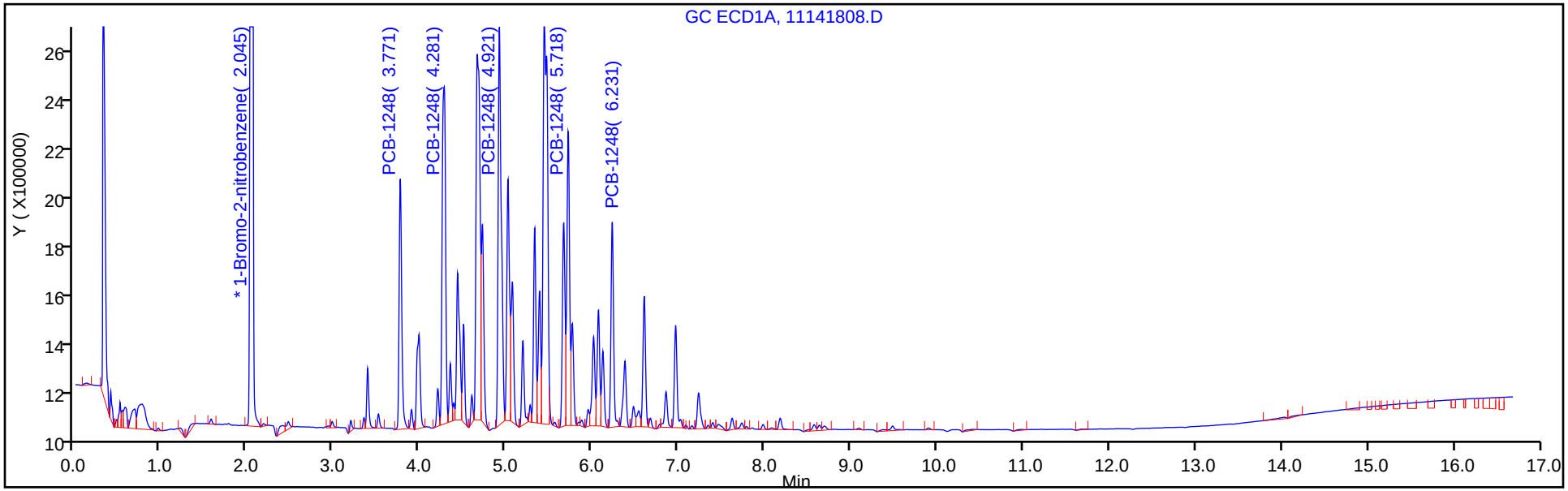
Report Date: 15-Nov-2018 16:08:10 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

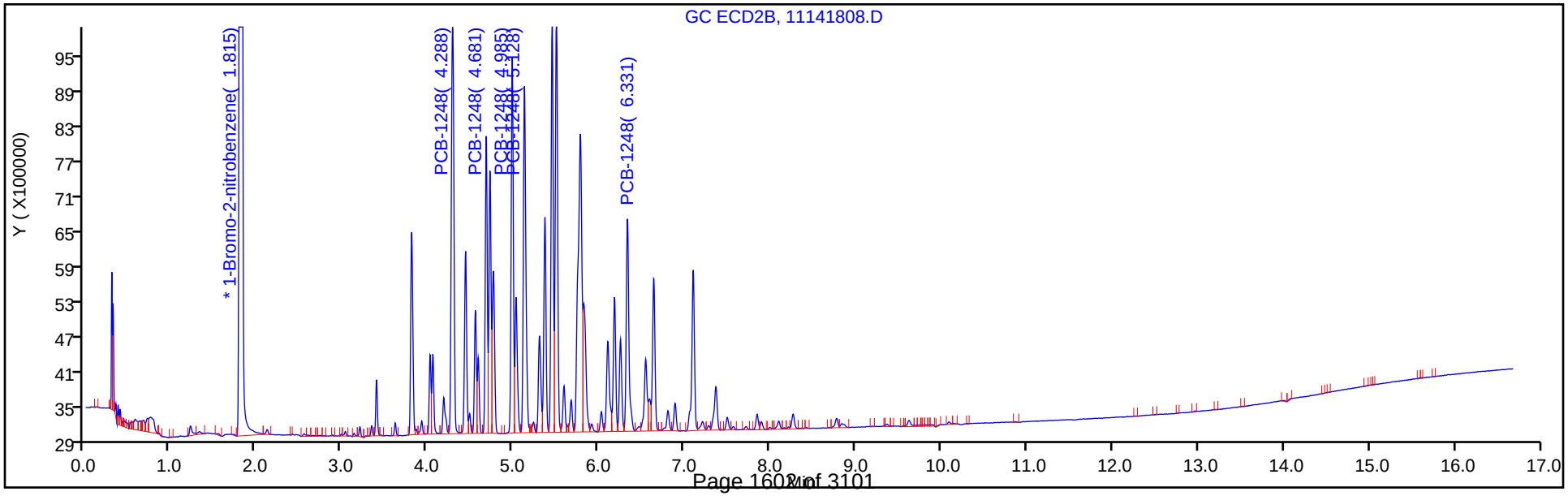
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141808.D

Injection Date:	14-Nov-2018 14:11:02	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL41248			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141809.D
Lims ID: STDL31248
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 14-Nov-2018 14:32:14 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL31248
Misc. Info.: 280-0076197-009
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:12 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 14-Nov-2018 14:55:20

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.043	2.044	-0.001	20159129	1000.0	1000.0	
2	1.814	1.814	0.000	132732993	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.770	3.767	0.003	903044	100.0	97.1	
1	4.280	4.277	0.003	1511967	100.0	103.7	
1	4.920	4.917	0.003	1674443	100.0	106.0	
1	5.720	5.717	0.003	1085673	100.0	108.0	
1	6.230	6.227	0.003	710541	100.0	105.3	
		Average of Peak Amounts =				104.0	
2	4.290	4.287	0.003	6417099	100.0	107.6	
2	4.680	4.681	-0.001	3646039	100.0	109.5	
2	4.987	4.984	0.003	4919024	100.0	108.7	
2	5.130	5.127	0.003	5233134	100.0	108.3	
2	6.334	6.331	0.003	3348924	100.0	108.6	
		Average of Peak Amounts =				108.5	
						RPD = 4.25	
S 8 Polychlorinated biphenyls, Total							
1						104.0	
2						108.5	
						RPD = 4.25	

Reagents:

AR_1248_L3_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

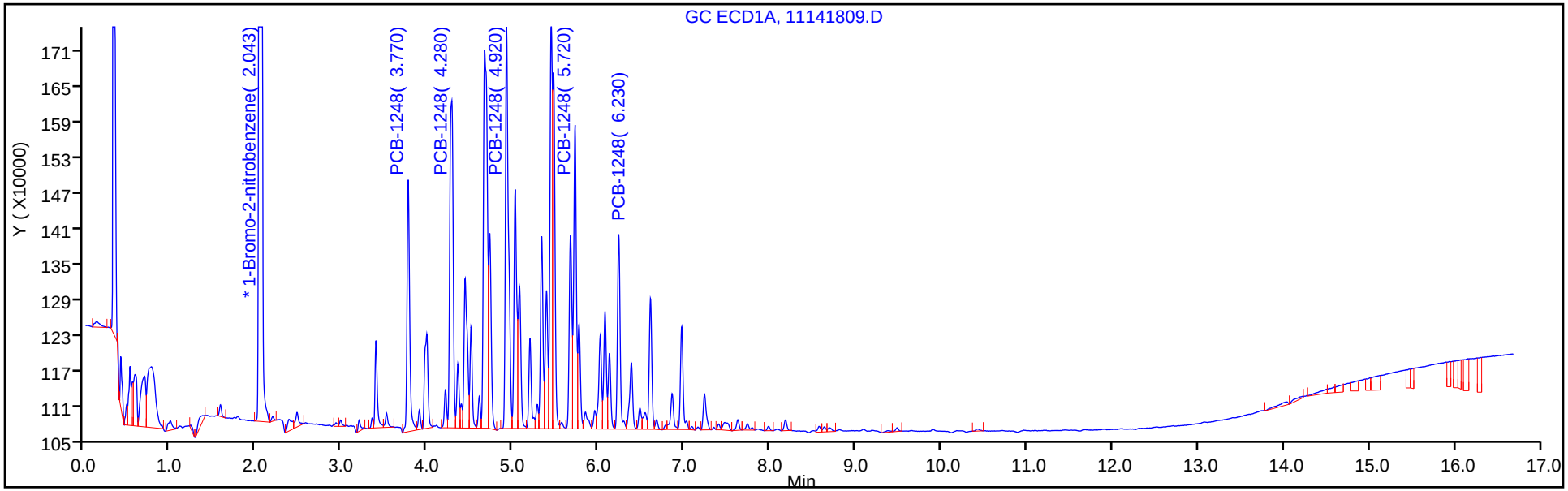
Report Date: 15-Nov-2018 16:08:13 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

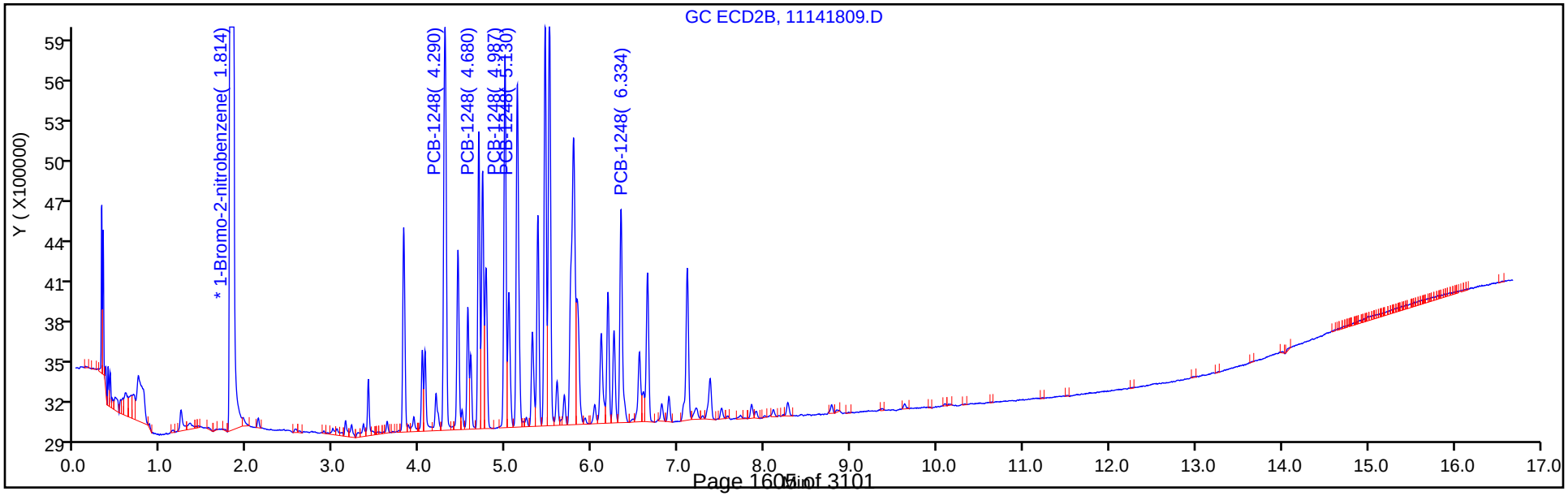
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141809.D

Injection Date:	14-Nov-2018 14:32:14	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL31248			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141810.D
Lims ID: STDL21248
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 14-Nov-2018 14:53:28 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL21248
Misc. Info.: 280-0076197-010
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:14 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.043	2.044	-0.001	19528346	1000.0	1000.0	
2	1.817	1.814	0.003	128288661	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.770	3.767	0.003	493168	50.0	38.7	
1	4.280	4.277	0.003	734985	50.0	48.9	
1	4.920	4.917	0.003	828015	50.0	49.6	
1	5.720	5.717	0.003	523461	50.0	49.7	
1	6.230	6.227	0.003	354519	50.0	50.3	
		Average of Peak Amounts =				47.4	
2	4.290	4.287	0.003	3426174	50.0	51.7	
2	4.683	4.681	0.002	1993978	50.0	53.6	
2	4.987	4.984	0.003	2679150	50.0	52.0	
2	5.130	5.127	0.003	2800431	50.0	52.6	
2	6.333	6.331	0.002	1785257	50.0	53.6	
		Average of Peak Amounts =				52.7	
						RPD = 10.55	
S 8 Polychlorinated biphenyls, Total							
1						47.4	
2						52.7	
						RPD = 10.55	

Reagents:

AR_1248_L2_00021 Amount Added: 1.00 Units: mL
BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

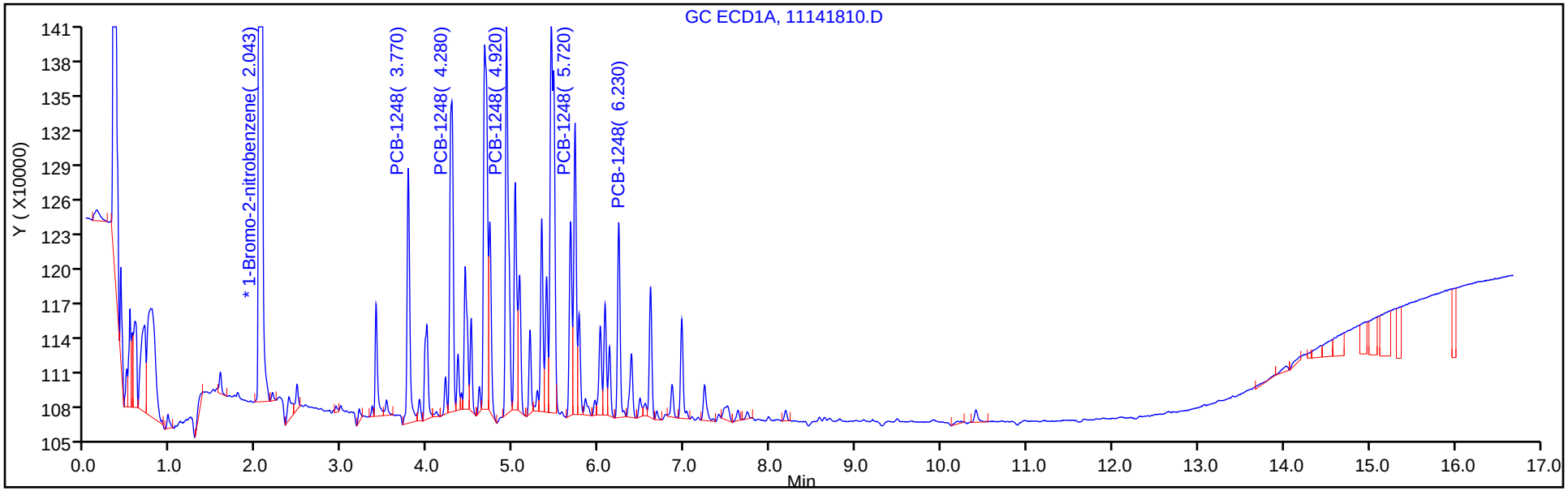
Report Date: 15-Nov-2018 16:08:15 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

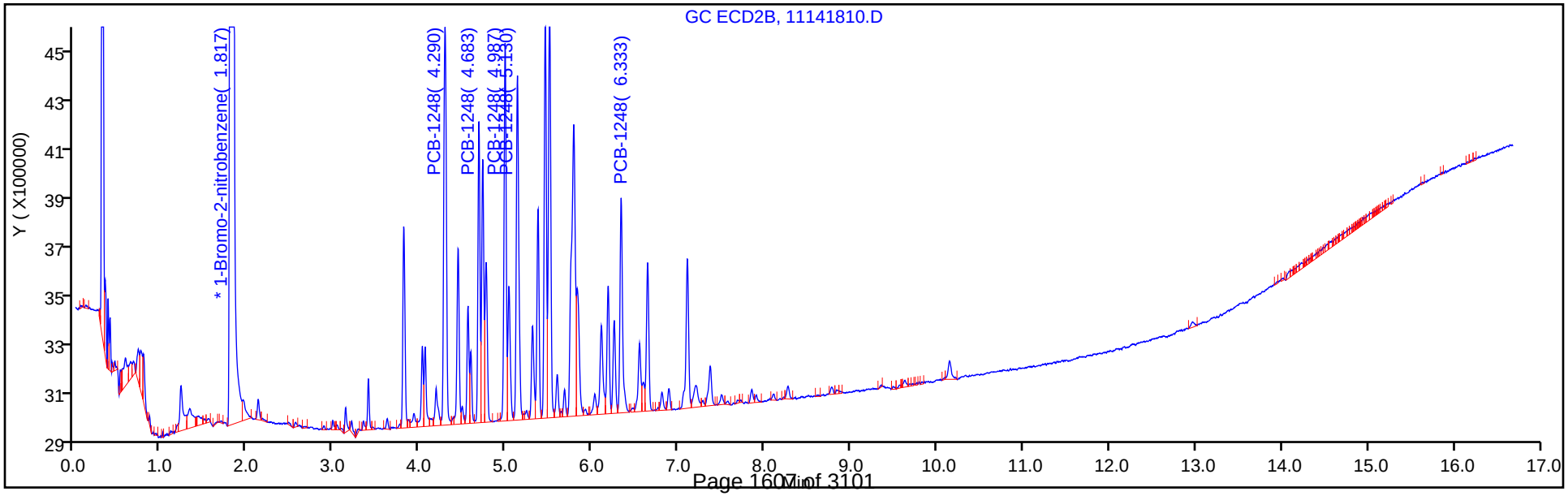
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141810.D

Injection Date:	14-Nov-2018 14:53:28	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL21248			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141811.D
Lims ID: STDL11248
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 14-Nov-2018 15:14:41 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL11248
Misc. Info.: 280-0076197-011
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub2

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:17 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.044	2.044	0.000	20760203	1000.0	1000.0	
2	1.814	1.814	0.000	135301832	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.771	3.767	0.004	464571	25.0	30.1	
1	4.281	4.277	0.004	437766	25.0	24.6	
1	4.918	4.917	0.001	485249	25.0	23.3	
1	5.718	5.717	0.001	297987	25.0	22.9	
1	6.231	6.227	0.004	201719	25.0	23.1	
		Average of Peak Amounts =				24.8	
2	4.288	4.287	0.001	2015562	25.0	21.2	
2	4.681	4.681	0.000	1125196	25.0	19.7	
2	4.984	4.984	0.000	1613123	25.0	20.6	
2	5.128	5.127	0.001	1584673	25.0	20.6	
2	6.331	6.331	0.000	947477	25.0	20.1	
		Average of Peak Amounts =				20.4	
						RPD = 19.23	
S 8 Polychlorinated biphenyls, Total							
1						24.8	
2						20.4	
						RPD = 19.23	

Reagents:

AR_1248_L1_00022 Amount Added: 1.00 Units: mL
BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

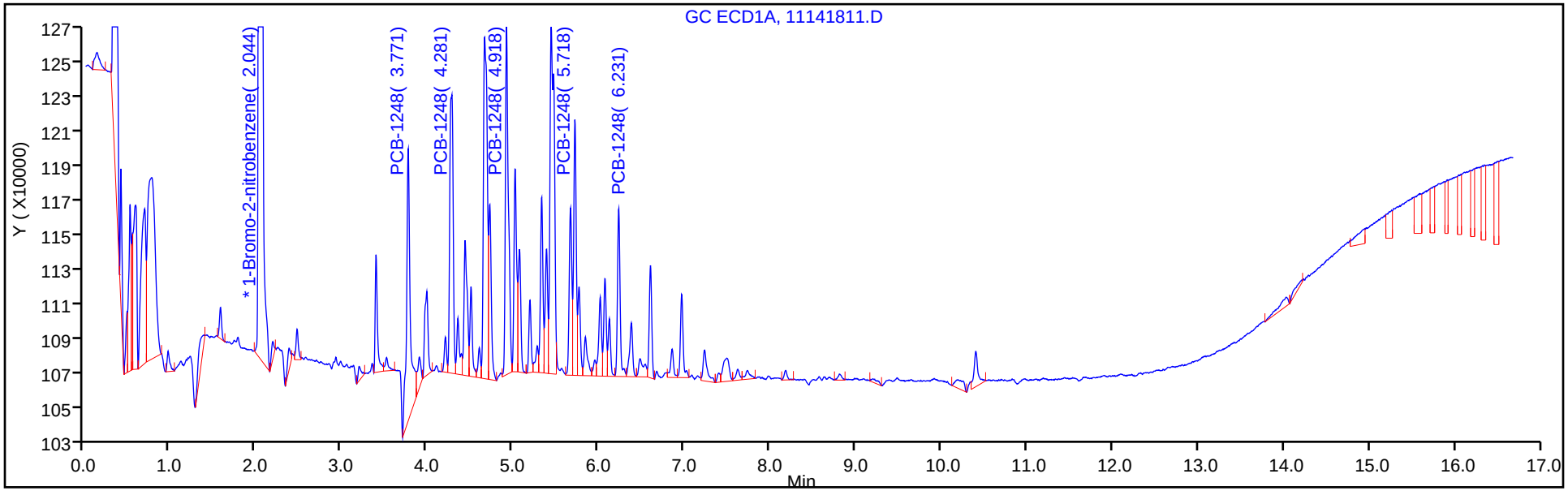
Report Date: 15-Nov-2018 16:08:17 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

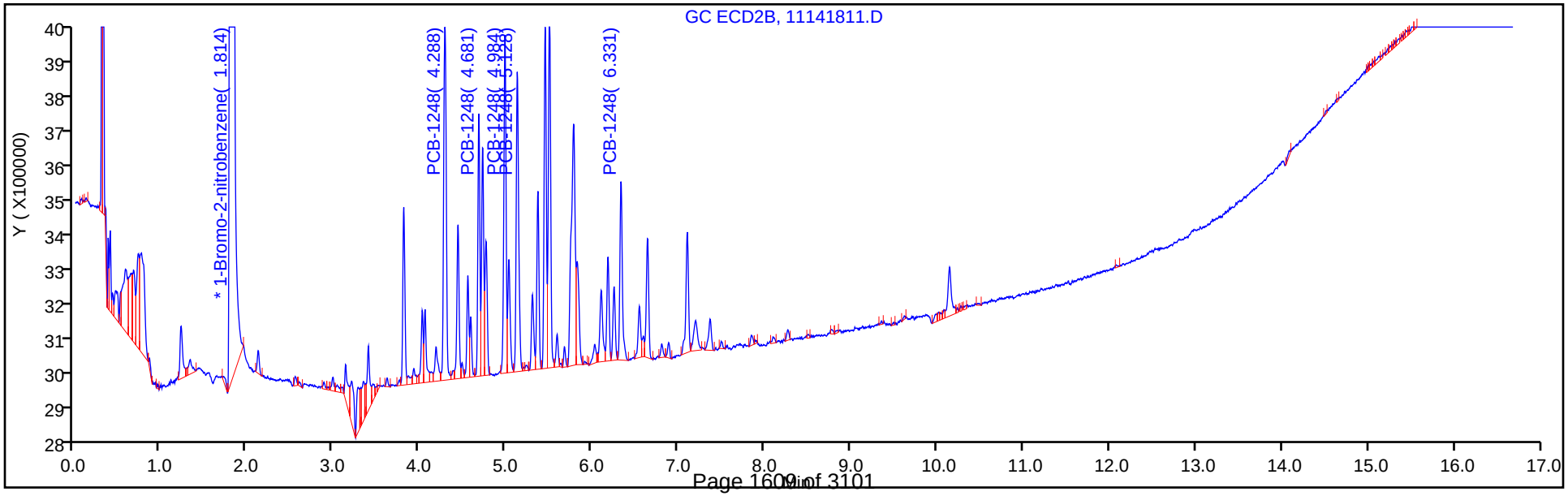
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141811.D

Injection Date:	14-Nov-2018 15:14:41	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL11248			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 15:35 Calibration End Date: 11/14/2018 17:42 Calibration ID: 34314

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL12154 280-437583/18	11141818.D
Level 2	STDL22154 280-437583/17	11141817.D
Level 3	STDL32154 280-437583/16	11141816.D
Level 4	STDL42154 280-437583/15	11141815.D
Level 5	STDL52154 280-437583/14	11141814.D
Level 6	STDL62154 280-437583/13	11141813.D
Level 7	STDL72154 280-437583/12	11141812.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1221 Peak 1	0.3020 0.2322	0.2767 0.2206	0.2769	0.2487	0.2375	Lin1	2.6617	0.2266							0.9980		0.9900
PCB-1221 Peak 2	0.1819 0.1496	0.1826 0.1403	0.1804	0.1627	0.1549	Lin1	1.6571	0.1461							0.9970		0.9900
PCB-1221 Peak 3	0.9185 0.5419	0.7978 0.5091	0.7319	0.6112	0.5777	Lin1	13.007	0.5242							0.9960		0.9900
PCB-1254 Peak 1	0.7409 0.6103	0.7510 0.5623	0.7397	0.6633	0.6176	Lin1	7.2245	0.5884							0.9960		0.9900
PCB-1254 Peak 2	0.8945 0.8199	0.9729 0.7491	0.9828	0.8800	0.8219	Lin1	7.6243	0.7891							0.9950		0.9900
PCB-1254 Peak 3	0.6191 0.5965	0.6591 0.5527	0.6515	0.6143	0.5916	Lin1	3.2443	0.5758							0.9980		0.9900
PCB-1254 Peak 4	0.8235 0.7357	0.8617 0.6968	0.8360	0.7904	0.7520	Lin1	5.7067	0.7213							0.9980		0.9900
PCB-1254 Peak 5	1.0390 0.9860	1.0845 0.9470	1.0653	1.0219	0.9941	Lin1	4.4441	0.9700							0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 15:35 Calibration End Date: 11/14/2018 17:42 Calibration ID: 34314

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL12154 280-437583/18	11141818.D
Level 2	STDL22154 280-437583/17	11141817.D
Level 3	STDL32154 280-437583/16	11141816.D
Level 4	STDL42154 280-437583/15	11141815.D
Level 5	STDL52154 280-437583/14	11141814.D
Level 6	STDL62154 280-437583/13	11141813.D
Level 7	STDL72154 280-437583/12	11141812.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1221 Peak 1	BNB	Lin1	162014 3315790	267442 4462125	536831	1182608	2232754	25.0 750	50.0 1000	100	250	500
PCB-1221 Peak 2	BNB	Lin1	97567 2136001	176482 2838652	349748	773789	1456838	25.0 750	50.0 1000	100	250	500
PCB-1221 Peak 3	BNB	Lin1	492746 7738205	771255 10298806	1418965	2906466	5432072	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 1	BNB	Lin1	397459 8714812	726026 11374935	1433986	3154429	5806832	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 2	BNB	Lin1	479882 11708397	940537 15154874	1905390	4185048	7728060	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 3	BNB	Lin1	332136 8517265	637132 11180454	1263098	2921476	5562805	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 4	BNB	Lin1	441790 10505567	833025 14095390	1620832	3758589	7071010	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 5	BNB	Lin1	557408 14079072	1048422 19158261	2065366	4859620	9347539	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141812.D
Lims ID: STDL72154
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 14-Nov-2018 15:35:51 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL72154
Misc. Info.: 280-0076197-012
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:18 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 15:46:23

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.047	2.044	0.003	20229827	1000.0	1000.0	
2	1.817	1.814	0.003	130532351	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.197	3.202	-0.005	4462125	1000.0	961.8	
1	3.351	3.356	-0.005	2838652	1000.0	949.2	
1	3.391	3.396	-0.005	10298806	1000.0	946.4	
		Average of Peak Amounts =				952.5	
2	3.204	3.209	-0.005	15114465	1000.0	953.7	
2	3.344	3.346	-0.002	9923221	1000.0	943.5	
2	3.401	3.406	-0.005	34691515	1000.0	947.7	
		Average of Peak Amounts =				948.3	
						RPD = 0.44	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.387	5.392	-0.005	11374935	1000.0	943.3	
1	5.724	5.729	-0.005	15154874	1000.0	939.6	
1	6.071	6.076	-0.005	11180454	1000.0	954.2	
1	6.857	6.862	-0.005	14095390	1000.0	958.1	
1	7.237	7.239	-0.002	19158261	1000.0	971.8	
		Average of Peak Amounts =				953.4	
2	5.751	5.752	-0.001	51979203	1000.0	949.0	
2	6.181	6.186	-0.005	40388495	1000.0	951.7	
2	6.641	6.646	-0.005	55364363	1000.0	965.4	
2	6.891	6.892	-0.001	32458676	1000.0	954.4	
2	7.367	7.372	-0.005	79873673	1000.0	960.2	
		Average of Peak Amounts =				956.2	
						RPD = 0.29	
S 8 Polychlorinated biphenyls, Total							
1						1905.9	
2						1904.5	
						RPD = 0.07	

Reagents:

AR_2154_L7_00020	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

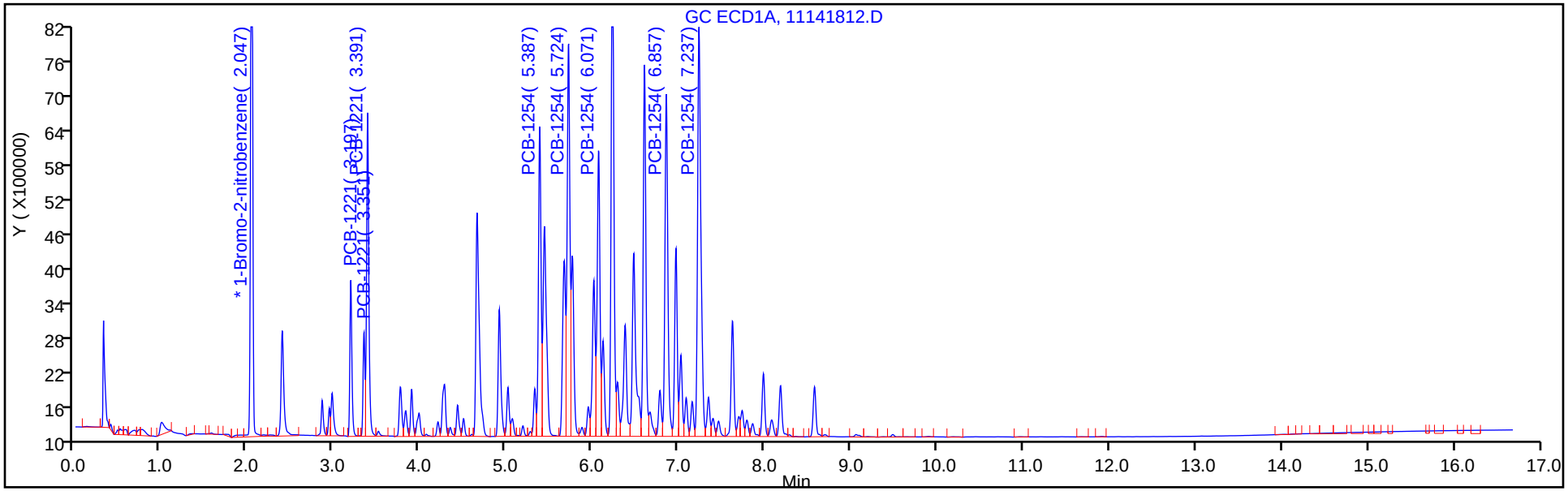
Report Date: 15-Nov-2018 16:08:19 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

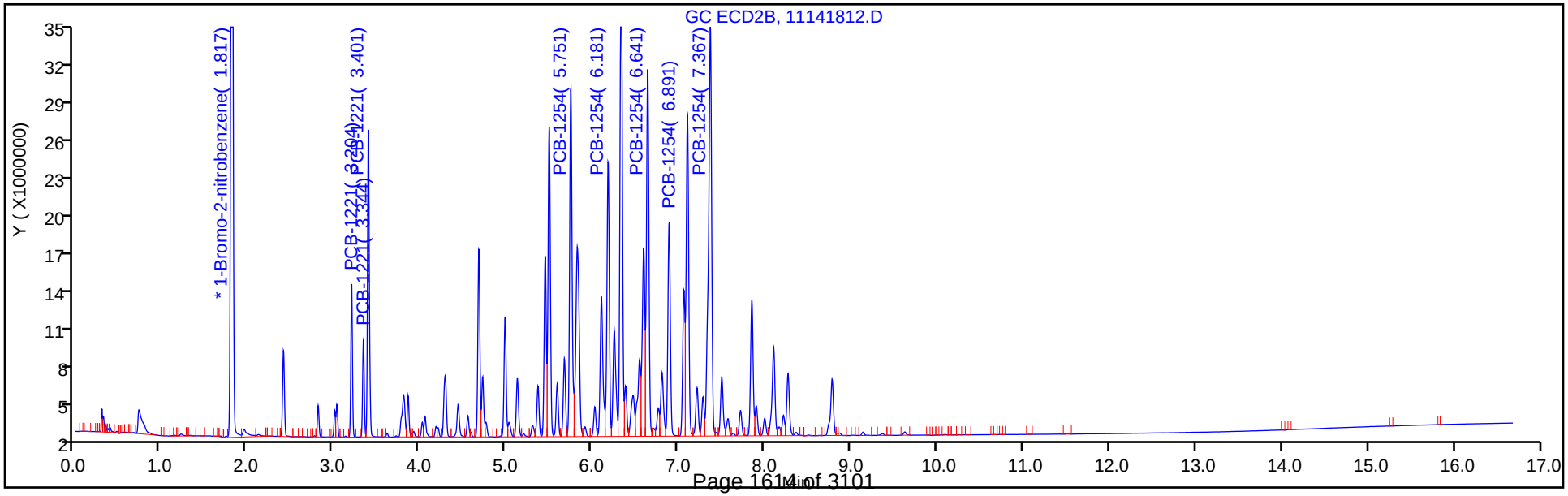
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141812.D

Injection Date:	14-Nov-2018 15:35:51	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL72154			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141813.D
Lims ID: STDL62154
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 14-Nov-2018 15:57:04 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL62154
Misc. Info.: 280-0076197-013
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:20 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 14-Nov-2018 16:48:59

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.051	2.044	0.007	19039514	1000.0	1000.0	
2	1.821	1.814	0.007	124531180	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.201	3.202	-0.001	3315790	750.0	756.9	
1	3.355	3.356	-0.001	2136001	750.0	756.6	
1	3.395	3.396	-0.001	7738205	750.0	750.6	
		Average of Peak Amounts =				754.7	
2	3.208	3.209	-0.001	11374613	750.0	747.4	
2	3.348	3.346	0.002	7522445	750.0	745.6	
2	3.405	3.406	-0.001	26244758	750.0	747.4	
		Average of Peak Amounts =				746.8	
						RPD = 1.06	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.394	5.392	0.002	8714812	750.0	765.6	
1	5.728	5.729	-0.001	11708397	750.0	769.6	
1	6.078	6.076	0.002	8517265	750.0	771.3	
1	6.861	6.862	-0.001	10505567	750.0	757.1	
1	7.241	7.239	0.002	14079072	750.0	757.8	
		Average of Peak Amounts =				764.3	
2	5.755	5.752	0.003	39483839	750.0	752.7	
2	6.188	6.186	0.002	30858755	750.0	759.7	
2	6.645	6.646	-0.001	40957779	750.0	745.8	
2	6.895	6.892	0.003	24555665	750.0	754.5	
2	7.371	7.372	-0.001	60170611	750.0	755.7	
		Average of Peak Amounts =				753.7	
						RPD = 1.39	
S 8 Polychlorinated biphenyls, Total							
1						1519.0	
2						1500.4	
						RPD = 1.23	

Reagents:

AR_2154_L6_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

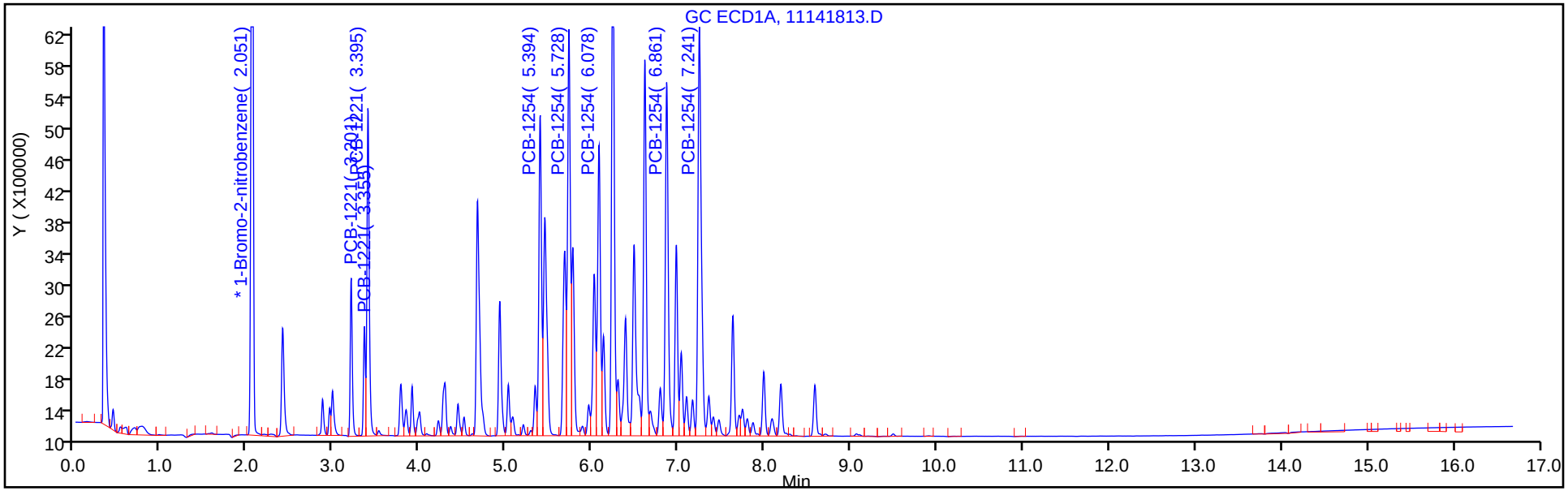
Report Date: 15-Nov-2018 16:08:21 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

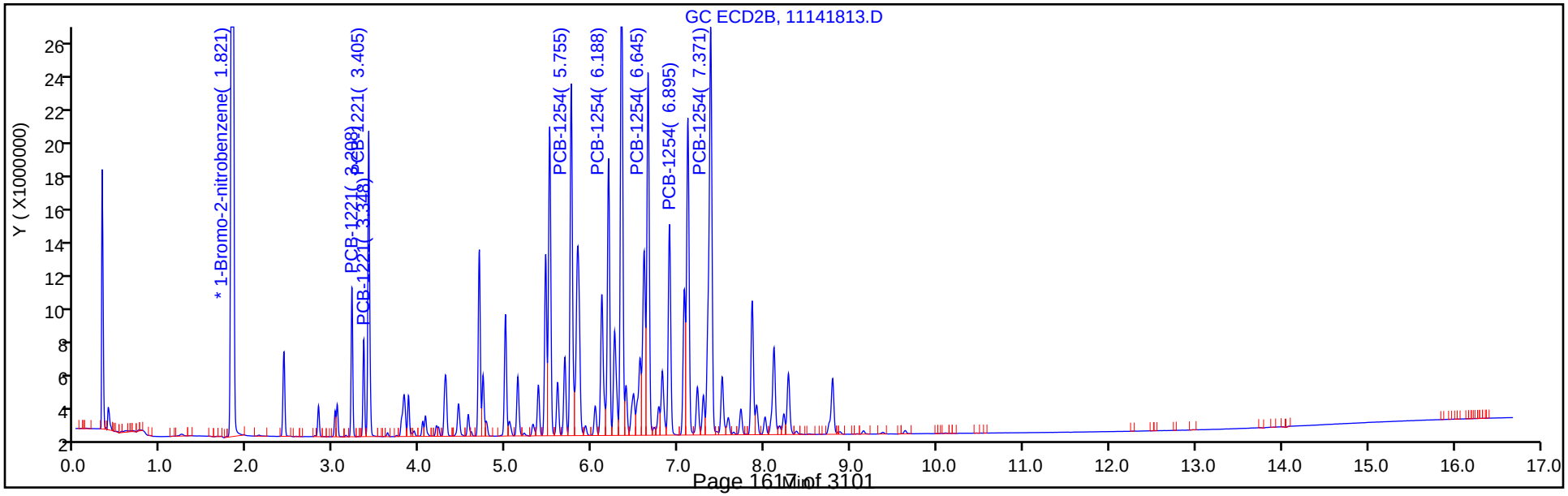
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141813.D

Injection Date:	14-Nov-2018 15:57:04	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL62154			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141814.D
Lims ID: STDL52154
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 14-Nov-2018 16:18:17 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL52154
Misc. Info.: 280-0076197-014
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:23 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 14-Nov-2018 16:48:31

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.052	2.052	0.000	18805471	1000.0	1000.0	
2	1.822	1.822	0.000	123287273	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.202	3.202	0.000	2232754	500.0	512.3	
1	3.356	3.356	0.000	1456838	500.0	519.0	
1	3.396	3.396	0.000	5432072	500.0	526.3	
		Average of Peak Amounts =				519.2	
2	3.209	3.209	0.000	7775895	500.0	508.8	
2	3.346	3.346	0.000	5159157	500.0	510.3	
2	3.406	3.406	0.000	18004114	500.0	511.7	
		Average of Peak Amounts =				510.3	
						RPD = 1.73	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.392	5.392	0.000	5806832	500.0	512.5	
1	5.729	5.729	0.000	7728060	500.0	511.1	
1	6.076	6.076	0.000	5562805	500.0	508.1	
1	6.862	6.862	0.000	7071010	500.0	513.4	
1	7.239	7.239	0.000	9347539	500.0	507.9	
		Average of Peak Amounts =				510.6	
2	5.752	5.752	0.000	27022555	500.0	515.8	
2	6.186	6.186	0.000	20793075	500.0	513.2	
2	6.646	6.646	0.000	28183610	500.0	514.4	
2	6.892	6.892	0.000	16640150	500.0	513.0	
2	7.372	7.372	0.000	40555499	500.0	510.6	
		Average of Peak Amounts =				513.4	
						RPD = 0.55	

Reagents:

AR_2154_L5_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

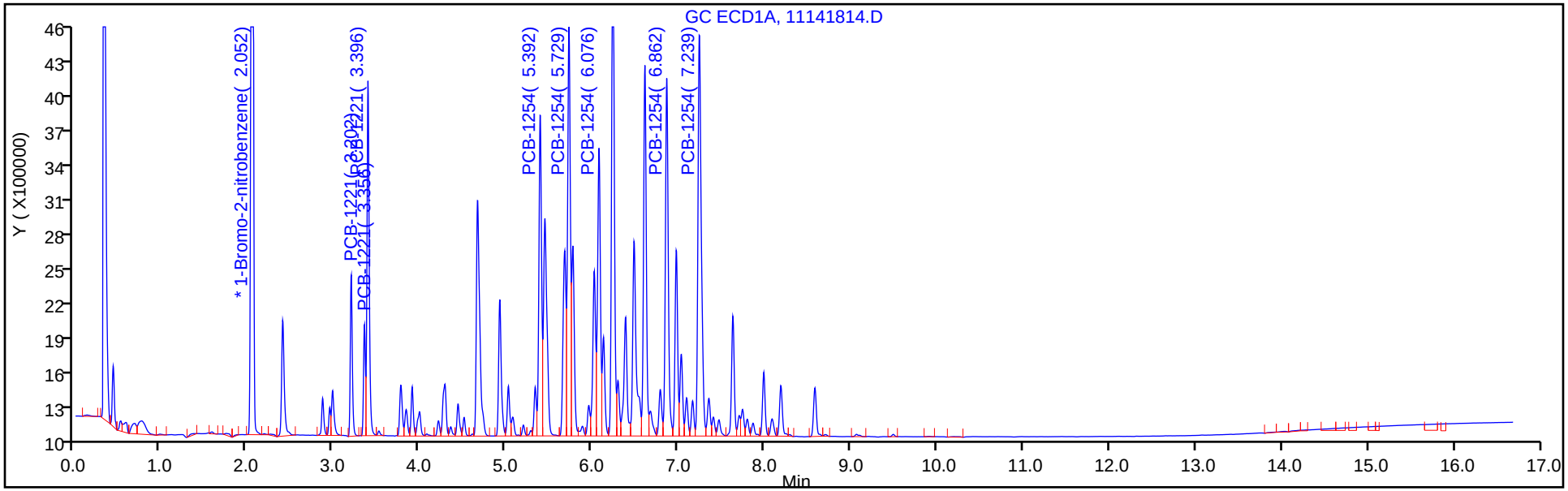
Report Date: 15-Nov-2018 16:08:23 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

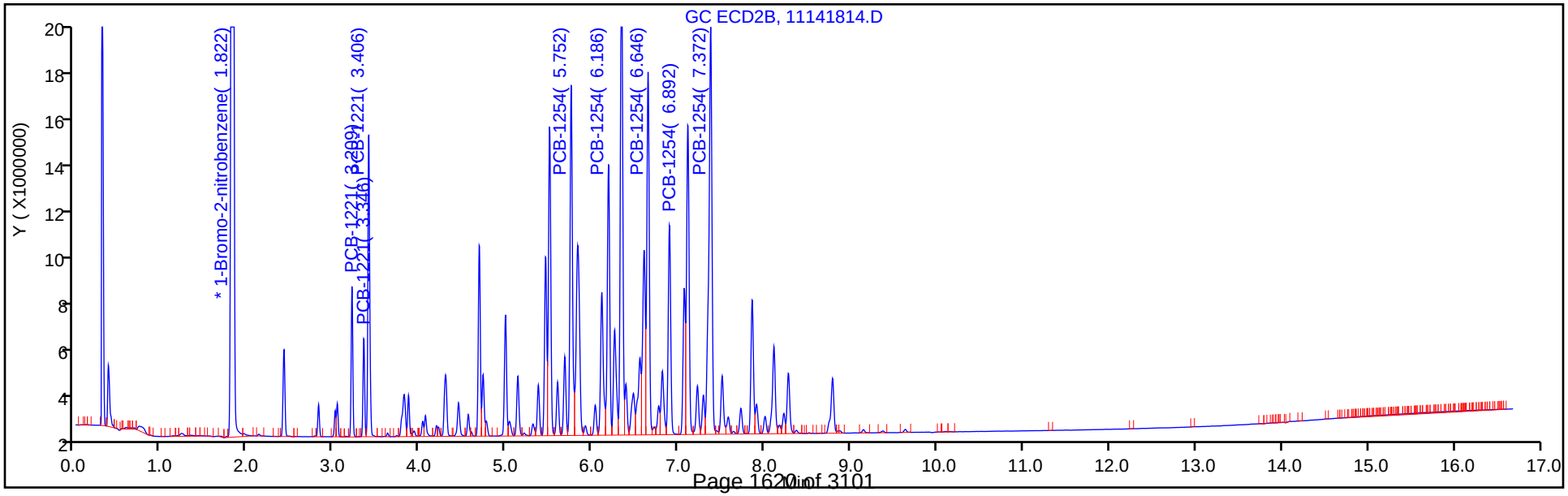
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141814.D

Injection Date:	14-Nov-2018 16:18:17	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL52154			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141815.D
Lims ID: STDL42154
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 14-Nov-2018 16:39:26 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL42154
Misc. Info.: 280-0076197-015
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:25 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 15:47:30

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.052	2.052	0.000	19022134	1000.0	1000.0	
2	1.822	1.822	0.000	124381472	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.198	3.202	-0.004	1182608	250.0	262.7	
1	3.355	3.356	-0.001	773789	250.0	267.1	
1	3.395	3.396	-0.001	2906466	250.0	266.7	
		Average of Peak Amounts =				265.5	
2	3.209	3.209	0.000	4387691	250.0	274.3	
2	3.345	3.346	-0.001	2976960	250.0	283.3	
2	3.402	3.406	-0.004	10151614	250.0	277.1	
		Average of Peak Amounts =				278.2	
						RPD = 4.68	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.392	5.392	0.000	3154429	250.0	269.5	
1	5.725	5.729	-0.004	4185048	250.0	269.1	
1	6.075	6.076	-0.001	2921476	250.0	261.1	
1	6.862	6.862	0.000	3758589	250.0	266.0	
1	7.238	7.239	-0.001	4859620	250.0	258.8	
		Average of Peak Amounts =				264.9	
2	5.752	5.752	0.000	14705717	250.0	271.5	
2	6.185	6.186	-0.001	11144786	250.0	266.9	
2	6.645	6.646	-0.001	15067235	250.0	266.6	
2	6.892	6.892	0.000	9012040	250.0	270.3	
2	7.372	7.372	0.000	21782034	250.0	266.2	
		Average of Peak Amounts =				268.3	
						RPD = 1.27	
S 8 Polychlorinated biphenyls, Total							
1						530.4	
2						546.5	
						RPD = 2.99	

Reagents:

AR_2154_L4_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

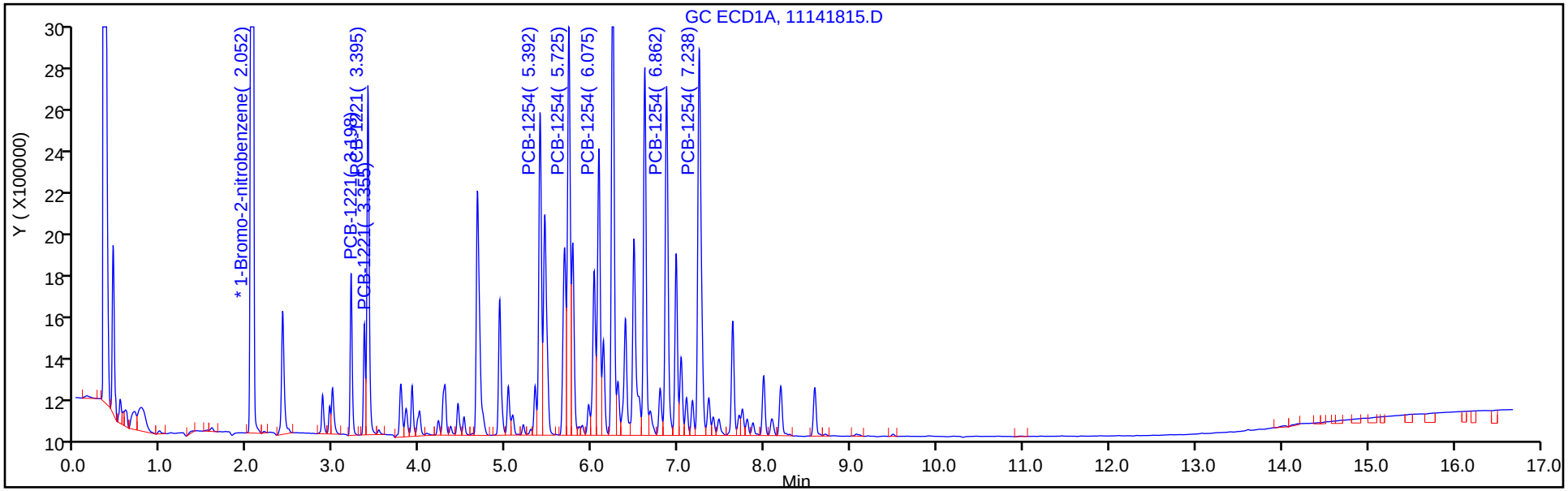
Report Date: 15-Nov-2018 16:08:26 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

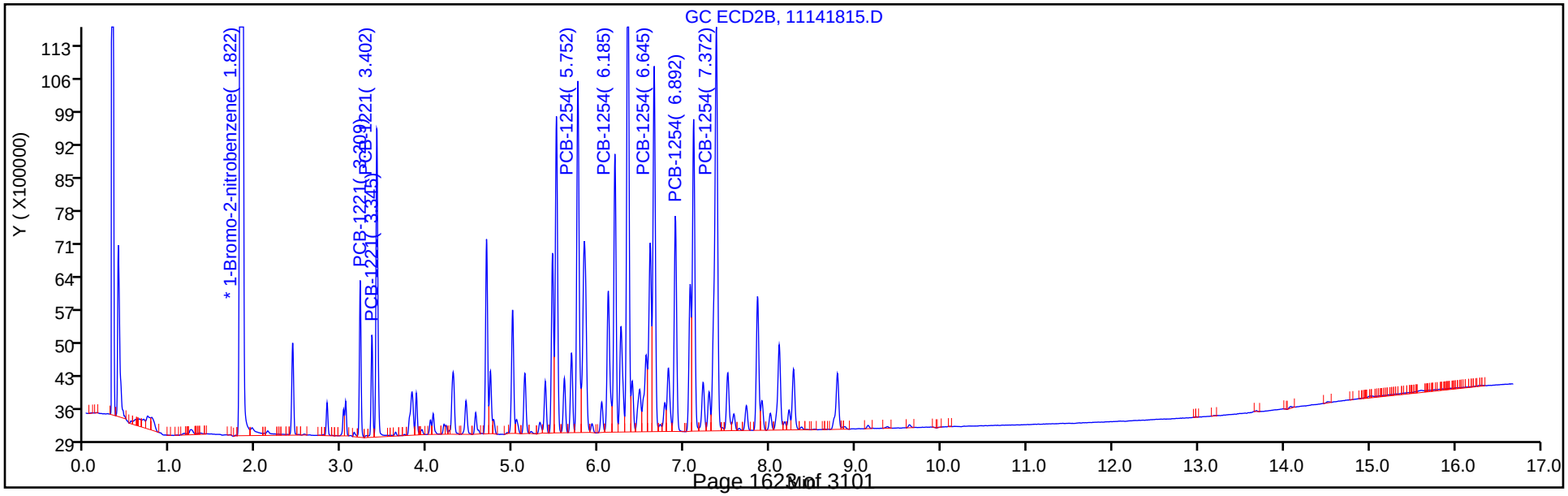
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141815.D

Injection Date:	14-Nov-2018 16:39:26	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL42154			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141816.D
Lims ID: STDL32154
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 14-Nov-2018 17:00:37 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL32154
Misc. Info.: 280-0076197-016
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:28 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 15:47:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.049	2.052	-0.003	19387216	1000.0	1000.0	
2	1.819	1.822	-0.003	125735777	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.199	3.202	-0.003	536831	100.0	110.5	
1	3.352	3.356	-0.004	349748	100.0	112.1	
1	3.396	3.396	0.000	1418965	100.0	114.8	
		Average of Peak Amounts =				112.5	
2	3.209	3.209	0.000	2147238	100.0	120.7	
2	3.346	3.346	0.000	1479051	100.0	129.0	
2	3.403	3.406	-0.003	4998023	100.0	124.6	
		Average of Peak Amounts =				124.8	
						RPD = 10.37	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.392	5.392	0.000	1433986	100.0	113.4	
1	5.726	5.729	-0.003	1905390	100.0	114.9	
1	6.076	6.076	0.000	1263098	100.0	107.5	
1	6.859	6.862	-0.003	1620832	100.0	108.0	
1	7.239	7.239	0.000	2065366	100.0	105.2	
		Average of Peak Amounts =				109.8	
2	5.753	5.752	0.001	6733865	100.0	115.0	
2	6.186	6.186	0.000	4971017	100.0	110.9	
2	6.646	6.646	0.000	6680560	100.0	109.7	
2	6.893	6.892	0.001	3937534	100.0	110.5	
2	7.373	7.372	0.001	9626811	100.0	109.6	
		Average of Peak Amounts =				111.2	
						RPD = 1.23	
S 8 Polychlorinated biphenyls, Total							
1						222.3	
2						235.9	
						RPD = 5.96	

Reagents:

AR_2154_L3_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

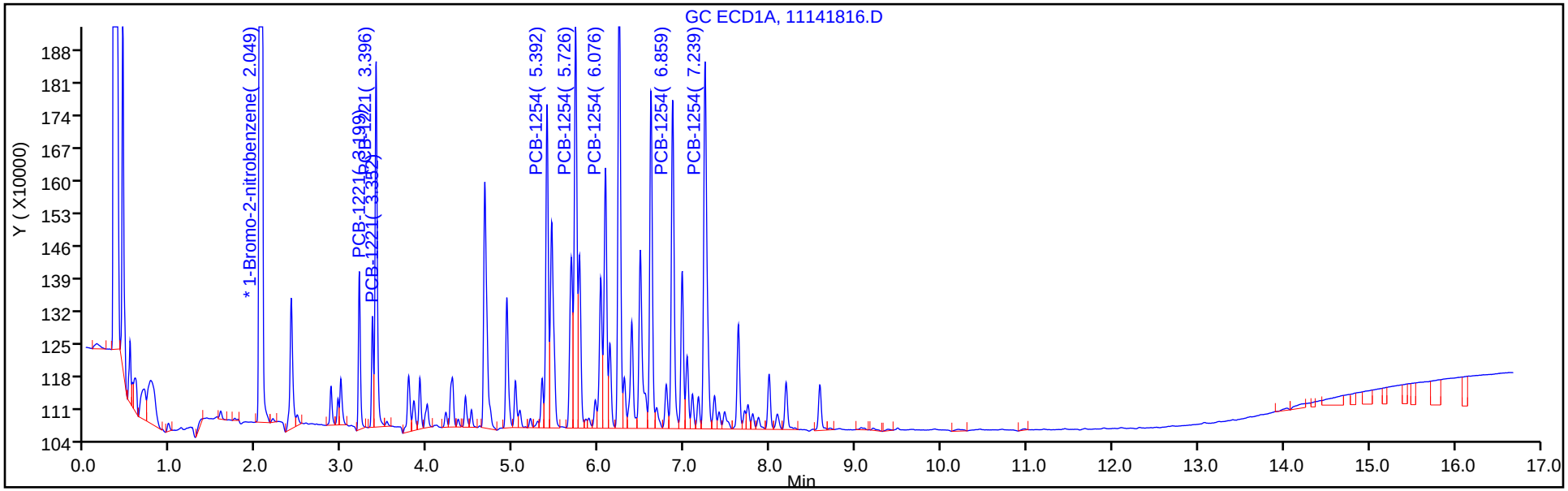
Report Date: 15-Nov-2018 16:08:28 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

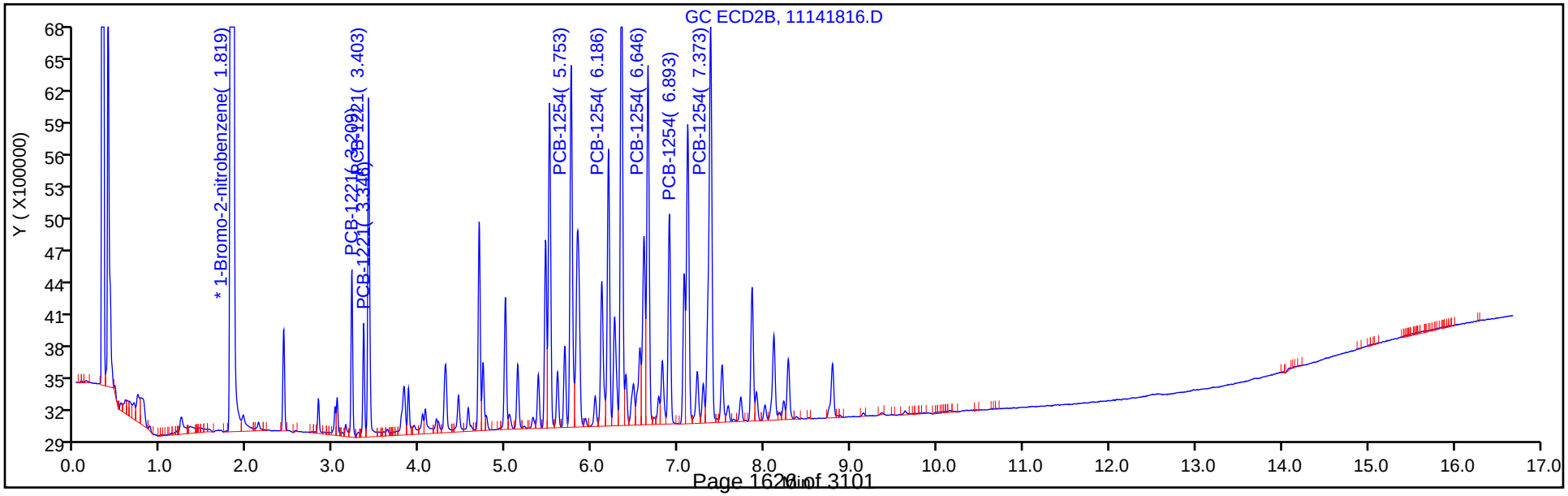
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141816.D

Injection Date:	14-Nov-2018 17:00:37	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL32154			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141817.D
Lims ID: STDL22154
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 14-Nov-2018 17:21:47 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL22154
Misc. Info.: 280-0076197-017
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:30 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 15:48:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.052	2.052	0.000	19334271	1000.0	1000.0	
2	1.822	1.822	0.000	125663457	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.202	3.202	0.000	267442	50.0	49.3	
1	3.355	3.356	-0.001	176482	50.0	51.1	
1	3.395	3.396	-0.001	771255	50.0	51.3	
		Average of Peak Amounts =				50.6	
2	3.209	3.209	0.000	1148666	50.0	53.7	
2	3.349	3.346	0.003	653258	50.0	45.8	
2	3.405	3.406	-0.001	2389420	50.0	49.1	
		Average of Peak Amounts =				49.5	
						RPD = 2.06	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.392	5.392	0.000	726026	50.0	51.5	
1	5.728	5.729	-0.001	940537	50.0	52.0	
1	6.075	6.076	-0.001	637132	50.0	51.6	
1	6.862	6.862	0.000	833025	50.0	51.8	
1	7.238	7.239	-0.001	1048422	50.0	51.3	
		Average of Peak Amounts =				51.7	
2	5.755	5.752	0.003	3508013	50.0	53.0	
2	6.189	6.186	0.003	2654022	50.0	53.6	
2	6.645	6.646	-0.001	3624293	50.0	53.7	
2	6.895	6.892	0.003	2076813	50.0	53.1	
2	7.372	7.372	0.000	5128787	50.0	52.8	
		Average of Peak Amounts =				53.2	
						RPD = 3.02	
S 8 Polychlorinated biphenyls, Total							
1						102.2	
2						102.8	
						RPD = 0.54	

Reagents:

AR_2154_L2_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

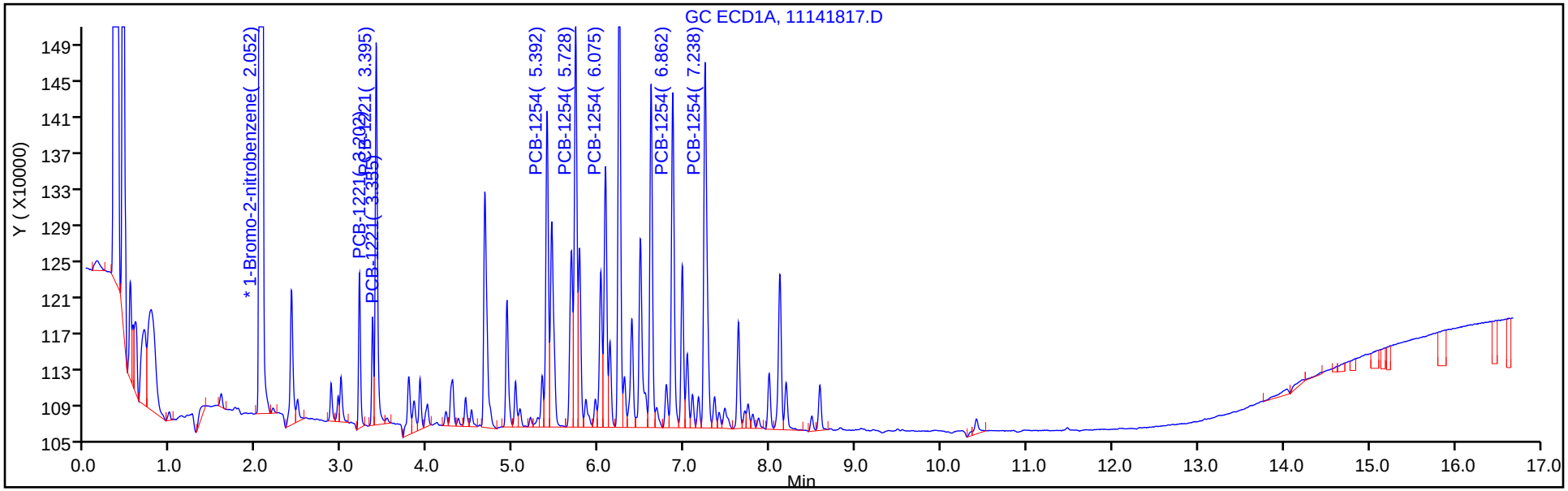
Report Date: 15-Nov-2018 16:08:31 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

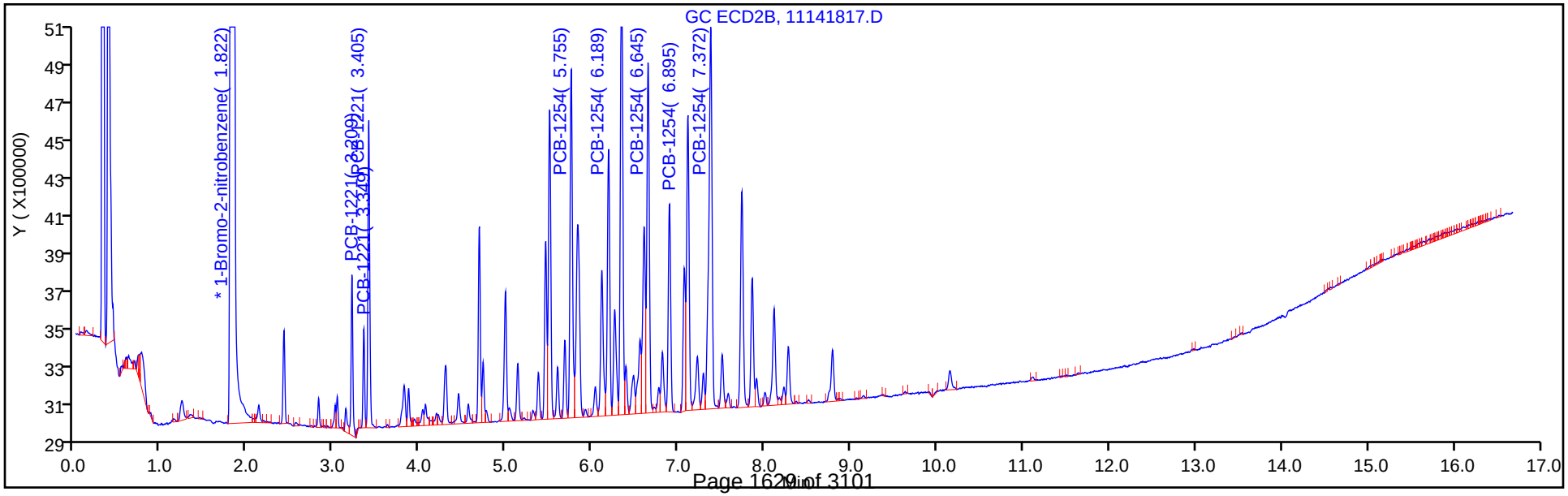
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141817.D

Injection Date:	14-Nov-2018 17:21:47	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL22154			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141818.D
Lims ID: STDL12154
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 14-Nov-2018 17:42:57 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL12154
Misc. Info.: 280-0076197-018
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:32 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 15:48:34

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.047	2.052	-0.005	21458740	1000.0	1000.0	
2	1.817	1.822	-0.005	137080537	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.201	3.202	-0.001	162014	25.0	21.6	
1	3.354	3.356	-0.002	97567	25.0	19.8	
1	3.397	3.396	0.001	492746	25.0	19.0	
		Average of Peak Amounts =				20.1	
2	3.207	3.209	-0.002	644958	25.0	16.3	
2	3.347	3.346	0.001	407305	25.0	17.6	
2	3.404	3.406	-0.002	1413386	25.0	17.4	
		Average of Peak Amounts =				17.1	
						RPD = 16.24	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.394	5.392	0.002	397459	25.0	19.2	
1	5.727	5.729	-0.002	479882	25.0	18.7	
1	6.077	6.076	0.001	332136	25.0	21.2	
1	6.861	6.862	-0.001	441790	25.0	20.6	
1	7.241	7.239	0.002	557408	25.0	22.2	
		Average of Peak Amounts =				20.4	
2	5.754	5.752	0.002	1845288	25.0	18.0	
2	6.187	6.186	0.001	1376083	25.0	19.0	
2	6.644	6.646	-0.002	1909442	25.0	19.3	
2	6.891	6.892	-0.001	1064628	25.0	19.1	
2	7.371	7.372	-0.001	2751480	25.0	19.8	
		Average of Peak Amounts =				19.1	
						RPD = 6.73	
S 8 Polychlorinated biphenyls, Total							
1						40.5	
2						36.2	
						RPD = 11.34	

Reagents:

AR_2154_L1_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

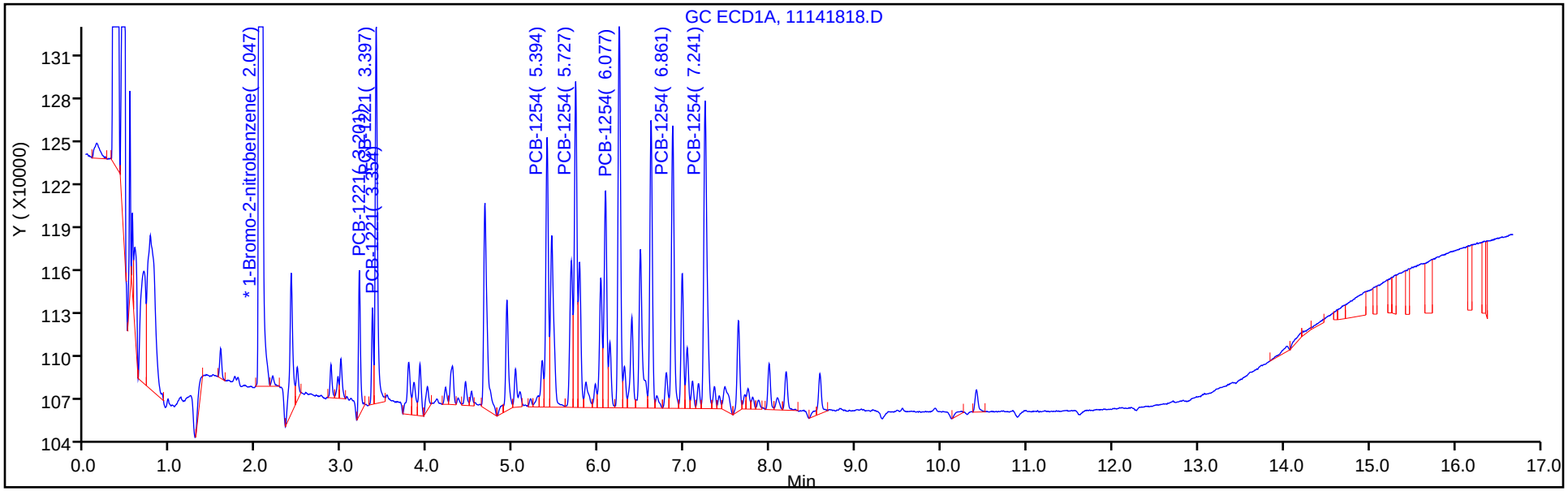
Report Date: 15-Nov-2018 16:08:33 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

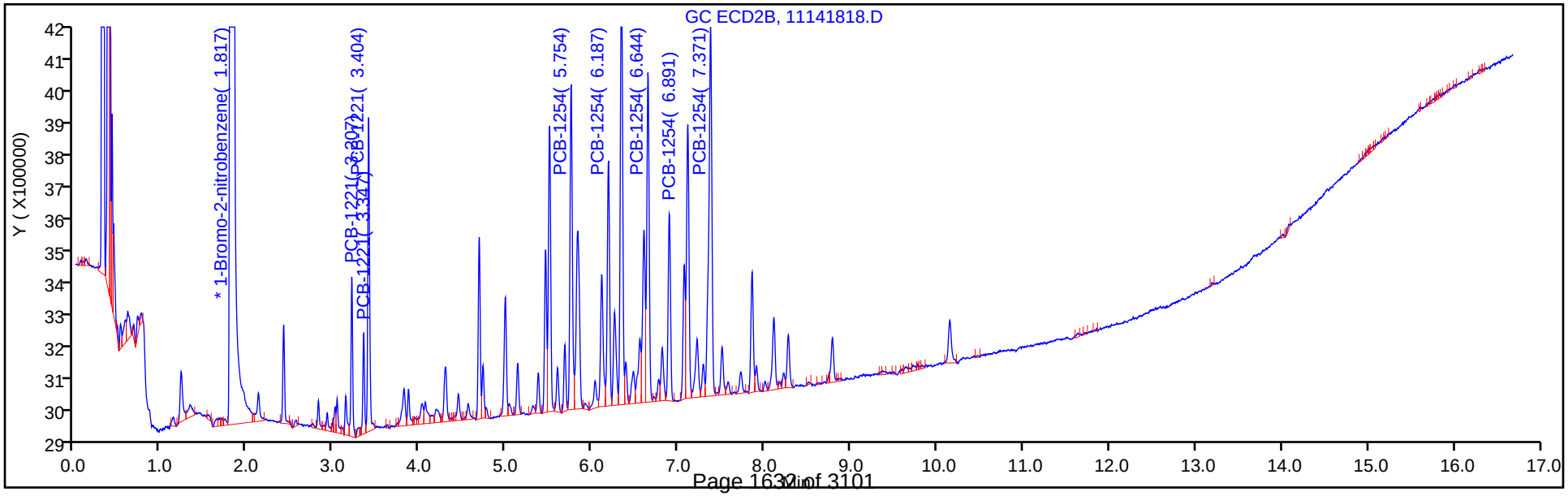
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141818.D

Injection Date:	14-Nov-2018 17:42:57	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL12154			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 15:35 Calibration End Date: 11/14/2018 17:42 Calibration ID: 34315

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL12154 280-437583/18	11141818.D
Level 2	STDL22154 280-437583/17	11141817.D
Level 3	STDL32154 280-437583/16	11141816.D
Level 4	STDL42154 280-437583/15	11141815.D
Level 5	STDL52154 280-437583/14	11141814.D
Level 6	STDL62154 280-437583/13	11141813.D
Level 7	STDL72154 280-437583/12	11141812.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1221 Peak 1	0.1882 0.1218	0.1828 0.1158	0.1708	0.1411	0.1261	Lin1	2.7711	0.1185							0.9940		0.9900
PCB-1221 Peak 2	0.1189 0.0805	0.1040 0.0760	0.1176	0.0957	0.0837	Lin1	1.5853	0.0789							0.9910		0.9900
PCB-1221 Peak 3	0.4124 0.2810	0.3803 0.2658	0.3975	0.3265	0.2921	Lin1	5.5332	0.2746							0.9930		0.9900
PCB-1254 Peak 1	0.5385 0.4227	0.5583 0.3982	0.5356	0.4729	0.4384	Lin1	6.0229	0.4133							0.9950		0.9900
PCB-1254 Peak 2	0.4015 0.3304	0.4224 0.3094	0.3954	0.3584	0.3373	Lin1	3.9305	0.3210							0.9970		0.9900
PCB-1254 Peak 3	0.5572 0.4385	0.5768 0.4241	0.5313	0.4845	0.4572	Lin1	5.5487	0.4336							0.9970		0.9900
PCB-1254 Peak 4	0.3107 0.2629	0.3305 0.2487	0.3132	0.2898	0.2699	Lin1	2.8437	0.2576							0.9970		0.9900
PCB-1254 Peak 5	0.8029 0.6442	0.8163 0.6119	0.7656	0.7005	0.6579	Lin1	7.5803	0.6294							0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 15:35 Calibration End Date: 11/14/2018 17:42 Calibration ID: 34315

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL12154 280-437583/18	11141818.D
Level 2	STDL22154 280-437583/17	11141817.D
Level 3	STDL32154 280-437583/16	11141816.D
Level 4	STDL42154 280-437583/15	11141815.D
Level 5	STDL52154 280-437583/14	11141814.D
Level 6	STDL62154 280-437583/13	11141813.D
Level 7	STDL72154 280-437583/12	11141812.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1221 Peak 1	BNB	Lin1	644958 11374613	1148666 15114465	2147238	4387691	7775895	25.0 750	50.0 1000	100	250	500
PCB-1221 Peak 2	BNB	Lin1	407305 7522445	653258 9923221	1479051	2976960	5159157	25.0 750	50.0 1000	100	250	500
PCB-1221 Peak 3	BNB	Lin1	1413386 26244758	2389420 34691515	4998023	10151614	18004114	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 1	BNB	Lin1	1845288 39483839	3508013 51979203	6733865	14705717	27022555	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 2	BNB	Lin1	1376083 30858755	2654022 40388495	4971017	11144786	20793075	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 3	BNB	Lin1	1909442 40957779	3624293 55364363	6680560	15067235	28183610	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 4	BNB	Lin1	1064628 24555665	2076813 32458676	3937534	9012040	16640150	25.0 750	50.0 1000	100	250	500
PCB-1254 Peak 5	BNB	Lin1	2751480 60170611	5128787 79873673	9626811	21782034	40555499	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141812.D
Lims ID: STDL72154
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 14-Nov-2018 15:35:51 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL72154
Misc. Info.: 280-0076197-012
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:18 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 15:46:23

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.047	2.044	0.003	20229827	1000.0	1000.0	
2	1.817	1.814	0.003	130532351	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.197	3.202	-0.005	4462125	1000.0	961.8	
1	3.351	3.356	-0.005	2838652	1000.0	949.2	
1	3.391	3.396	-0.005	10298806	1000.0	946.4	
		Average of Peak Amounts =				952.5	
2	3.204	3.209	-0.005	15114465	1000.0	953.7	
2	3.344	3.346	-0.002	9923221	1000.0	943.5	
2	3.401	3.406	-0.005	34691515	1000.0	947.7	
		Average of Peak Amounts =				948.3	
						RPD = 0.44	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.387	5.392	-0.005	11374935	1000.0	943.3	
1	5.724	5.729	-0.005	15154874	1000.0	939.6	
1	6.071	6.076	-0.005	11180454	1000.0	954.2	
1	6.857	6.862	-0.005	14095390	1000.0	958.1	
1	7.237	7.239	-0.002	19158261	1000.0	971.8	
		Average of Peak Amounts =				953.4	
2	5.751	5.752	-0.001	51979203	1000.0	949.0	
2	6.181	6.186	-0.005	40388495	1000.0	951.7	
2	6.641	6.646	-0.005	55364363	1000.0	965.4	
2	6.891	6.892	-0.001	32458676	1000.0	954.4	
2	7.367	7.372	-0.005	79873673	1000.0	960.2	
		Average of Peak Amounts =				956.2	
						RPD = 0.29	
S 8 Polychlorinated biphenyls, Total							
1						1905.9	
2						1904.5	
						RPD = 0.07	

Reagents:

AR_2154_L7_00020	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

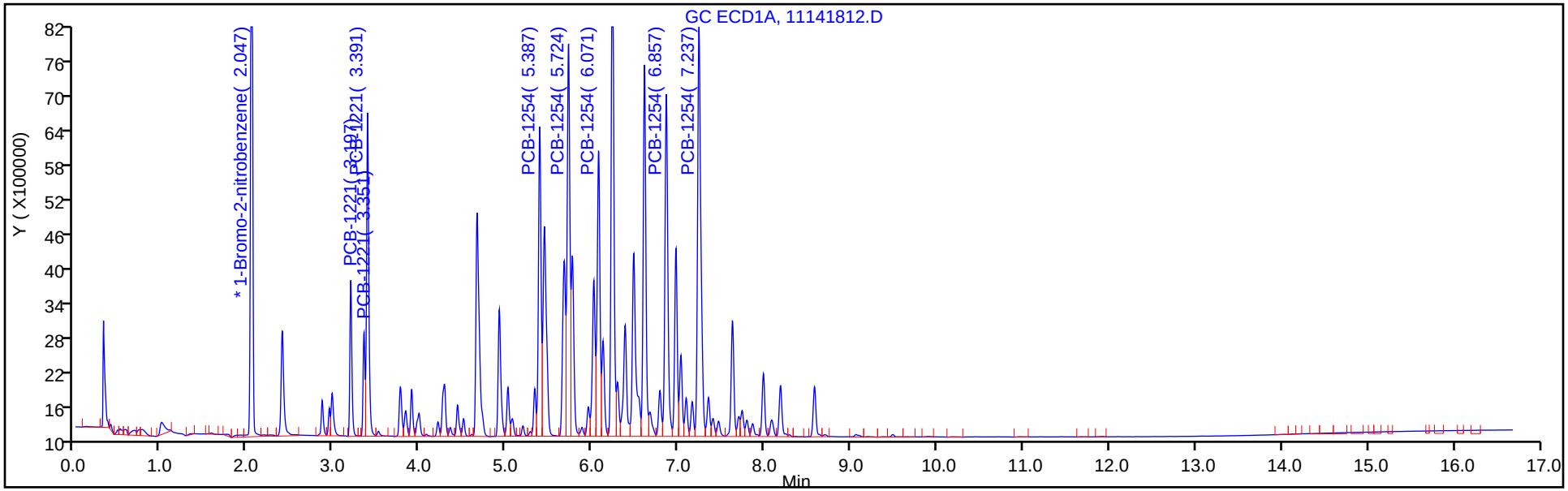
Report Date: 15-Nov-2018 16:08:19 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

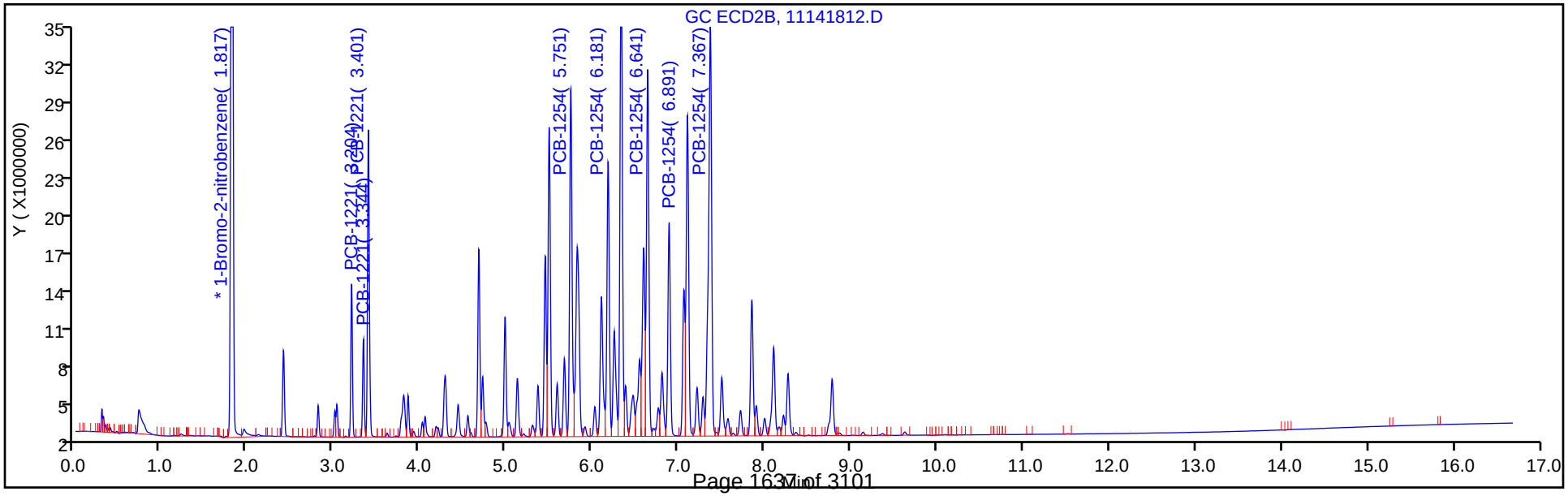
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141812.D

Injection Date:	14-Nov-2018 15:35:51	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL72154			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141813.D
Lims ID: STDL62154
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 14-Nov-2018 15:57:04 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL62154
Misc. Info.: 280-0076197-013
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:20 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 14-Nov-2018 16:48:59

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.051	2.044	0.007	19039514	1000.0	1000.0	
2	1.821	1.814	0.007	124531180	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.201	3.202	-0.001	3315790	750.0	756.9	
1	3.355	3.356	-0.001	2136001	750.0	756.6	
1	3.395	3.396	-0.001	7738205	750.0	750.6	
		Average of Peak Amounts =				754.7	
2	3.208	3.209	-0.001	11374613	750.0	747.4	
2	3.348	3.346	0.002	7522445	750.0	745.6	
2	3.405	3.406	-0.001	26244758	750.0	747.4	
		Average of Peak Amounts =				746.8	
						RPD = 1.06	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.394	5.392	0.002	8714812	750.0	765.6	
1	5.728	5.729	-0.001	11708397	750.0	769.6	
1	6.078	6.076	0.002	8517265	750.0	771.3	
1	6.861	6.862	-0.001	10505567	750.0	757.1	
1	7.241	7.239	0.002	14079072	750.0	757.8	
		Average of Peak Amounts =				764.3	
2	5.755	5.752	0.003	39483839	750.0	752.7	
2	6.188	6.186	0.002	30858755	750.0	759.7	
2	6.645	6.646	-0.001	40957779	750.0	745.8	
2	6.895	6.892	0.003	24555665	750.0	754.5	
2	7.371	7.372	-0.001	60170611	750.0	755.7	
		Average of Peak Amounts =				753.7	
						RPD = 1.39	
S 8 Polychlorinated biphenyls, Total							
1						1519.0	
2						1500.4	
						RPD = 1.23	

Reagents:

AR_2154_L6_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

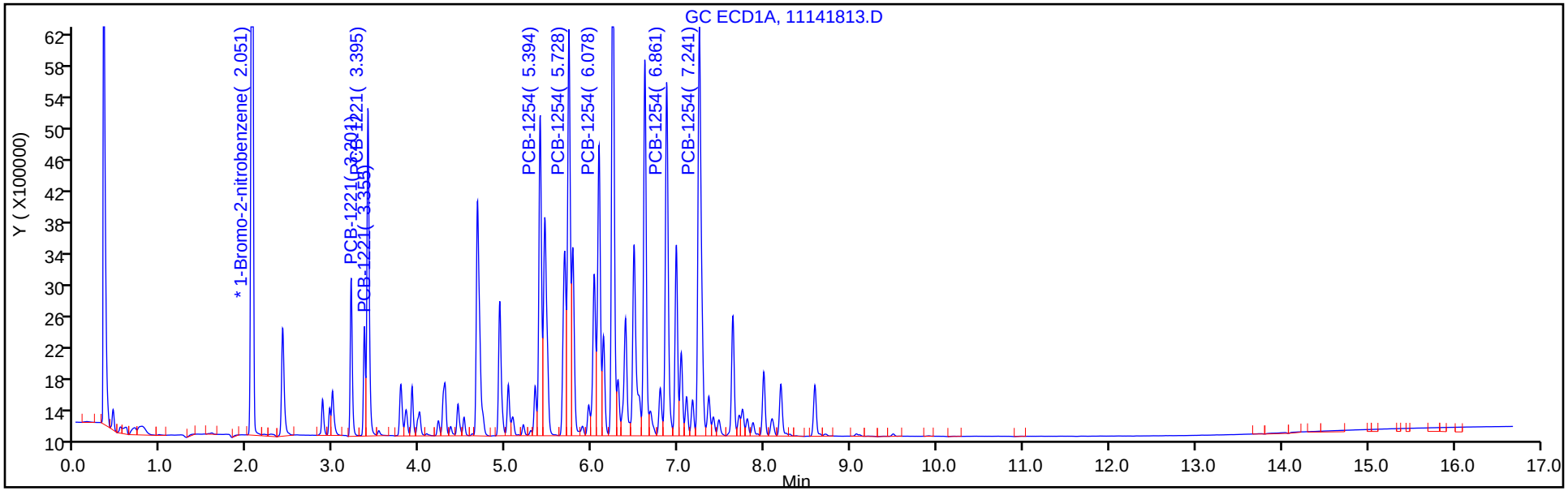
Report Date: 15-Nov-2018 16:08:21 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

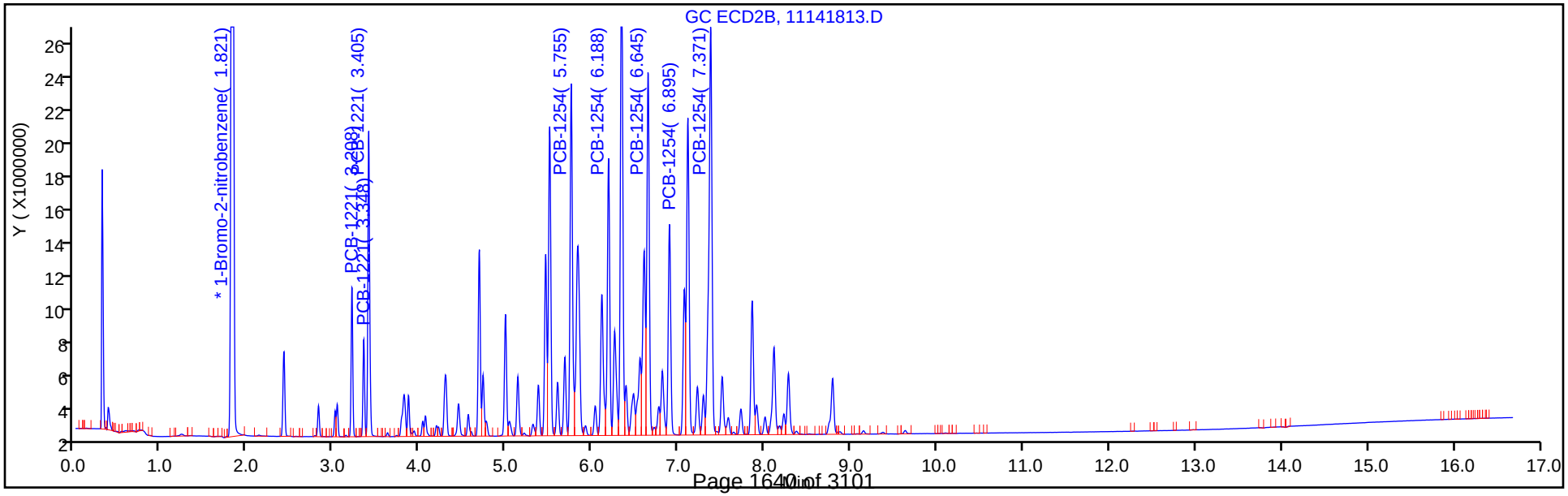
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141813.D

Injection Date:	14-Nov-2018 15:57:04	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL62154			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141814.D
Lims ID: STDL52154
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 14-Nov-2018 16:18:17 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL52154
Misc. Info.: 280-0076197-014
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:23 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 14-Nov-2018 16:48:31

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.052	2.052	0.000	18805471	1000.0	1000.0	
2	1.822	1.822	0.000	123287273	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.202	3.202	0.000	2232754	500.0	512.3	
1	3.356	3.356	0.000	1456838	500.0	519.0	
1	3.396	3.396	0.000	5432072	500.0	526.3	
		Average of Peak Amounts =				519.2	
2	3.209	3.209	0.000	7775895	500.0	508.8	
2	3.346	3.346	0.000	5159157	500.0	510.3	
2	3.406	3.406	0.000	18004114	500.0	511.7	
		Average of Peak Amounts =				510.3	
						RPD = 1.73	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.392	5.392	0.000	5806832	500.0	512.5	
1	5.729	5.729	0.000	7728060	500.0	511.1	
1	6.076	6.076	0.000	5562805	500.0	508.1	
1	6.862	6.862	0.000	7071010	500.0	513.4	
1	7.239	7.239	0.000	9347539	500.0	507.9	
		Average of Peak Amounts =				510.6	
2	5.752	5.752	0.000	27022555	500.0	515.8	
2	6.186	6.186	0.000	20793075	500.0	513.2	
2	6.646	6.646	0.000	28183610	500.0	514.4	
2	6.892	6.892	0.000	16640150	500.0	513.0	
2	7.372	7.372	0.000	40555499	500.0	510.6	
		Average of Peak Amounts =				513.4	
						RPD = 0.55	

Reagents:

AR_2154_L5_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

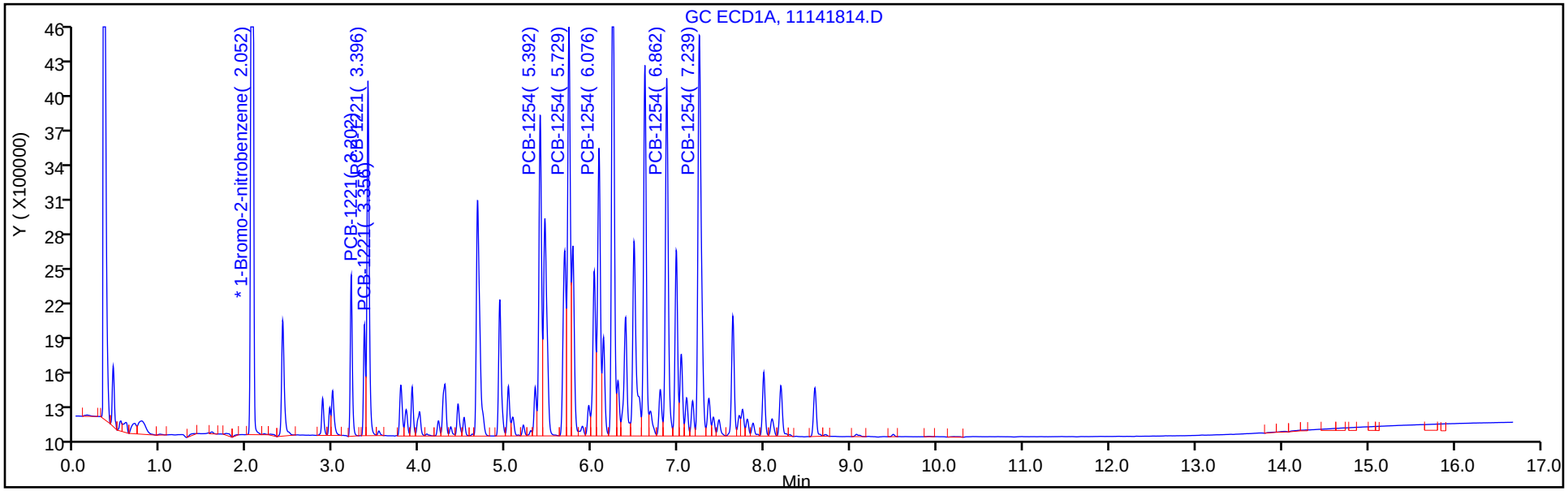
Report Date: 15-Nov-2018 16:08:24 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

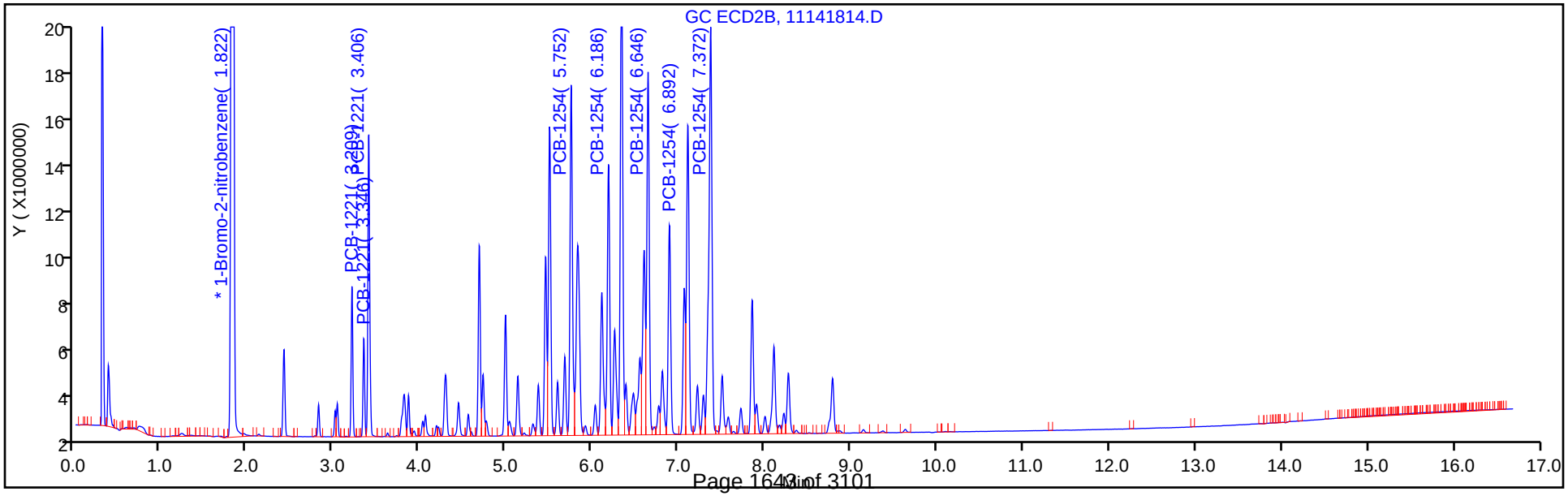
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141814.D

Injection Date:	14-Nov-2018 16:18:17	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL52154			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141815.D
Lims ID: STDL42154
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 14-Nov-2018 16:39:26 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL42154
Misc. Info.: 280-0076197-015
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:25 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 15:47:30

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.052	2.052	0.000	19022134	1000.0	1000.0	
2	1.822	1.822	0.000	124381472	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.198	3.202	-0.004	1182608	250.0	262.7	
1	3.355	3.356	-0.001	773789	250.0	267.1	
1	3.395	3.396	-0.001	2906466	250.0	266.7	
		Average of Peak Amounts =				265.5	
2	3.209	3.209	0.000	4387691	250.0	274.3	
2	3.345	3.346	-0.001	2976960	250.0	283.3	
2	3.402	3.406	-0.004	10151614	250.0	277.1	
		Average of Peak Amounts =				278.2	
						RPD = 4.68	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.392	5.392	0.000	3154429	250.0	269.5	
1	5.725	5.729	-0.004	4185048	250.0	269.1	
1	6.075	6.076	-0.001	2921476	250.0	261.1	
1	6.862	6.862	0.000	3758589	250.0	266.0	
1	7.238	7.239	-0.001	4859620	250.0	258.8	
		Average of Peak Amounts =				264.9	
2	5.752	5.752	0.000	14705717	250.0	271.5	
2	6.185	6.186	-0.001	11144786	250.0	266.9	
2	6.645	6.646	-0.001	15067235	250.0	266.6	
2	6.892	6.892	0.000	9012040	250.0	270.3	
2	7.372	7.372	0.000	21782034	250.0	266.2	
		Average of Peak Amounts =				268.3	
						RPD = 1.27	
S 8 Polychlorinated biphenyls, Total							
1						530.4	
2						546.5	
						RPD = 2.99	

Reagents:

AR_2154_L4_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

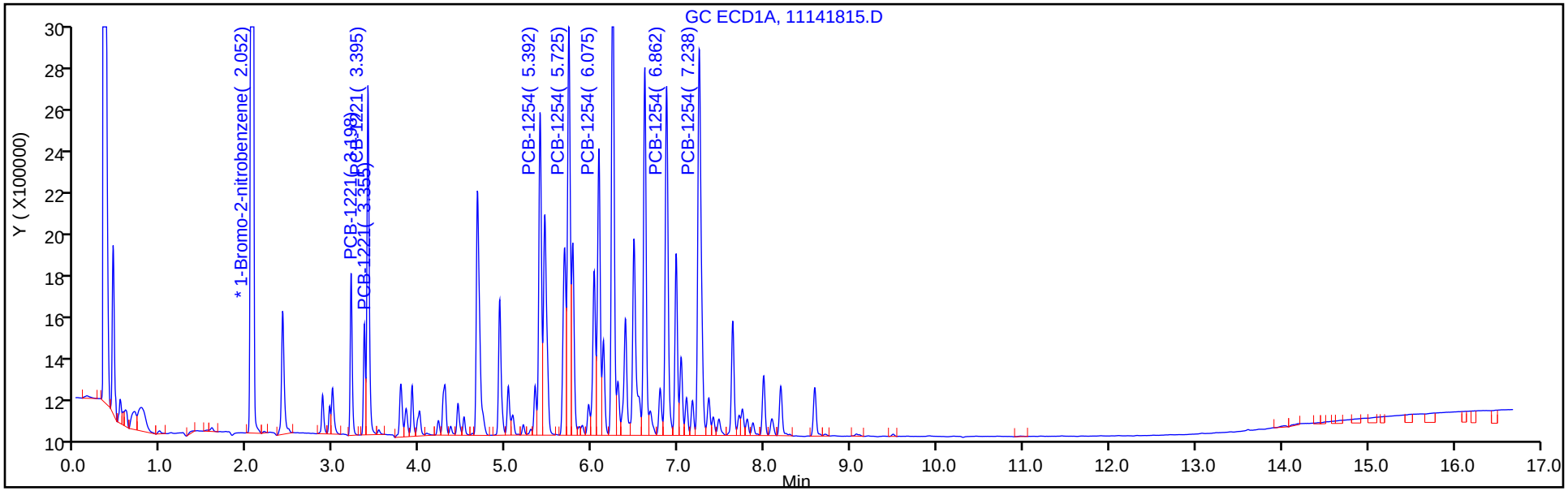
Report Date: 15-Nov-2018 16:08:26 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

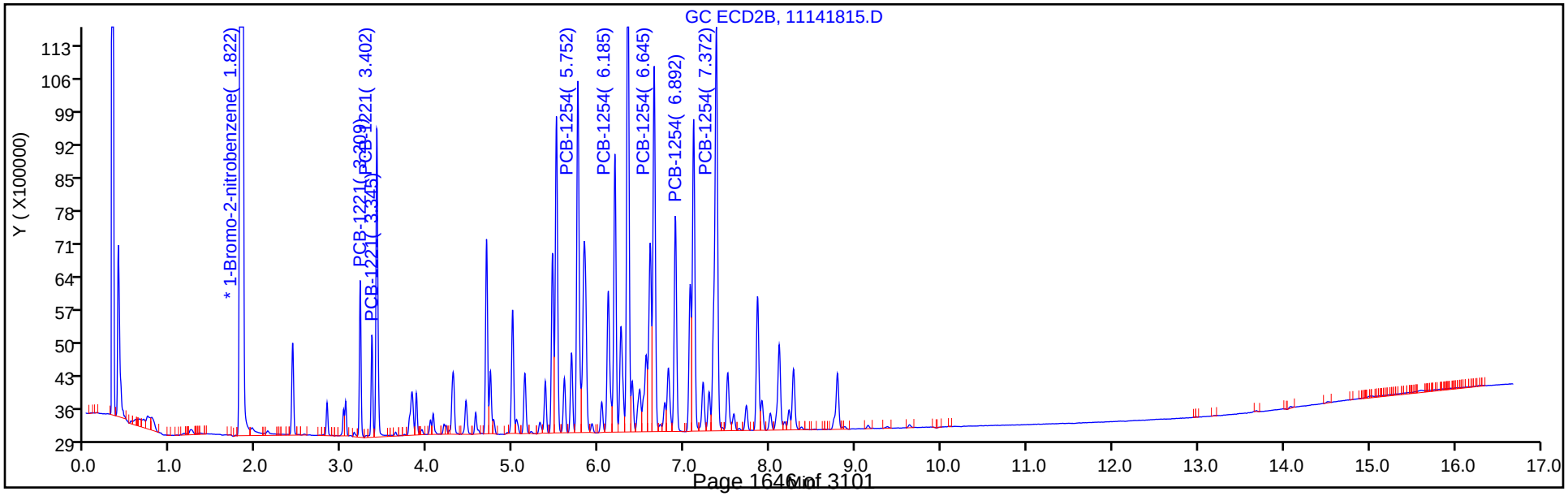
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141815.D

Injection Date:	14-Nov-2018 16:39:26	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL42154			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141816.D
Lims ID: STDL32154
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 14-Nov-2018 17:00:37 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL32154
Misc. Info.: 280-0076197-016
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:28 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 15:47:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.049	2.052	-0.003	19387216	1000.0	1000.0	
2	1.819	1.822	-0.003	125735777	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.199	3.202	-0.003	536831	100.0	110.5	
1	3.352	3.356	-0.004	349748	100.0	112.1	
1	3.396	3.396	0.000	1418965	100.0	114.8	
		Average of Peak Amounts =				112.5	
2	3.209	3.209	0.000	2147238	100.0	120.7	
2	3.346	3.346	0.000	1479051	100.0	129.0	
2	3.403	3.406	-0.003	4998023	100.0	124.6	
		Average of Peak Amounts =				124.8	
						RPD = 10.37	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.392	5.392	0.000	1433986	100.0	113.4	
1	5.726	5.729	-0.003	1905390	100.0	114.9	
1	6.076	6.076	0.000	1263098	100.0	107.5	
1	6.859	6.862	-0.003	1620832	100.0	108.0	
1	7.239	7.239	0.000	2065366	100.0	105.2	
		Average of Peak Amounts =				109.8	
2	5.753	5.752	0.001	6733865	100.0	115.0	
2	6.186	6.186	0.000	4971017	100.0	110.9	
2	6.646	6.646	0.000	6680560	100.0	109.7	
2	6.893	6.892	0.001	3937534	100.0	110.5	
2	7.373	7.372	0.001	9626811	100.0	109.6	
		Average of Peak Amounts =				111.2	
						RPD = 1.23	
S 8 Polychlorinated biphenyls, Total							
1						222.3	
2						235.9	
						RPD = 5.96	

Reagents:

AR_2154_L3_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

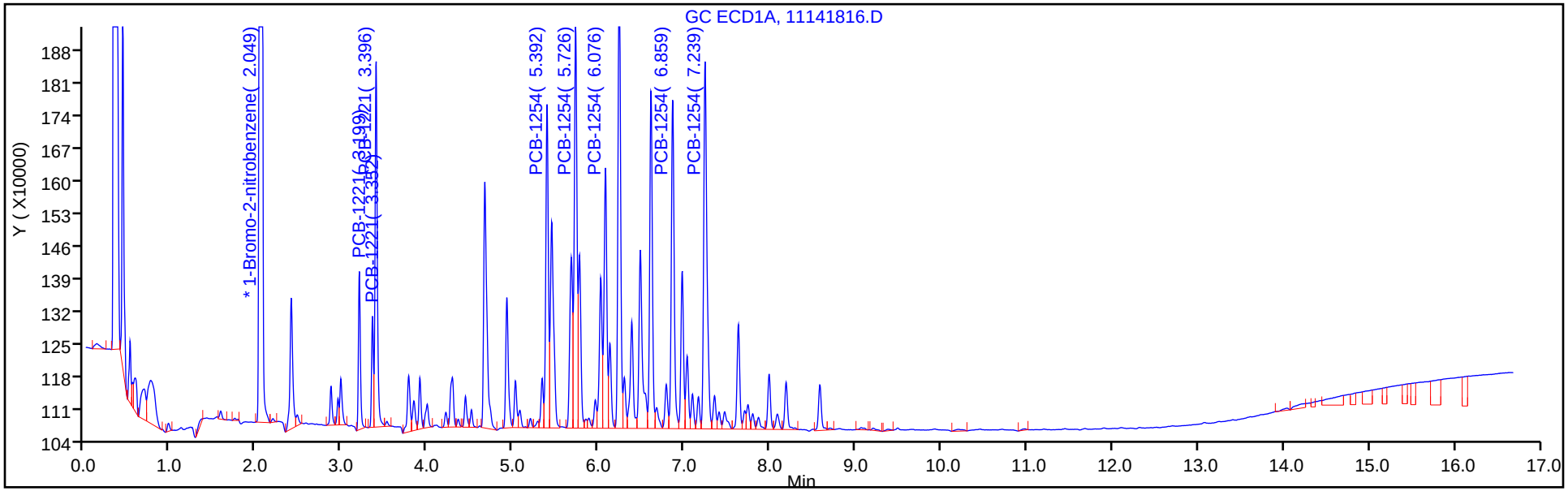
Report Date: 15-Nov-2018 16:08:29 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

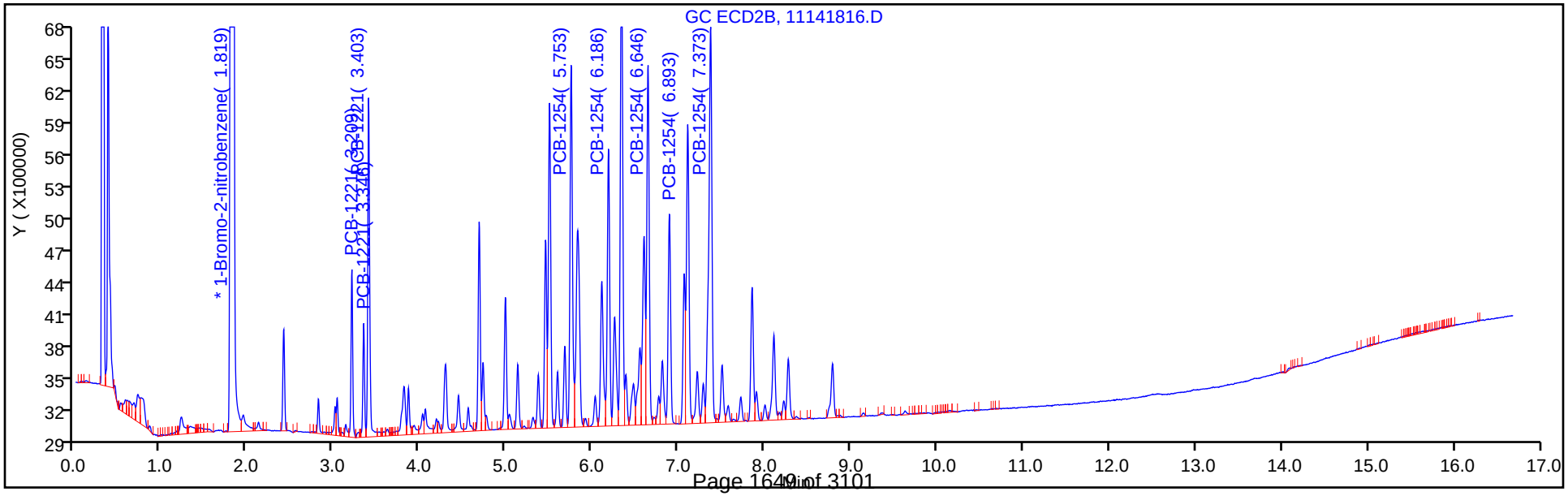
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141816.D

Injection Date:	14-Nov-2018 17:00:37	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL32154			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141817.D
Lims ID: STDL22154
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 14-Nov-2018 17:21:47 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL22154
Misc. Info.: 280-0076197-017
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:30 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 15:48:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.052	2.052	0.000	19334271	1000.0	1000.0	
2	1.822	1.822	0.000	125663457	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.202	3.202	0.000	267442	50.0	49.3	
1	3.355	3.356	-0.001	176482	50.0	51.1	
1	3.395	3.396	-0.001	771255	50.0	51.3	
		Average of Peak Amounts =				50.6	
2	3.209	3.209	0.000	1148666	50.0	53.7	
2	3.349	3.346	0.003	653258	50.0	45.8	
2	3.405	3.406	-0.001	2389420	50.0	49.1	
		Average of Peak Amounts =				49.5	
						RPD = 2.06	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.392	5.392	0.000	726026	50.0	51.5	
1	5.728	5.729	-0.001	940537	50.0	52.0	
1	6.075	6.076	-0.001	637132	50.0	51.6	
1	6.862	6.862	0.000	833025	50.0	51.8	
1	7.238	7.239	-0.001	1048422	50.0	51.3	
		Average of Peak Amounts =				51.7	
2	5.755	5.752	0.003	3508013	50.0	53.0	
2	6.189	6.186	0.003	2654022	50.0	53.6	
2	6.645	6.646	-0.001	3624293	50.0	53.7	
2	6.895	6.892	0.003	2076813	50.0	53.1	
2	7.372	7.372	0.000	5128787	50.0	52.8	
		Average of Peak Amounts =				53.2	
						RPD = 3.02	
S 8 Polychlorinated biphenyls, Total							
1						102.2	
2						102.8	
						RPD = 0.54	

Reagents:

AR_2154_L2_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

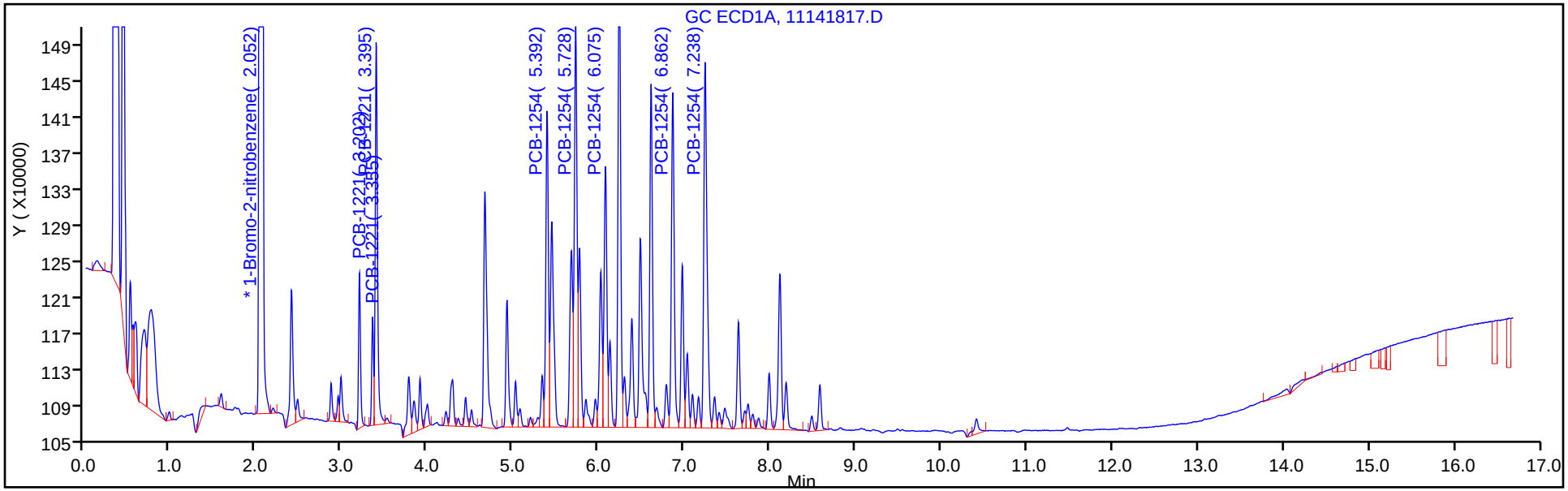
Report Date: 15-Nov-2018 16:08:31 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

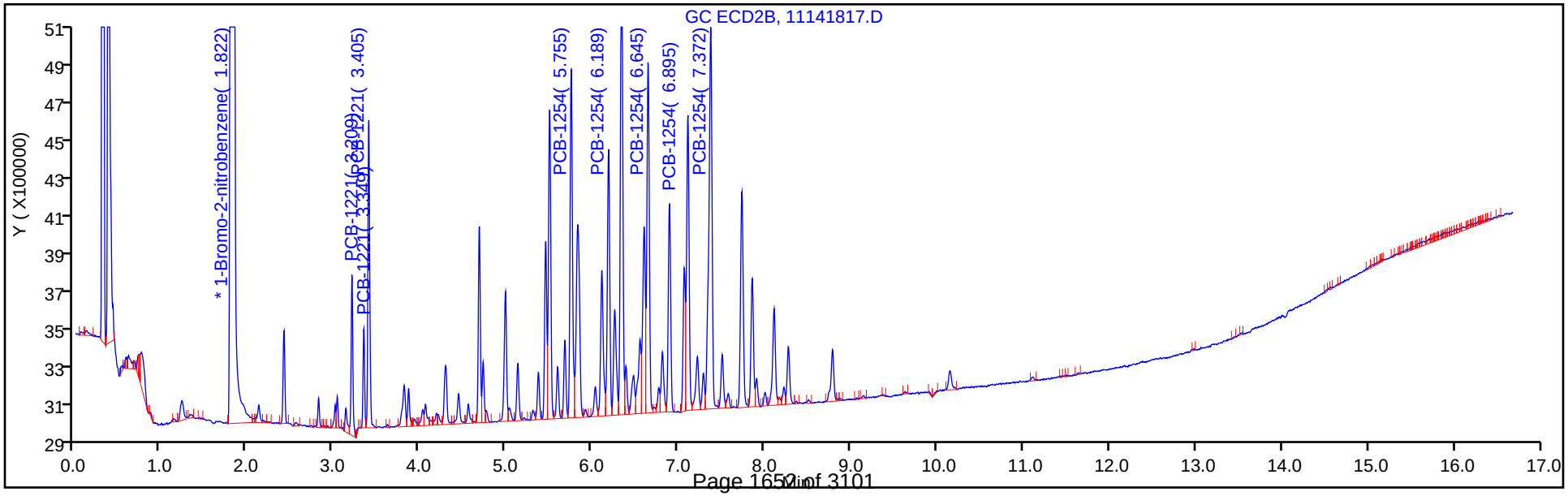
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141817.D

Injection Date:	14-Nov-2018 17:21:47	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL22154			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141818.D
Lims ID: STDL12154
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 14-Nov-2018 17:42:57 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL12154
Misc. Info.: 280-0076197-018
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub3

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:32 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 15:48:34

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.047	2.052	-0.005	21458740	1000.0	1000.0	
2	1.817	1.822	-0.005	137080537	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.201	3.202	-0.001	162014	25.0	21.6	
1	3.354	3.356	-0.002	97567	25.0	19.8	
1	3.397	3.396	0.001	492746	25.0	19.0	
		Average of Peak Amounts =				20.1	
2	3.207	3.209	-0.002	644958	25.0	16.3	
2	3.347	3.346	0.001	407305	25.0	17.6	
2	3.404	3.406	-0.002	1413386	25.0	17.4	
		Average of Peak Amounts =				17.1	
						RPD = 16.24	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.394	5.392	0.002	397459	25.0	19.2	
1	5.727	5.729	-0.002	479882	25.0	18.7	
1	6.077	6.076	0.001	332136	25.0	21.2	
1	6.861	6.862	-0.001	441790	25.0	20.6	
1	7.241	7.239	0.002	557408	25.0	22.2	
		Average of Peak Amounts =				20.4	
2	5.754	5.752	0.002	1845288	25.0	18.0	
2	6.187	6.186	0.001	1376083	25.0	19.0	
2	6.644	6.646	-0.002	1909442	25.0	19.3	
2	6.891	6.892	-0.001	1064628	25.0	19.1	
2	7.371	7.372	-0.001	2751480	25.0	19.8	
		Average of Peak Amounts =				19.1	
						RPD = 6.73	
S 8 Polychlorinated biphenyls, Total							
1						40.5	
2						36.2	
						RPD = 11.34	

Reagents:

AR_2154_L1_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

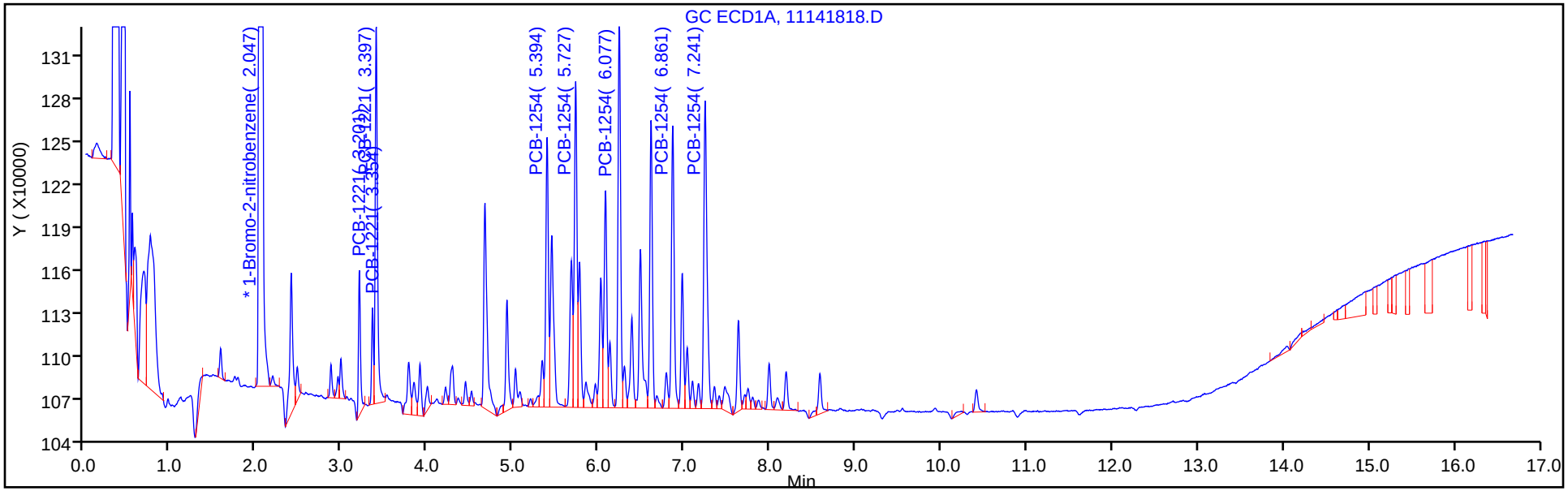
Report Date: 15-Nov-2018 16:08:33 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

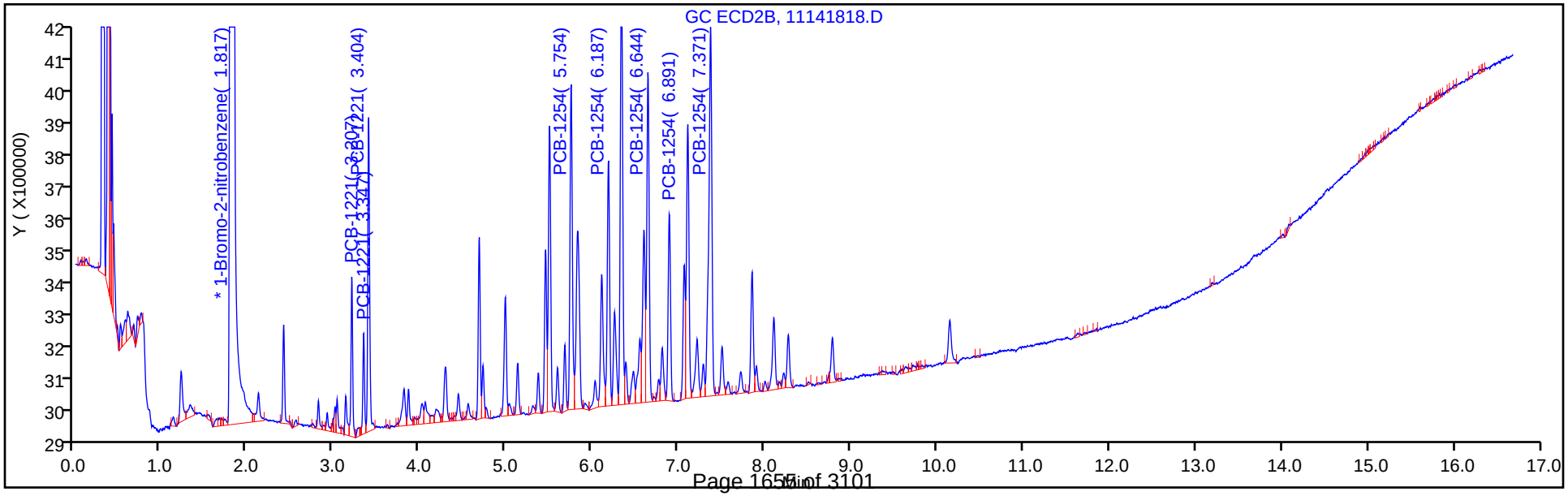
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141818.D

Injection Date:	14-Nov-2018 17:42:57	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL12154			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 18:04 Calibration End Date: 11/14/2018 20:11 Calibration ID: 34318

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11660 280-437583/25	11141825.D
Level 2	STDL21660 280-437583/24	11141824.D
Level 3	STDL31660 280-437583/23	11141823.D
Level 4	STDL41660 280-437583/22	11141822.D
Level 5	STDL51660 280-437583/21	11141821.D
Level 6	STDL61660 280-437583/20	11141820.D
Level 7	STDL71660 280-437583/19	11141819.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	0.5544 0.3706	0.5966 0.3698	0.5058	0.4134	0.3909	Lin1	7.9631	0.3683							0.9960		0.9900
PCB-1016 Peak 2	1.1675 0.8481	1.0733 0.8418	0.9910	0.9104	0.8679	Lin1	10.420	0.8405							0.9990		0.9900
PCB-1016 Peak 3	1.4682 1.4105	1.5038 1.4326	1.3930	1.3722	1.3935	Lin1	1.3043	1.4102							1.0000		0.9900
PCB-1016 Peak 4	0.6844 0.5846	0.6872 0.6018	0.6314	0.6171	0.5935	Lin1	3.2934	0.5917							1.0000		0.9900
PCB-1016 Peak 5	0.6996 0.6090	0.7080 0.6125	0.6322	0.6231	0.6101	Lin1	3.1111	0.6073							1.0000		0.9900
PCB-1260 Peak 1	0.9761 0.7799	0.8983 0.7560	0.8488	0.7976	0.7744	Lin1	6.3927	0.7615							1.0000		0.9900
PCB-1260 Peak 2	1.3191 1.1613	1.2248 1.1505	1.1912	1.1492	1.1406	Lin1	4.0709	1.1454							1.0000		0.9900
PCB-1260 Peak 3	0.8560 0.7105	0.7783 0.7017	0.7452	0.7212	0.7054	Lin1	3.9980	0.7007							1.0000		0.9900
PCB-1260 Peak 4	1.7003 1.5411	1.6156 1.5412	1.5663	1.5168	1.5060	Lin1	3.9058	1.5259							1.0000		0.9900
PCB-1260 Peak 5	0.8480 0.7522	0.7666 0.7344	0.7434	0.7343	0.7329	Lin1	2.0665	0.7357							1.0000		0.9900
Tetrachloro-m-xylene	22.035 23.731	21.819 24.219	21.890	22.247	23.276	Lin1	-4.806	23.821							0.9990		0.9900
DCB Decachlorobiphenyl	19.608 14.524	17.068 13.914	16.200	15.199	14.648	Lin1	7.8168	14.131							0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 18:04 Calibration End Date: 11/14/2018 20:11 Calibration ID: 34318

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11660 280-437583/25	11141825.D
Level 2	STDL21660 280-437583/24	11141824.D
Level 3	STDL31660 280-437583/23	11141823.D
Level 4	STDL41660 280-437583/22	11141822.D
Level 5	STDL51660 280-437583/21	11141821.D
Level 6	STDL61660 280-437583/20	11141820.D
Level 7	STDL71660 280-437583/19	11141819.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Lin1	275370 5277972	631773 6970013	1071067	2085408	3855156	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 2	BNB	Lin1	579938 12077726	1136498 15867763	2098349	4592327	8558955	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 3	BNB	Lin1	729300 20087707	1592318 27004408	2949693	6921871	13741612	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 4	BNB	Lin1	339943 8325496	727650 11342767	1336874	3112816	5852969	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 5	BNB	Lin1	347503 8673350	749641 11544536	1338678	3143209	6016445	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 1	BNB	Lin1	484856 11106094	951143 14249827	1797390	4023532	7636859	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 2	BNB	Lin1	655251 16539001	1296867 21686672	2522328	5796848	11247315	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 3	BNB	Lin1	425211 10118616	824066 13227032	1577920	3637943	6956270	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 4	BNB	Lin1	844592 21947165	1710706 29050949	3316711	7651380	14851559	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 5	BNB	Lin1	421204 10712497	811777 13843763	1574178	3703965	7227152	25.0 750	50.0 1000	100	250	500
Tetrachloro-m-xylene	BNB	Lin1	547261 16898098	1155178 22825843	2317625	5611062	11476636	1.25 37.5	2.50 50.0	5.00	12.5	25.0
DCB Decachlorobiphenyl	BNB	Lin1	486993 10341892	903655 13113417	1715210	3833555	7222178	1.25 37.5	2.50 50.0	5.00	12.5	25.0

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141819.D
Lims ID: STDL71660
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 14-Nov-2018 18:04:06 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL71660
Misc. Info.: 280-0076197-019
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:34 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:31:56

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.050	2.052	-0.002	18849296	1000.0	1000.0	
2	1.820	1.822	-0.002	120545191	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.990	2.989	0.001	22825843	50.0	51.0	
2	2.887	2.886	0.001	68520428	50.0	49.2	
						RPD = 3.59	
1 PCB-1016							M
1	3.396	3.396	0.000	6970013	1000.0	982.5	
1	3.776	3.776	0.000	15867763	1000.0	989.1	
1	4.290	4.289	0.001	27004408	1000.0	1015.0	
1	4.443	4.443	0.000	11342767	1000.0	1011.4	
1	4.926	4.926	0.000	11544536	1000.0	1003.5	
		Average of Peak Amounts =				1000.3	
2	3.403	3.403	0.000	22550511	1000.0	974.6	
2	3.817	3.816	0.001	44986825	1000.0	981.0	M
2	4.297	4.296	0.001	95041412	1000.0	984.4	M
2	4.447	4.450	-0.003	38150398	1000.0	978.4	M
2	4.687	4.690	-0.003	20940200	1000.0	978.3	M
		Average of Peak Amounts =				979.3	
						RPD = 2.12	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							M
1	6.483	6.486	-0.003	14249827	1000.0	984.4	
1	7.240	7.243	-0.003	21686672	1000.0	1000.9	
1	7.743	7.746	-0.003	13227032	1000.0	995.7	
1	8.186	8.193	-0.007	29050949	1000.0	1007.5	
1	8.583	8.586	-0.003	13843763	1000.0	995.5	
		Average of Peak Amounts =				996.8	
2	6.893	6.896	-0.003	61483846	1000.0	984.2	M
2	7.370	7.373	-0.003	91308890	1000.0	983.8	M
2	7.907	7.910	-0.003	54973014	1000.0	983.9	M
2	8.273	8.276	-0.003	123174804	1000.0	980.3	M
2	8.783	8.786	-0.003	92265485	1000.0	974.7	M
		Average of Peak Amounts =				981.4	
						RPD = 1.56	
$ 15 DCB Decachlorobiphenyl							
1	10.183	10.186	-0.003	13113417	50.0	48.7	
2	10.463	10.466	-0.003	60448944	50.0	48.5	
						RPD = 0.37	
S 8 Polychlorinated biphenyls, Total							
1						1997.1	
2						1960.7	
						RPD = 1.84	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1660_L7_00026	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

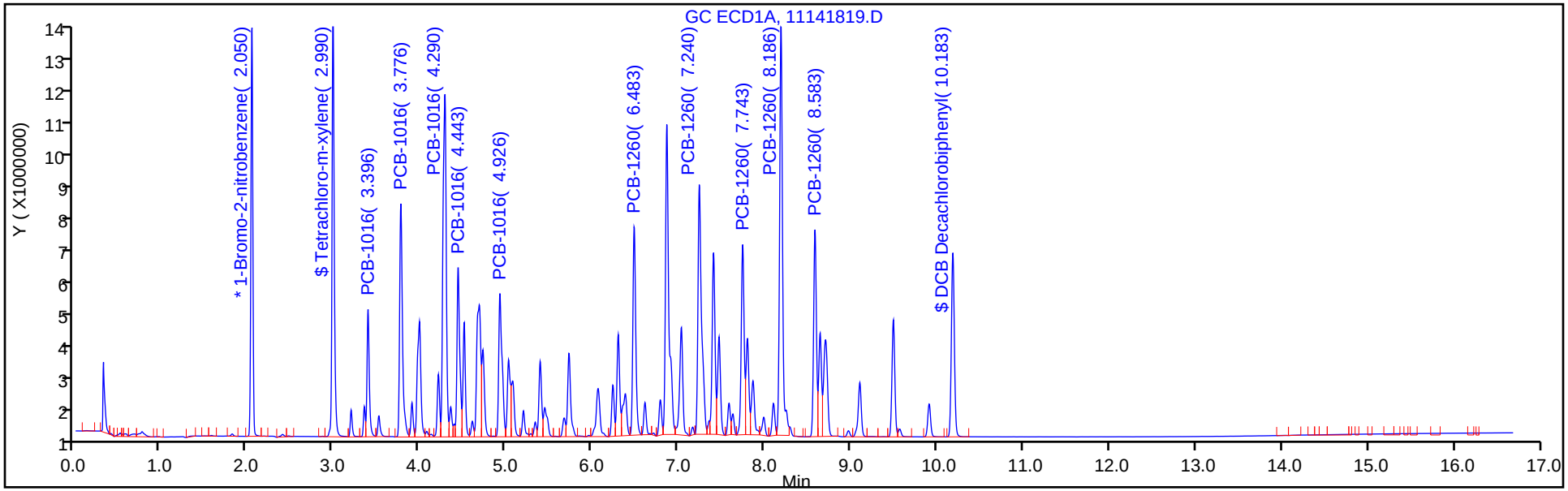
Report Date: 15-Nov-2018 16:08:35 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

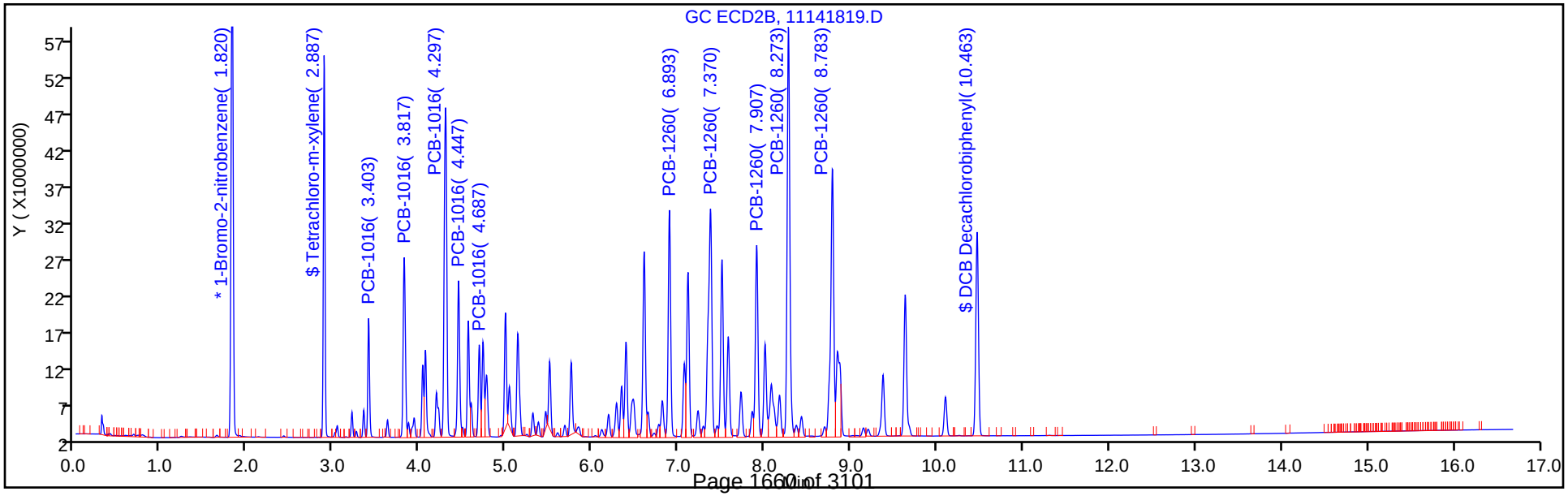
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141819.D

Injection Date:	14-Nov-2018 18:04:06	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL71660			Worklist Smp#:	19
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141820.D
Lims ID: STDL61660
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 14-Nov-2018 18:25:16 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL61660
Misc. Info.: 280-0076197-020
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:37 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:28:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.050	2.052	-0.002	18988266	1000.0	1000.0	
2	1.821	1.822	-0.001	121269294	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.994	2.989	0.005	16898098	37.5	37.6	
2	2.891	2.886	0.005	52456902	37.5	37.4	
						RPD = 0.55	
1 PCB-1016							
1	3.397	3.396	0.001	5277972	750.0	733.2	
1	3.780	3.776	0.004	12077726	750.0	744.3	
1	4.294	4.289	0.005	20087707	750.0	749.2	
1	4.444	4.443	0.001	8325496	750.0	735.4	
1	4.930	4.926	0.004	8673350	750.0	747.1	
		Average of Peak Amounts =				741.8	
2	3.404	3.403	0.001	17546360	750.0	751.1	
2	3.817	3.816	0.001	34837257	750.0	752.0	
2	4.297	4.296	0.001	73870811	750.0	758.1	
2	4.451	4.450	0.001	30036115	750.0	762.7	
2	4.691	4.690	0.001	16241445	750.0	751.5	
		Average of Peak Amounts =				755.1	
						RPD = 1.76	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.490	6.486	0.004	11106094	750.0	759.7	
1	7.244	7.243	0.001	16539001	750.0	756.9	
1	7.747	7.746	0.001	10118616	750.0	754.8	
1	8.194	8.193	0.001	21947165	750.0	754.9	
1	8.587	8.586	0.001	10712497	750.0	764.0	
		Average of Peak Amounts =				758.1	
2	6.897	6.896	0.001	47821147	750.0	758.7	
2	7.374	7.373	0.001	71081928	750.0	759.2	
2	7.911	7.910	0.001	42696677	750.0	757.4	
2	8.277	8.276	0.001	96217464	750.0	759.2	
2	8.787	8.786	0.001	72677854	750.0	761.1	
		Average of Peak Amounts =				759.1	
						RPD = 0.14	
$ 15 DCB Decachlorobiphenyl							
1	10.187	10.186	0.001	10341892	37.5	38.0	
2	10.467	10.466	0.001	47798087	37.5	38.0	
						RPD = 0.01	
S 8 Polychlorinated biphenyls, Total							
1						1499.9	
2						1514.2	
						RPD = 0.95	

Reagents:

AR_1660_L6_00033	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

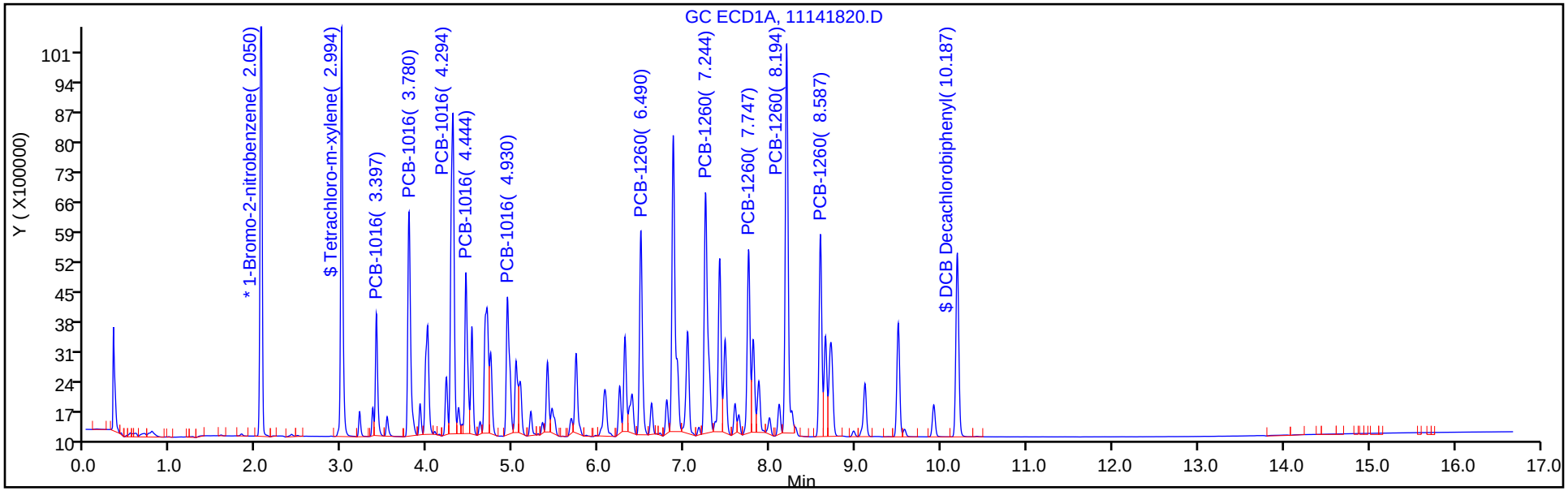
Report Date: 15-Nov-2018 16:08:38 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

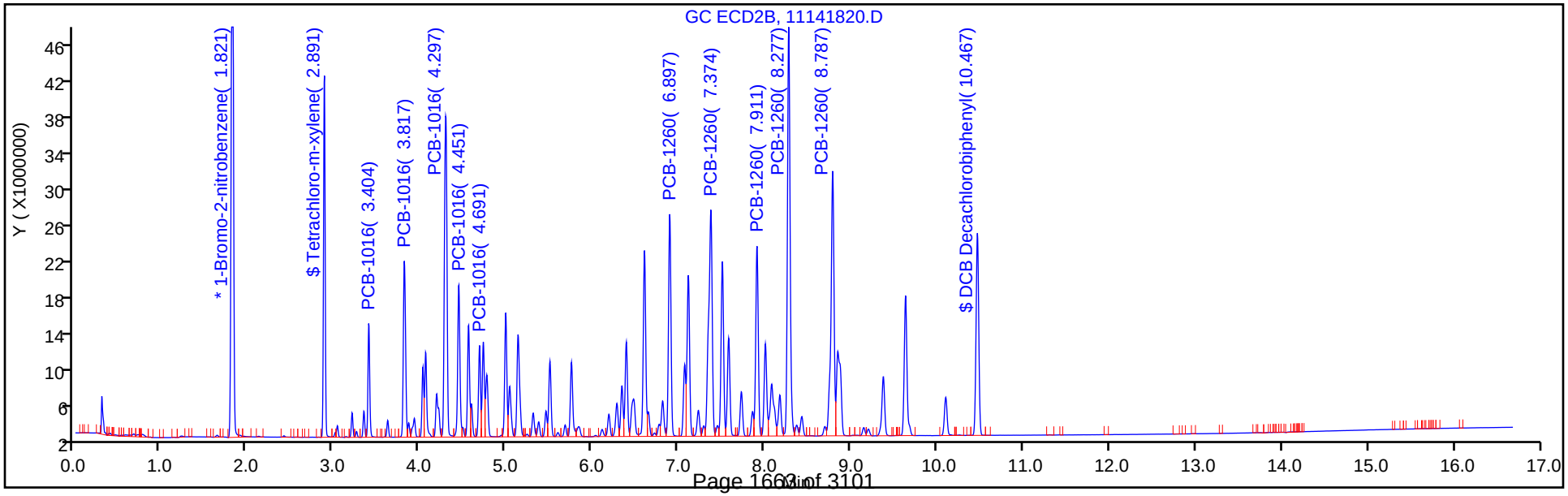
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141820.D

Injection Date:	14-Nov-2018 18:25:16	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL61660			Worklist Smp#:	20
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141821.D
Lims ID: STDL51660
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 14-Nov-2018 18:46:25 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL51660
Misc. Info.: 280-0076197-021
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:40 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:27:15

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.049	2.049	0.000	19722596	1000.0	1000.0	
2	1.820	1.820	0.000	124805946	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.989	2.989	0.000	11476636	25.0	24.6	
2	2.886	2.886	0.000	36881097	25.0	25.4	
						RPD = 2.94	
1 PCB-1016							
1	3.396	3.396	0.000	3855156	500.0	509.2	
1	3.776	3.776	0.000	8558955	500.0	503.9	
1	4.289	4.289	0.000	13741612	500.0	493.1	
1	4.443	4.443	0.000	5852969	500.0	496.0	
1	4.926	4.926	0.000	6016445	500.0	497.2	
		Average of Peak Amounts =				499.9	
2	3.403	3.403	0.000	12300468	500.0	507.7	
2	3.816	3.816	0.000	24283127	500.0	504.9	
2	4.296	4.296	0.000	50853595	500.0	503.5	
2	4.450	4.450	0.000	20636262	500.0	504.5	
2	4.690	4.690	0.000	11334196	500.0	505.6	
		Average of Peak Amounts =				505.2	
						RPD = 1.07	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.486	6.486	0.000	7636859	500.0	500.1	
1	7.243	7.243	0.000	11247315	500.0	494.3	
1	7.746	7.746	0.000	6956270	500.0	497.6	
1	8.193	8.193	0.000	14851559	500.0	490.9	
1	8.586	8.586	0.000	7227152	500.0	495.3	
		Average of Peak Amounts =				495.7	
2	6.896	6.896	0.000	32611377	500.0	499.4	
2	7.373	7.373	0.000	48523897	500.0	500.4	
2	7.910	7.910	0.000	29285328	500.0	501.5	
2	8.276	8.276	0.000	66250517	500.0	505.1	
2	8.786	8.786	0.000	50228777	500.0	508.1	
		Average of Peak Amounts =				502.9	
						RPD = 1.45	
$ 15 DCB Decachlorobiphenyl							
1	10.186	10.186	0.000	7222178	25.0	25.4	
2	10.466	10.466	0.000	33138334	25.0	25.4	
						RPD = 0.10	

Reagents:

AR_1660_L5_00066	Amount Added: 1.00	Units: mL	
BNB IS_00012	Amount Added: 1.00	Units: mL	Run Reagent

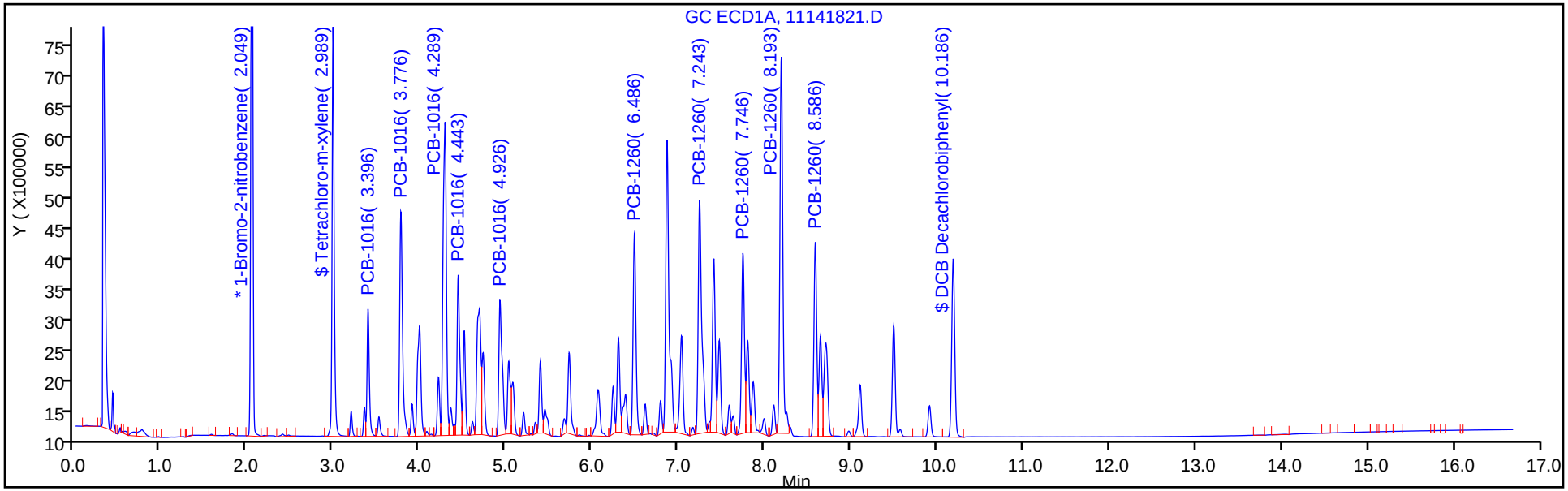
Report Date: 15-Nov-2018 16:08:40 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

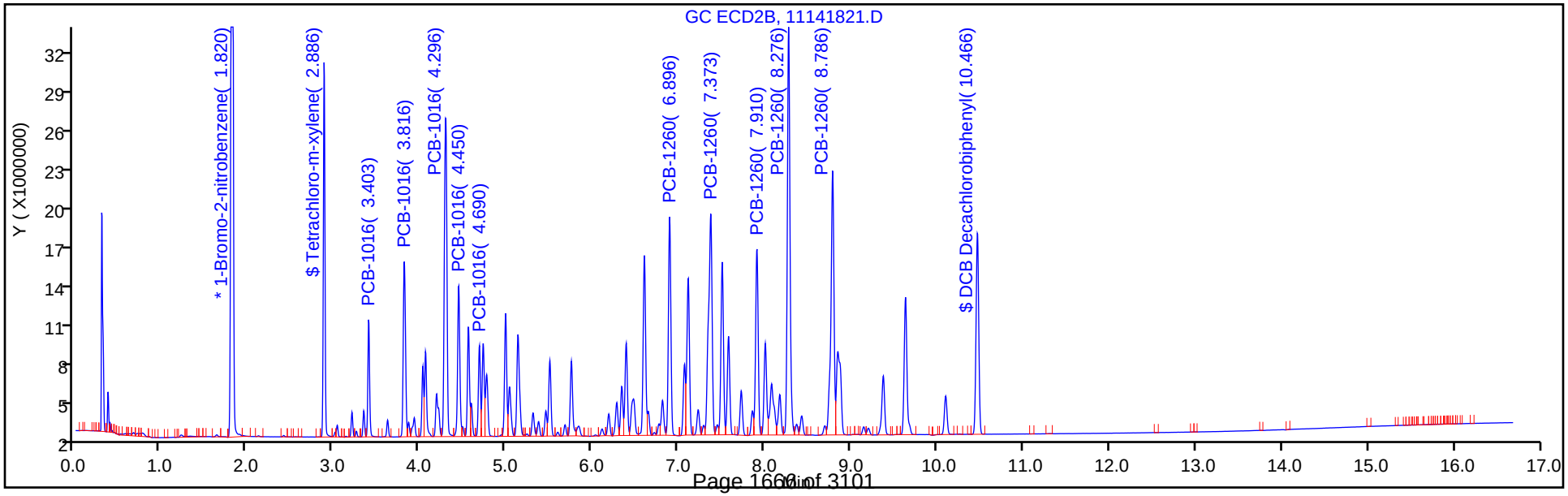
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141821.D

Injection Date:	14-Nov-2018 18:46:25	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL51660			Worklist Smp#:	21
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141822.D
Lims ID: STDL41660
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 14-Nov-2018 19:07:35 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL41660
Misc. Info.: 280-0076197-022
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:42 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:33:18

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.048	2.049	-0.001	20177349	1000.0	1000.0	
2	1.818	1.820	-0.002	128126902	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.992	2.989	0.003	5611062	12.5	11.9	
2	2.888	2.886	0.002	19589391	12.5	12.9	
						RPD = 8.18	
1 PCB-1016							
1	3.398	3.396	0.002	2085408	250.0	259.0	
1	3.778	3.776	0.002	4592327	250.0	258.4	
1	4.292	4.289	0.003	6921871	250.0	242.3	
1	4.442	4.443	-0.001	3112816	250.0	255.2	
1	4.928	4.926	0.002	3143209	250.0	251.4	
		Average of Peak Amounts =				253.3	
2	3.405	3.403	0.002	6641725	250.0	261.3	
2	3.815	3.816	-0.001	13023757	250.0	257.2	
2	4.298	4.296	0.002	26626264	250.0	251.4	
2	4.448	4.450	-0.002	10852622	250.0	251.7	
2	4.688	4.690	-0.002	6099792	250.0	259.2	
		Average of Peak Amounts =				256.2	
						RPD = 1.14	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.488	6.486	0.002	4023532	250.0	253.5	
1	7.245	7.243	0.002	5796848	250.0	247.3	
1	7.748	7.746	0.002	3637943	250.0	251.6	
1	8.192	8.193	-0.001	7651380	250.0	245.9	
1	8.588	8.586	0.002	3703965	250.0	246.7	
		Average of Peak Amounts =				249.0	
2	6.898	6.896	0.002	17351048	250.0	254.1	
2	7.372	7.373	-0.001	25715022	250.0	253.7	
2	7.908	7.910	-0.002	15536224	250.0	254.4	
2	8.278	8.276	0.002	34663686	250.0	253.2	
2	8.788	8.786	0.002	26155275	250.0	253.1	
		Average of Peak Amounts =				253.7	
						RPD = 1.88	
$ 15 DCB Decachlorobiphenyl							
1	10.185	10.186	-0.001	3833555	12.5	12.9	
2	10.468	10.466	0.002	17683772	12.5	12.9	
						RPD = 0.04	
S 8 Polychlorinated biphenyls, Total							
1						502.3	
2						509.9	
						RPD = 1.51	

Reagents:

AR_1660_L4_00068	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

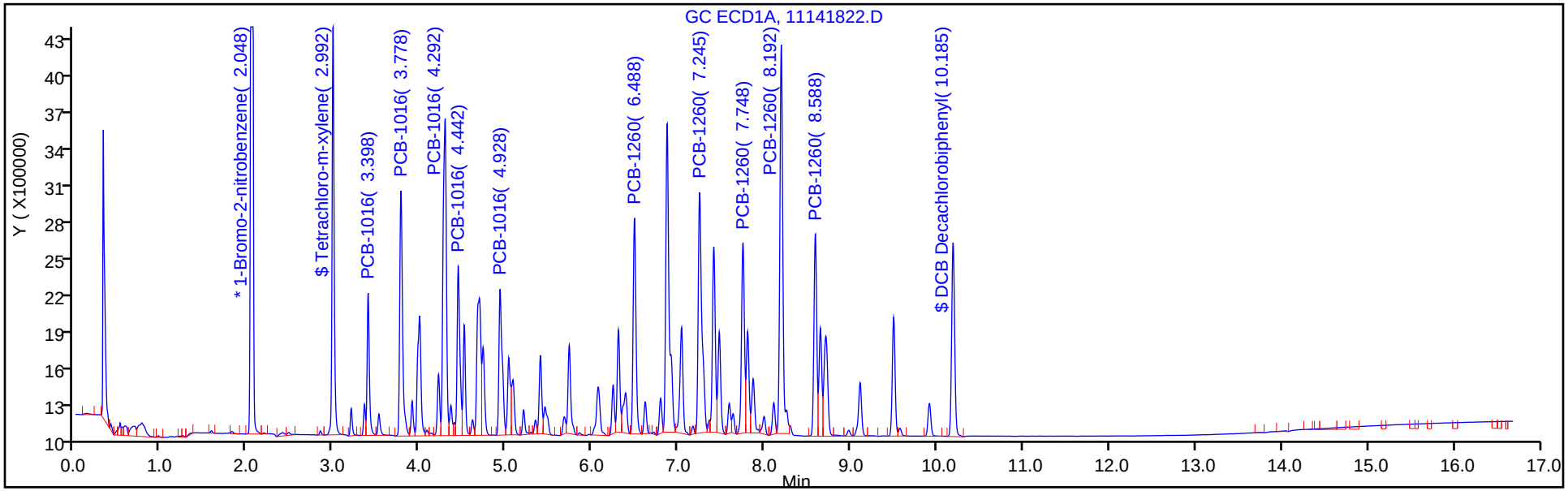
Report Date: 15-Nov-2018 16:08:43 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

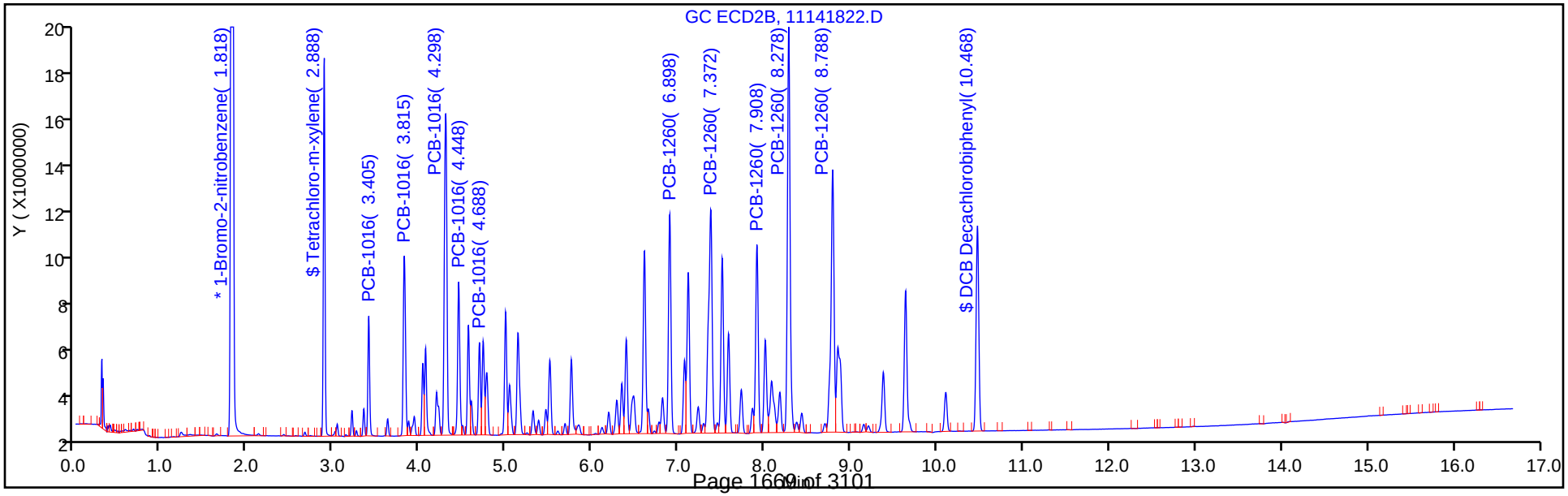
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141822.D

Injection Date:	14-Nov-2018 19:07:35	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL41660			Worklist Smp#:	22
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141823.D
Lims ID: STDL31660
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 14-Nov-2018 19:28:44 ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL31660
Misc. Info.: 280-0076197-023
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:45 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:29:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.049	-0.003	21174828	1000.0	1000.0	
2	1.816	1.820	-0.004	132788086	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.989	2.989	0.000	2317625	5.00	4.80	
2	2.886	2.886	0.000	8666483	5.00	5.22	
						RPD = 8.51	
1 PCB-1016							
1	3.396	3.396	0.000	1071067	100.0	115.7	
1	3.776	3.776	0.000	2098349	100.0	105.5	
1	4.286	4.289	-0.003	2949693	100.0	97.9	
1	4.439	4.443	-0.004	1336874	100.0	101.1	
1	4.926	4.926	0.000	1338678	100.0	99.0	
		Average of Peak Amounts =				103.8	
2	3.403	3.403	0.000	2992119	100.0	106.8	
2	3.813	3.816	-0.003	5923068	100.0	105.2	
2	4.296	4.296	0.000	11884327	100.0	102.1	
2	4.446	4.450	-0.004	4870593	100.0	101.1	
2	4.686	4.690	-0.004	2748384	100.0	105.8	
		Average of Peak Amounts =				104.2	
						RPD = 0.33	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.483	6.486	-0.003	1797390	100.0	103.1	
1	7.239	7.243	-0.004	2522328	100.0	100.4	
1	7.743	7.746	-0.003	1577920	100.0	100.6	
1	8.186	8.193	-0.007	3316711	100.0	100.1	
1	8.583	8.586	-0.003	1574178	100.0	98.2	
		Average of Peak Amounts =				100.5	
2	6.893	6.896	-0.003	7836775	100.0	105.2	
2	7.370	7.373	-0.003	11522472	100.0	104.3	
2	7.906	7.910	-0.004	6942969	100.0	104.1	
2	8.273	8.276	-0.003	15401087	100.0	103.6	
2	8.783	8.786	-0.003	11784530	100.0	104.8	
		Average of Peak Amounts =				104.4	
						RPD = 3.82	
$ 15 DCB Decachlorobiphenyl							
1	10.179	10.186	-0.007	1715210	5.00	5.18	
2	10.463	10.466	-0.003	8118777	5.00	5.37	
						RPD = 3.57	
S 8 Polychlorinated biphenyls, Total							
1						204.3	
2						208.6	
						RPD = 2.06	

Reagents:

AR_1660_L3_00031	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

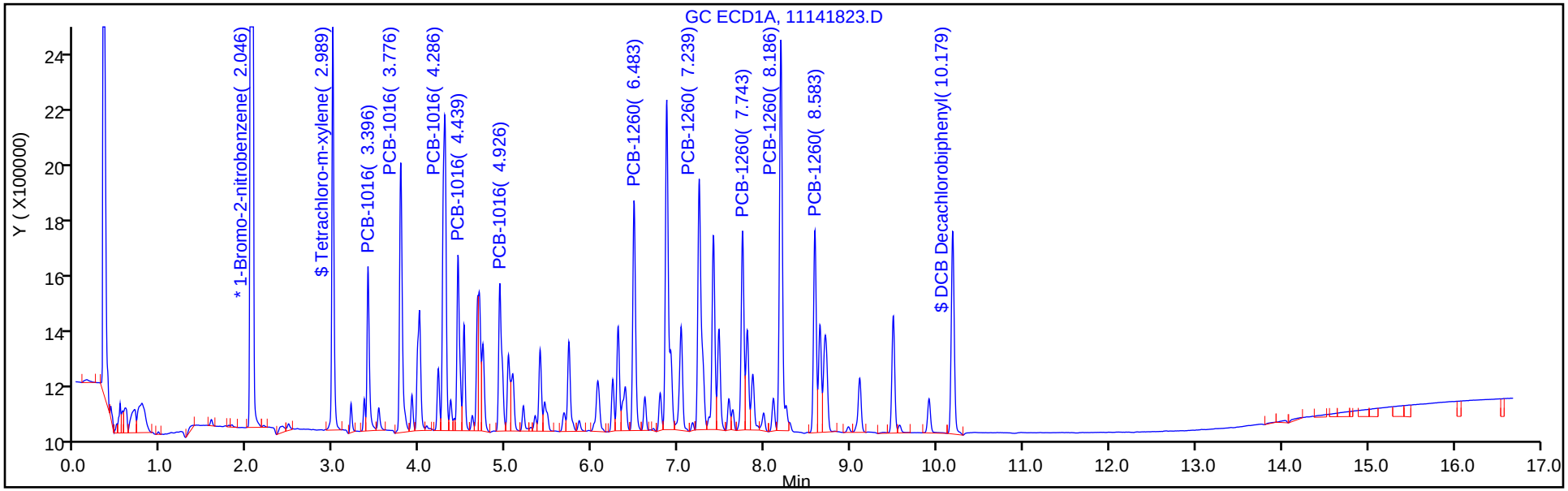
Report Date: 15-Nov-2018 16:08:45 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

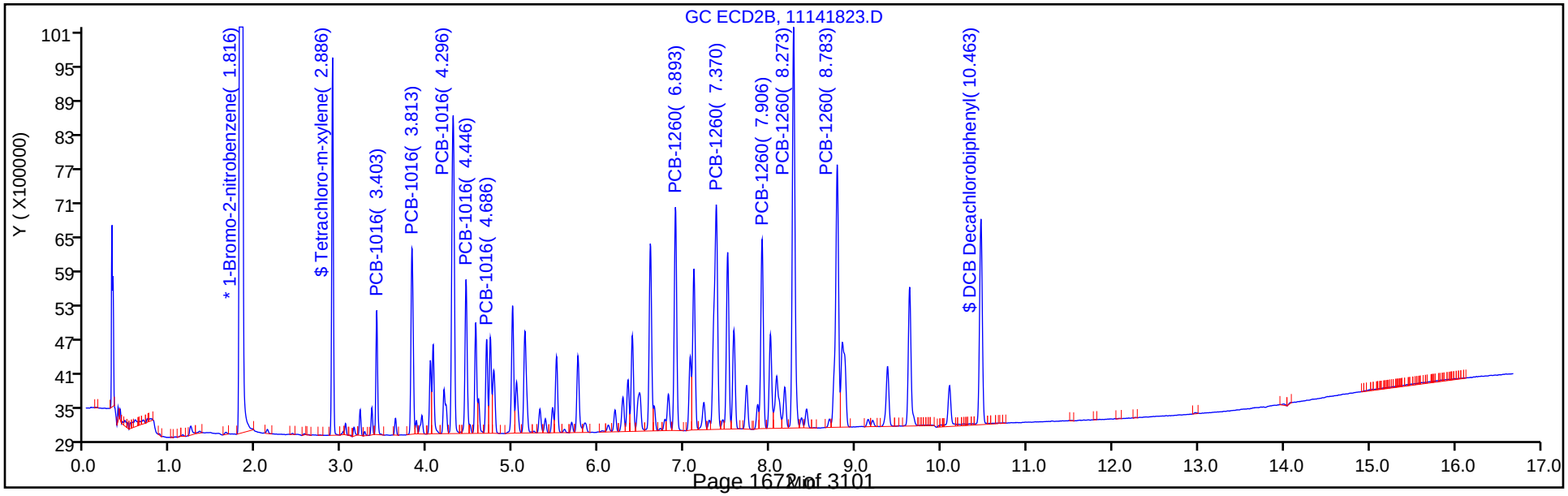
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141823.D

Injection Date:	14-Nov-2018 19:28:44	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL31660			Worklist Smp#:	23
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141824.D
Lims ID: STDL21660
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 14-Nov-2018 19:49:52 ALS Bottle#: 24 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL21660
Misc. Info.: 280-0076197-024
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:47 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:34:24

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.052	2.049	0.003	21177360	1000.0	1000.0	
2	1.822	1.820	0.002	133437802	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.992	2.989	0.003	1155178	2.50	2.49	
2	2.888	2.886	0.002	4611040	2.50	2.54	
						RPD = 1.78	
1 PCB-1016							
1	3.398	3.396	0.002	631773	50.0	59.4	
1	3.778	3.776	0.002	1136498	50.0	51.4	
1	4.292	4.289	0.003	1592318	50.0	52.4	
1	4.442	4.443	-0.001	727650	50.0	52.5	
1	4.928	4.926	0.002	749641	50.0	53.2	
		Average of Peak Amounts =				53.8	
2	3.405	3.403	0.002	1628265	50.0	52.3	
2	3.818	3.816	0.002	3345280	50.0	53.1	
2	4.298	4.296	0.002	6705591	50.0	52.5	
2	4.448	4.450	-0.002	2902444	50.0	54.3	
2	4.688	4.690	-0.002	1537880	50.0	53.5	
		Average of Peak Amounts =				53.1	
						RPD = 1.20	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							M
1	6.488	6.486	0.002	951143	50.0	50.6	
1	7.242	7.243	-0.001	1296867	50.0	49.9	
1	7.748	7.746	0.002	824066	50.0	49.8	
1	8.192	8.193	-0.001	1710706	50.0	50.4	
1	8.585	8.586	-0.001	811777	50.0	49.3	
		Average of Peak Amounts =				50.0	
2	6.895	6.896	-0.001	4074724	50.0	49.7	
2	7.375	7.373	0.002	6047255	50.0	50.0	
2	7.908	7.910	-0.002	3667853	50.0	50.1	
2	8.278	8.276	0.002	8072772	50.0	49.9	
2	8.788	8.786	0.002	6120793	50.0	49.7	M
		Average of Peak Amounts =				49.9	
						RPD = 0.27	
$ 15 DCB Decachlorobiphenyl							
1	10.185	10.186	-0.001	903655	2.50	2.47	
2	10.468	10.466	0.002	4230018	2.50	2.48	
						RPD = 0.70	
S 8 Polychlorinated biphenyls, Total							
1						103.8	
2						103.0	
						RPD = 0.75	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1660_L2_00030	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

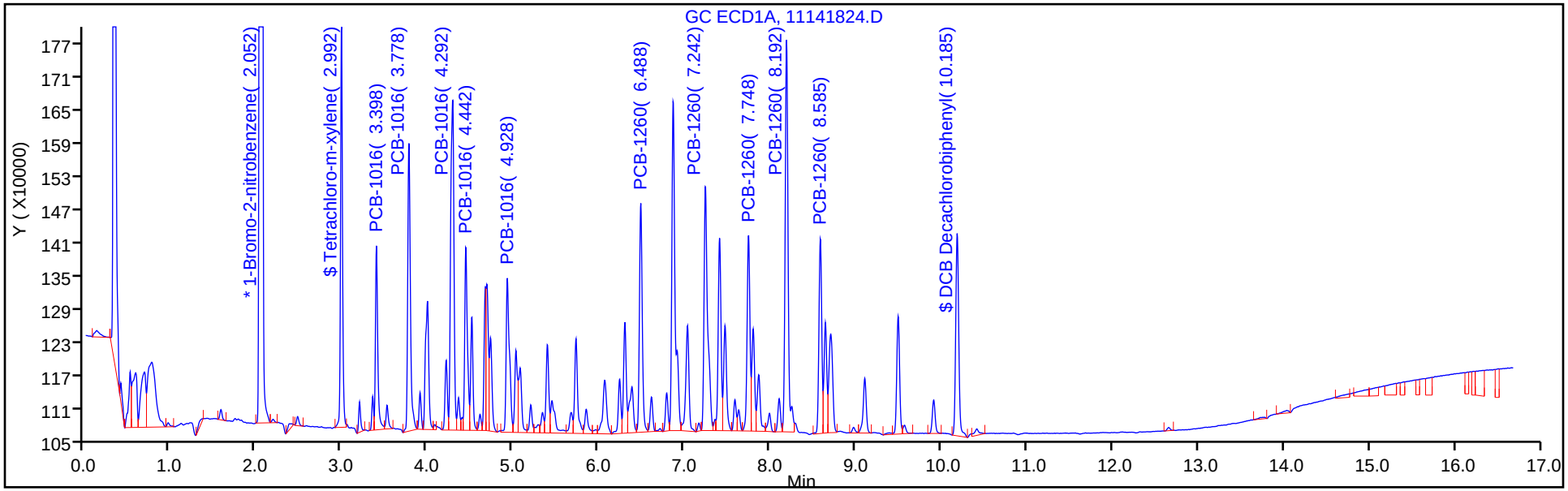
Report Date: 15-Nov-2018 16:08:48 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

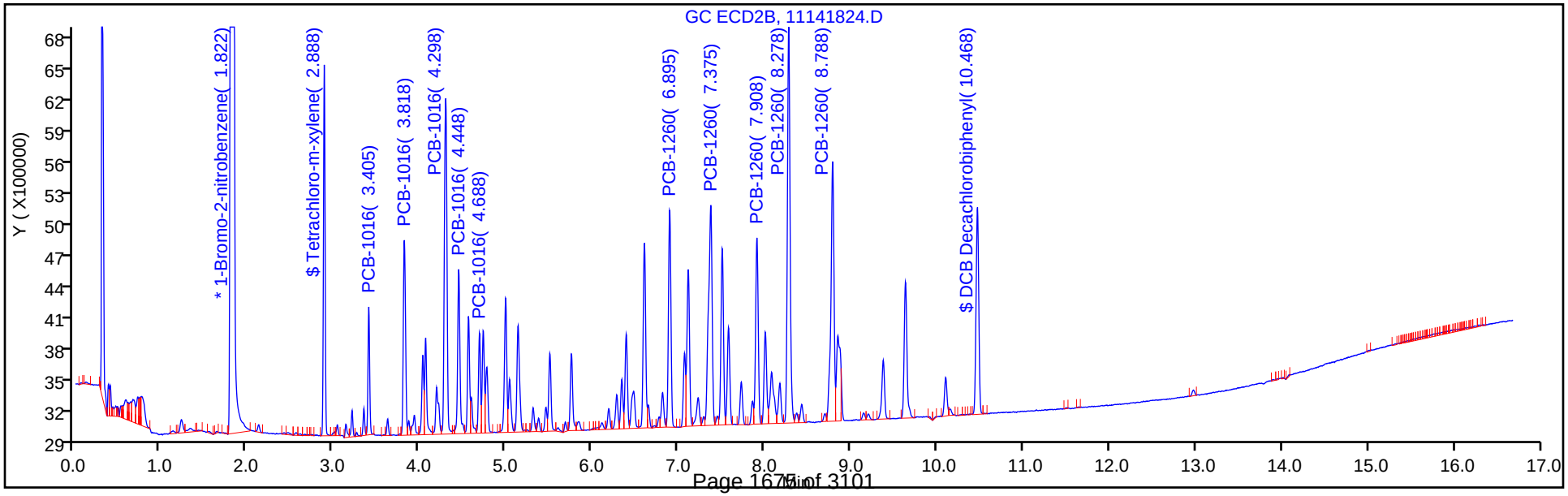
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141824.D

Injection Date:	14-Nov-2018 19:49:52	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL21660			Worklist Smp#:	24
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141825.D
Lims ID: STDL11660
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 14-Nov-2018 20:11:01 ALS Bottle#: 25 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL11660
Misc. Info.: 280-0076197-025
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:50 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:35:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.054	2.049	0.005	19869071	1000.0	1000.0	
2	1.824	1.820	0.004	125492424	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.990	2.989	0.001	547261	1.25	1.36	
2	2.890	2.886	0.004	2337365	1.25	1.14	
						RPD = 17.21	
1 PCB-1016							
1	3.397	3.396	0.001	275370	25.0	16.0	
1	3.780	3.776	0.004	579938	25.0	22.3	
1	4.290	4.289	0.001	729300	25.0	25.1	
1	4.444	4.443	0.001	339943	25.0	23.3	
1	4.930	4.926	0.004	347503	25.0	23.7	
		Average of Peak Amounts =				22.1	
2	3.407	3.403	0.004	793006	25.0	21.2	
2	3.817	3.816	0.001	1660272	25.0	21.6	
2	4.300	4.296	0.004	3371824	25.0	23.0	
2	4.450	4.450	0.000	1450847	25.0	22.3	
2	4.690	4.690	0.000	734430	25.0	21.1	
		Average of Peak Amounts =				21.9	
						RPD = 1.09	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.487	6.486	0.001	484856	25.0	23.7	
1	7.244	7.243	0.001	655251	25.0	25.2	
1	7.747	7.746	0.001	425211	25.0	24.8	
1	8.194	8.193	0.001	844592	25.0	25.3	
1	8.587	8.586	0.001	421204	25.0	26.0	
		Average of Peak Amounts =				25.0	
2	6.897	6.896	0.001	2145656	25.0	23.5	
2	7.374	7.373	0.001	3169753	25.0	23.7	
2	7.910	7.910	0.000	1920199	25.0	23.6	
2	8.280	8.276	0.004	4210923	25.0	23.8	
2	8.790	8.786	0.004	3203346	25.0	23.5	
		Average of Peak Amounts =				23.6	
						RPD = 5.74	
$ 15 DCB Decachlorobiphenyl							
1	10.187	10.186	0.001	486993	1.25	1.18	
2	10.467	10.466	0.001	2241643	1.25	1.13	
						RPD = 4.59	
S 8 Polychlorinated biphenyls, Total							
1						47.1	
2						45.5	
						RPD = 3.53	

Reagents:

AR_1660_L1_00031	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

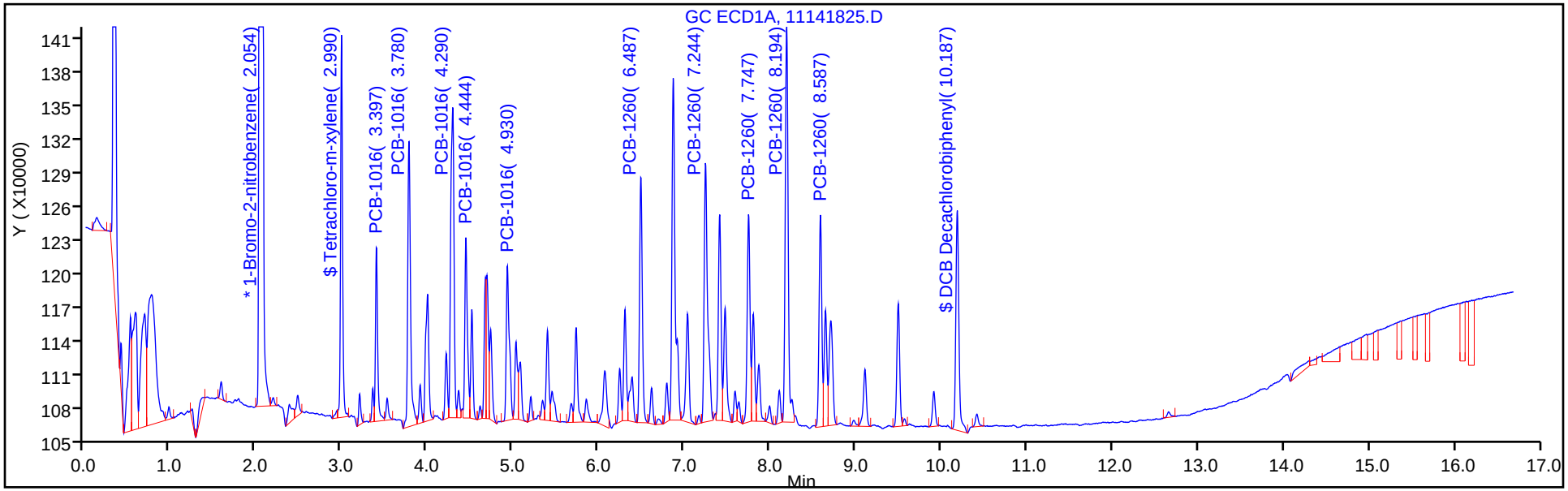
Report Date: 15-Nov-2018 16:08:51 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

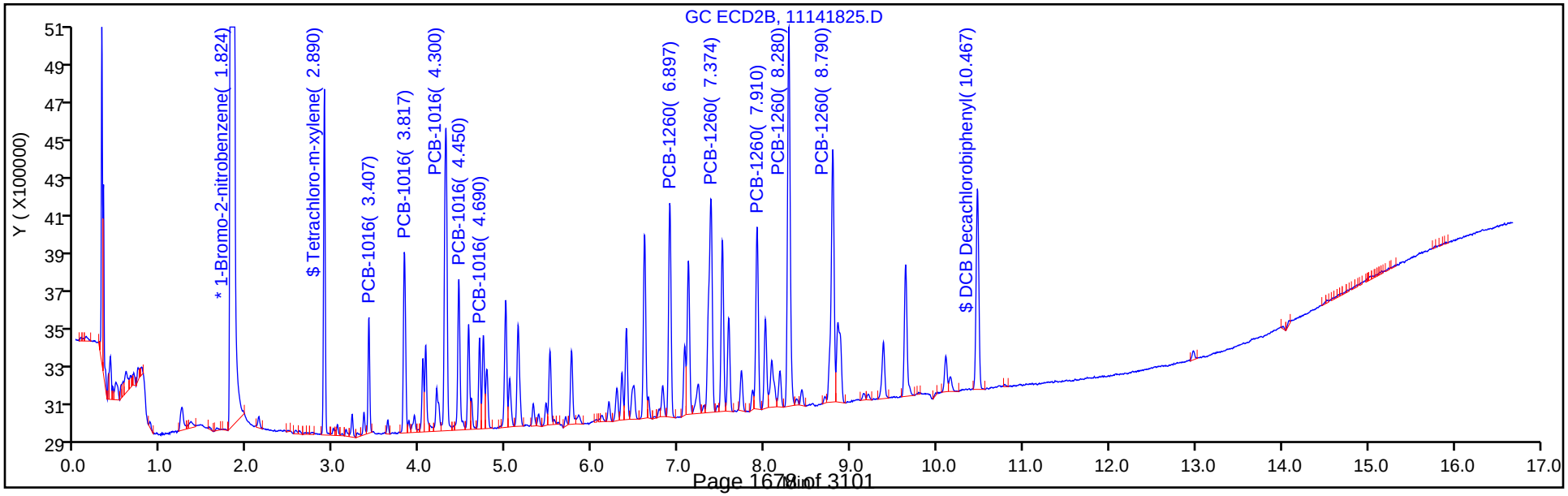
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141825.D

Injection Date:	14-Nov-2018 20:11:01	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL11660			Worklist Smp#:	25
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 18:04 Calibration End Date: 11/14/2018 20:11 Calibration ID: 34319

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11660 280-437583/25	11141825.D
Level 2	STDL21660 280-437583/24	11141824.D
Level 3	STDL31660 280-437583/23	11141823.D
Level 4	STDL41660 280-437583/22	11141822.D
Level 5	STDL51660 280-437583/21	11141821.D
Level 6	STDL61660 280-437583/20	11141820.D
Level 7	STDL71660 280-437583/19	11141819.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	0.2528 0.1929	0.2440 0.1871	0.2253	0.2073	0.1971	Lin1	2.2903	0.1896							0.9990		0.9900
PCB-1016 Peak 2	0.5292 0.3830	0.5014 0.3732	0.4461	0.4066	0.3891	Lin1	5.1352	0.3752							0.9990		0.9900
PCB-1016 Peak 3	1.0747 0.8122	1.0051 0.7884	0.8950	0.8312	0.8149	Lin1	8.6360	0.7922							1.0000		0.9900
PCB-1016 Peak 4	0.4624 0.3302	0.4350 0.3165	0.3668	0.3388	0.3307	Lin1	4.4437	0.3189							0.9990		0.9900
PCB-1016 Peak 5	0.2341 0.1786	0.2305 0.1737	0.2070	0.1904	0.1816	Lin1	2.1496	0.1754							0.9990		0.9900
PCB-1260 Peak 1	0.6839 0.5258	0.6107 0.5100	0.5902	0.5417	0.5226	Lin1	5.0167	0.5131							1.0000		0.9900
PCB-1260 Peak 2	1.0103 0.7815	0.9064 0.7575	0.8677	0.8028	0.7776	Lin1	7.2227	0.7626							1.0000		0.9900
PCB-1260 Peak 3	0.6121 0.4694	0.5497 0.4560	0.5229	0.4850	0.4693	Lin1	4.4926	0.4589							1.0000		0.9900
PCB-1260 Peak 4	1.3422 1.0579	1.2100 1.0218	1.1598	1.0822	1.0617	Lin1	8.9763	1.0332							1.0000		0.9900
PCB-1260 Peak 5	1.0210 0.7991	0.9174 0.7654	0.8875	0.8165	0.8049	Lin1	7.2354	0.7779							0.9990		0.9900
Tetrachloro-m-xylene	14.900 11.535	13.822 11.368	13.053	12.231	11.820	Lin1	5.5620	11.431							1.0000		0.9900
DCB Decachlorobiphenyl	14.290 10.511	12.680 10.029	12.228	11.041	10.621	Lin1	6.3433	10.209							0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 18:04 Calibration End Date: 11/14/2018 20:11 Calibration ID: 34319

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL11660 280-437583/25	11141825.D
Level 2	STDL21660 280-437583/24	11141824.D
Level 3	STDL31660 280-437583/23	11141823.D
Level 4	STDL41660 280-437583/22	11141822.D
Level 5	STDL51660 280-437583/21	11141821.D
Level 6	STDL61660 280-437583/20	11141820.D
Level 7	STDL71660 280-437583/19	11141819.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Lin1	793006 17546360	1628265 22550511	2992119	6641725	12300468	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 2	BNB	Lin1	1660272 34837257	3345280 44986825	5923068	13023757	24283127	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 3	BNB	Lin1	3371824 73870811	6705591 95041412	11884327	26626264	50853595	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 4	BNB	Lin1	1450847 30036115	2902444 38150398	4870593	10852622	20636262	25.0 750	50.0 1000	100	250	500
PCB-1016 Peak 5	BNB	Lin1	734430 16241445	1537880 20940200	2748384	6099792	11334196	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 1	BNB	Lin1	2145656 47821147	4074724 61483846	7836775	17351048	32611377	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 2	BNB	Lin1	3169753 71081928	6047255 91308890	11522472	25715022	48523897	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 3	BNB	Lin1	1920199 42696677	3667853 54973014	6942969	15536224	29285328	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 4	BNB	Lin1	4210923 96217464	8072772 123174804	15401087	34663686	66250517	25.0 750	50.0 1000	100	250	500
PCB-1260 Peak 5	BNB	Lin1	3203346 72677854	6120793 92265485	11784530	26155275	50228777	25.0 750	50.0 1000	100	250	500
Tetrachloro-m-xylene	BNB	Lin1	2337365 52456902	4611040 68520428	8666483	19589391	36881097	1.25 37.5	2.50 50.0	5.00	12.5	25.0
DCB Decachlorobiphenyl	BNB	Lin1	2241643 47798087	4230018 60448944	8118777	17683772	33138334	1.25 37.5	2.50 50.0	5.00	12.5	25.0

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141819.D
Lims ID: STDL71660
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 14-Nov-2018 18:04:06 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL71660
Misc. Info.: 280-0076197-019
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:34 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:31:56

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.050	2.052	-0.002	18849296	1000.0	1000.0	
2	1.820	1.822	-0.002	120545191	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.990	2.989	0.001	22825843	50.0	51.0	
2	2.887	2.886	0.001	68520428	50.0	49.2	
						RPD = 3.59	
1 PCB-1016							M
1	3.396	3.396	0.000	6970013	1000.0	982.5	
1	3.776	3.776	0.000	15867763	1000.0	989.1	
1	4.290	4.289	0.001	27004408	1000.0	1015.0	
1	4.443	4.443	0.000	11342767	1000.0	1011.4	
1	4.926	4.926	0.000	11544536	1000.0	1003.5	
		Average of Peak Amounts =				1000.3	
2	3.403	3.403	0.000	22550511	1000.0	974.6	
2	3.817	3.816	0.001	44986825	1000.0	981.0	M
2	4.297	4.296	0.001	95041412	1000.0	984.4	M
2	4.447	4.450	-0.003	38150398	1000.0	978.4	M
2	4.687	4.690	-0.003	20940200	1000.0	978.3	M
		Average of Peak Amounts =				979.3	
						RPD = 2.12	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							M
1	6.483	6.486	-0.003	14249827	1000.0	984.4	
1	7.240	7.243	-0.003	21686672	1000.0	1000.9	
1	7.743	7.746	-0.003	13227032	1000.0	995.7	
1	8.186	8.193	-0.007	29050949	1000.0	1007.5	
1	8.583	8.586	-0.003	13843763	1000.0	995.5	
		Average of Peak Amounts =				996.8	
2	6.893	6.896	-0.003	61483846	1000.0	984.2	M
2	7.370	7.373	-0.003	91308890	1000.0	983.8	M
2	7.907	7.910	-0.003	54973014	1000.0	983.9	M
2	8.273	8.276	-0.003	123174804	1000.0	980.3	M
2	8.783	8.786	-0.003	92265485	1000.0	974.7	M
		Average of Peak Amounts =				981.4	
						RPD = 1.56	
$ 15 DCB Decachlorobiphenyl							
1	10.183	10.186	-0.003	13113417	50.0	48.7	
2	10.463	10.466	-0.003	60448944	50.0	48.5	
						RPD = 0.37	
S 8 Polychlorinated biphenyls, Total							
1						1997.1	
2						1960.7	
						RPD = 1.84	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1660_L7_00026	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

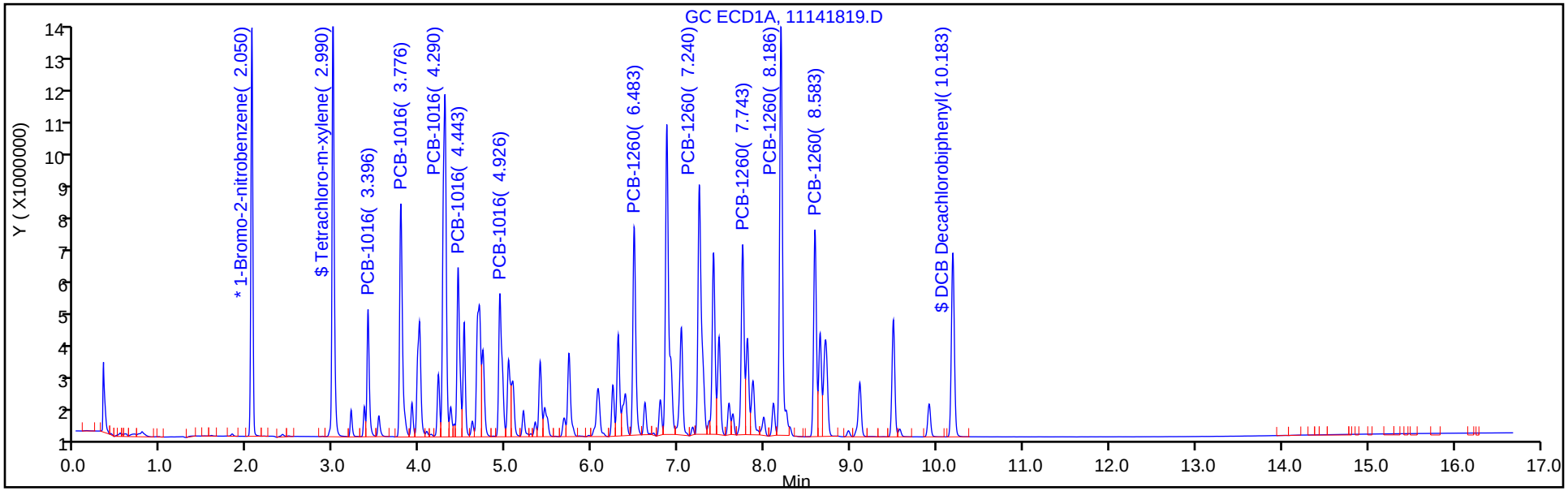
Report Date: 15-Nov-2018 16:08:35 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

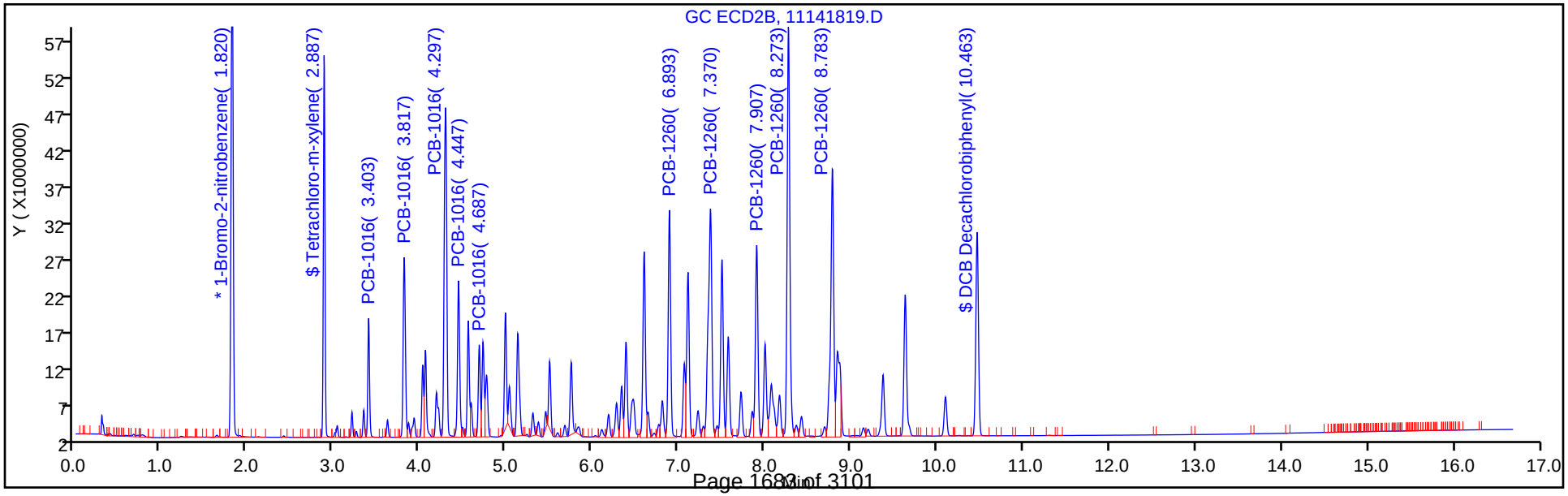
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141819.D

Injection Date:	14-Nov-2018 18:04:06	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL71660			Worklist Smp#:	19
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 15-Nov-2018 16:08:35 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141819.D

Injection Date: 14-Nov-2018 18:04:06 Instrument ID: SGC_J

Lims ID: STDL71660

Client ID:

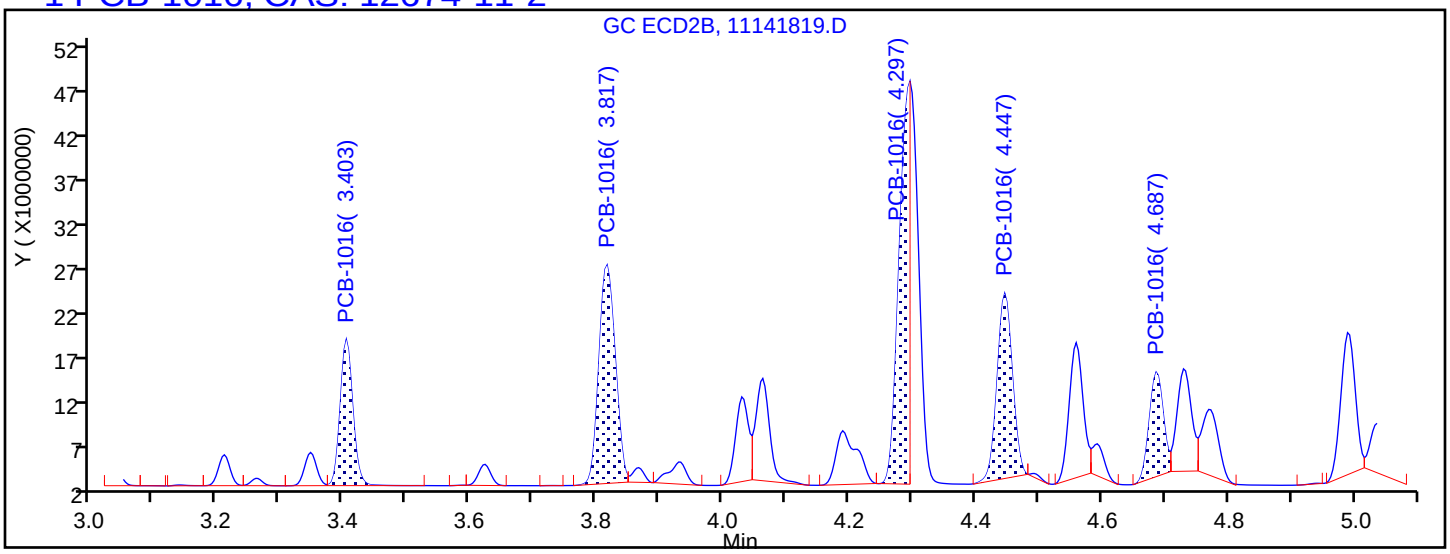
Operator ID: ALS ALS Bottle#: 19 Worklist Smp#: 19

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

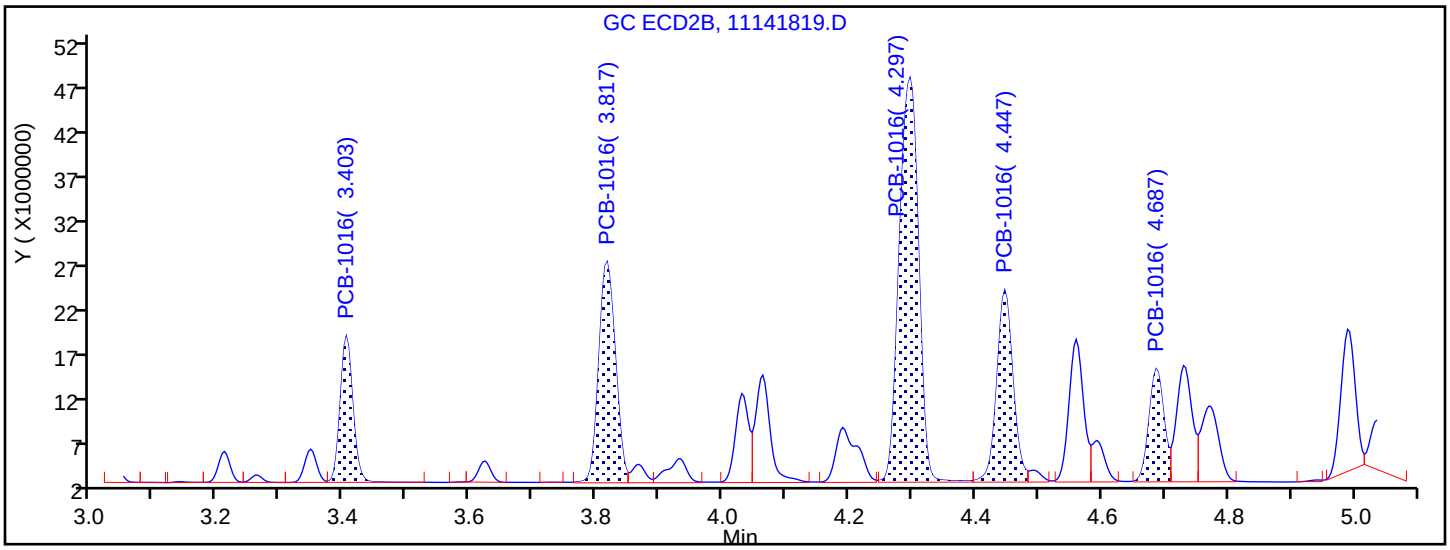
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

1 PCB-1016, CAS: 12674-11-2



Processing Integration Results

3.403	Response = 22550511
3.817	Response = 43687386
4.297	Response = 51209465
4.447	Response = 34584745
4.687	Response = 18133082



Manual Integration Results

3.403	Response = 22550511	
3.817	Response = 44986825	M
4.297	Response = 95041412	M
4.447	Response = 38150398	M
4.687	Response = 20940200	M

Reviewer: patadiab, 15-Nov-2018 09:30:45

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Report Date: 15-Nov-2018 16:08:36 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141819.D

Injection Date: 14-Nov-2018 18:04:06 Instrument ID: SGC_J

Lims ID: STDL71660

Client ID:

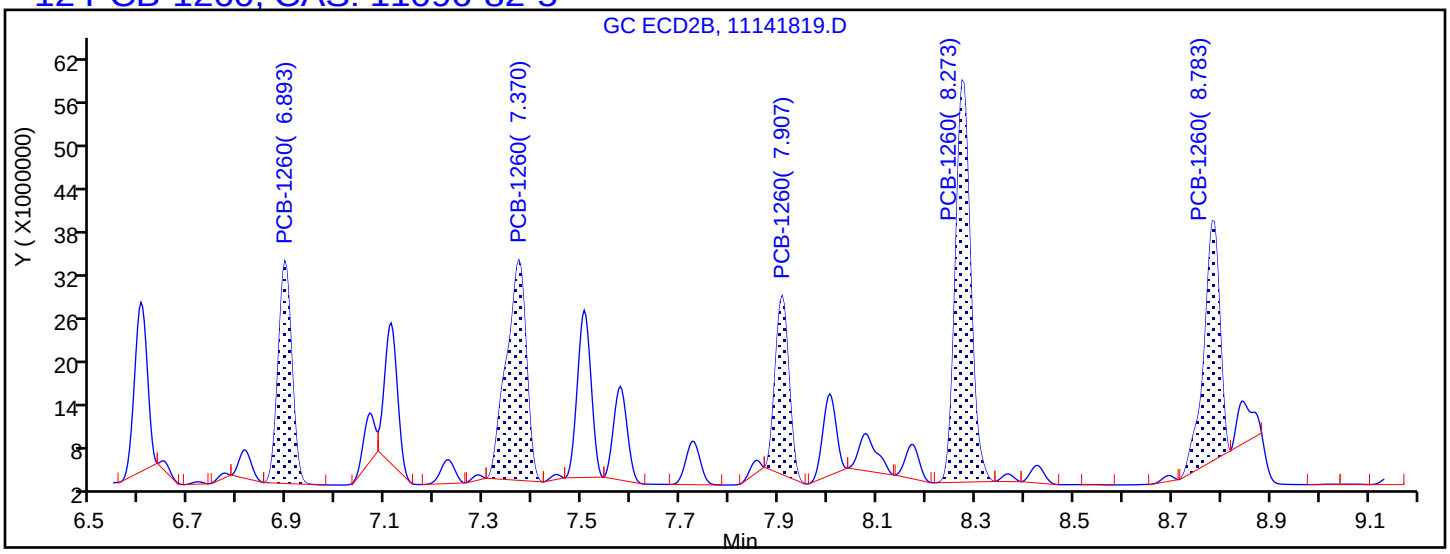
Operator ID: ALS ALS Bottle#: 19 Worklist Smp#: 19

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

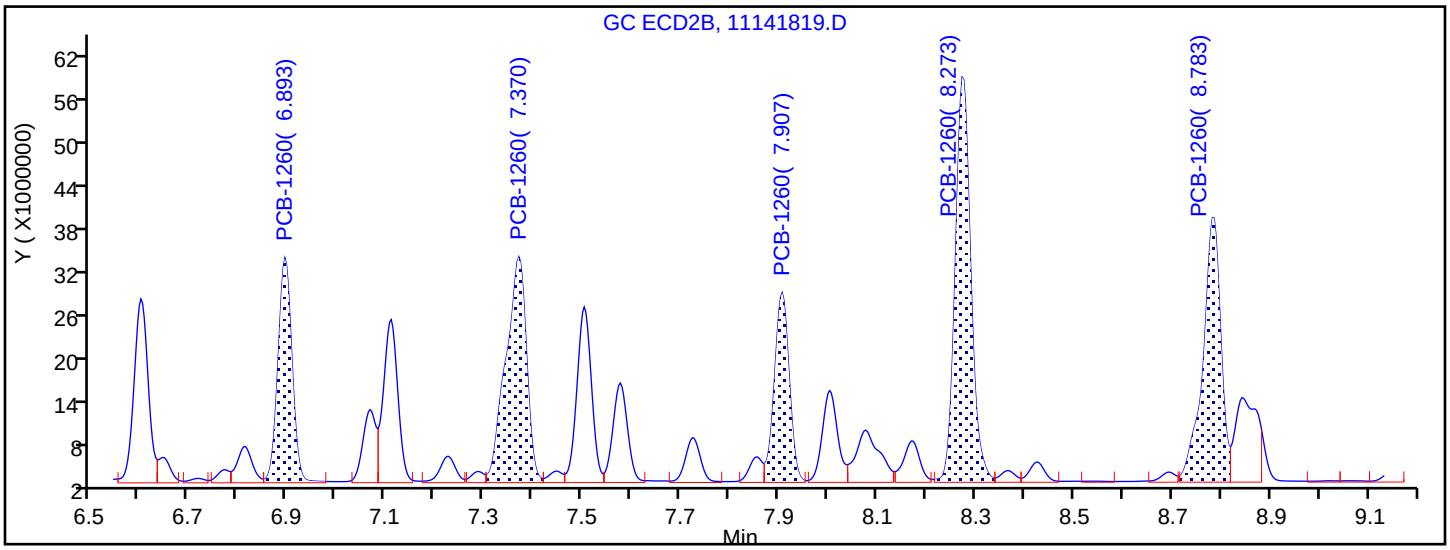
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

12 PCB-1260, CAS: 11096-82-5



Processing Integration Results

6.893	Response = 59076584
7.370	Response = 85601937
7.907	Response = 47908254
8.273	Response = 119518135
8.783	Response = 74833221



Manual Integration Results

6.893	Response = 61483846	M
7.370	Response = 91308890	M
7.907	Response = 54973014	M
8.273	Response = 123174804	M
8.783	Response = 92265485	M

Reviewer: patadiab, 15-Nov-2018 09:31:42

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141820.D
Lims ID: STDL61660
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 14-Nov-2018 18:25:16 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL61660
Misc. Info.: 280-0076197-020
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:37 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:28:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.050	2.052	-0.002	18988266	1000.0	1000.0	
2	1.821	1.822	-0.001	121269294	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.994	2.989	0.005	16898098	37.5	37.6	
2	2.891	2.886	0.005	52456902	37.5	37.4	
						RPD = 0.55	
1 PCB-1016							
1	3.397	3.396	0.001	5277972	750.0	733.2	
1	3.780	3.776	0.004	12077726	750.0	744.3	
1	4.294	4.289	0.005	20087707	750.0	749.2	
1	4.444	4.443	0.001	8325496	750.0	735.4	
1	4.930	4.926	0.004	8673350	750.0	747.1	
		Average of Peak Amounts =				741.8	
2	3.404	3.403	0.001	17546360	750.0	751.1	
2	3.817	3.816	0.001	34837257	750.0	752.0	
2	4.297	4.296	0.001	73870811	750.0	758.1	
2	4.451	4.450	0.001	30036115	750.0	762.7	
2	4.691	4.690	0.001	16241445	750.0	751.5	
		Average of Peak Amounts =				755.1	
						RPD = 1.76	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.490	6.486	0.004	11106094	750.0	759.7	
1	7.244	7.243	0.001	16539001	750.0	756.9	
1	7.747	7.746	0.001	10118616	750.0	754.8	
1	8.194	8.193	0.001	21947165	750.0	754.9	
1	8.587	8.586	0.001	10712497	750.0	764.0	
		Average of Peak Amounts =				758.1	
2	6.897	6.896	0.001	47821147	750.0	758.7	
2	7.374	7.373	0.001	71081928	750.0	759.2	
2	7.911	7.910	0.001	42696677	750.0	757.4	
2	8.277	8.276	0.001	96217464	750.0	759.2	
2	8.787	8.786	0.001	72677854	750.0	761.1	
		Average of Peak Amounts =				759.1	
						RPD = 0.14	
$ 15 DCB Decachlorobiphenyl							
1	10.187	10.186	0.001	10341892	37.5	38.0	
2	10.467	10.466	0.001	47798087	37.5	38.0	
						RPD = 0.01	
S 8 Polychlorinated biphenyls, Total							
1						1499.9	
2						1514.2	
						RPD = 0.95	

Reagents:

AR_1660_L6_00033	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

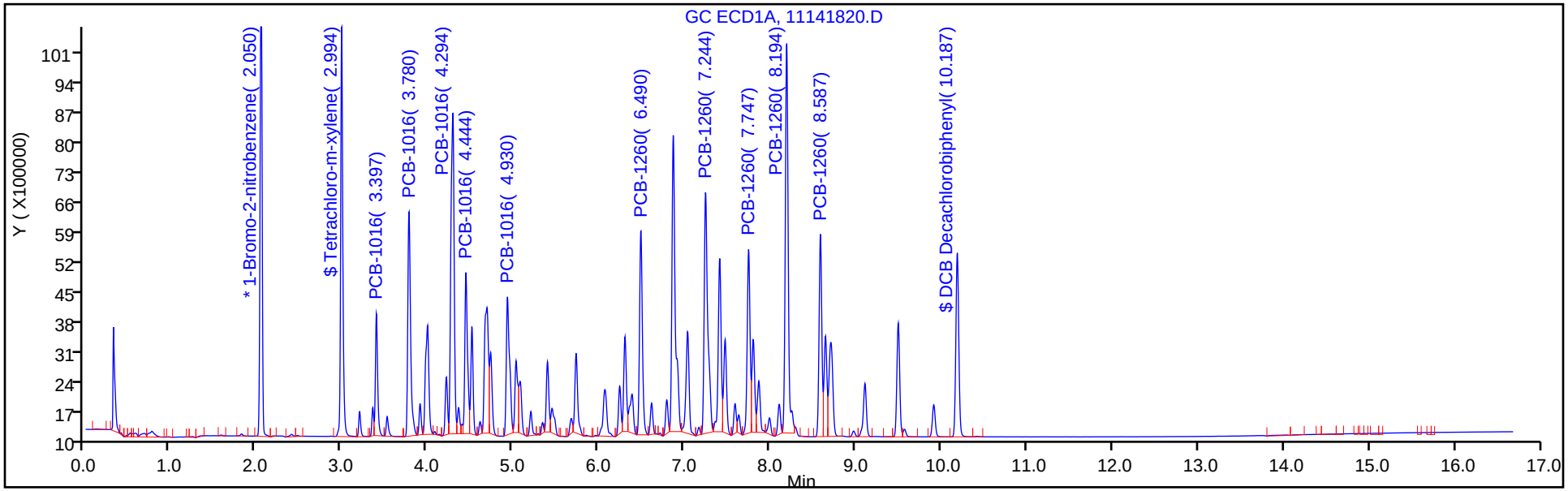
Report Date: 15-Nov-2018 16:08:38 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

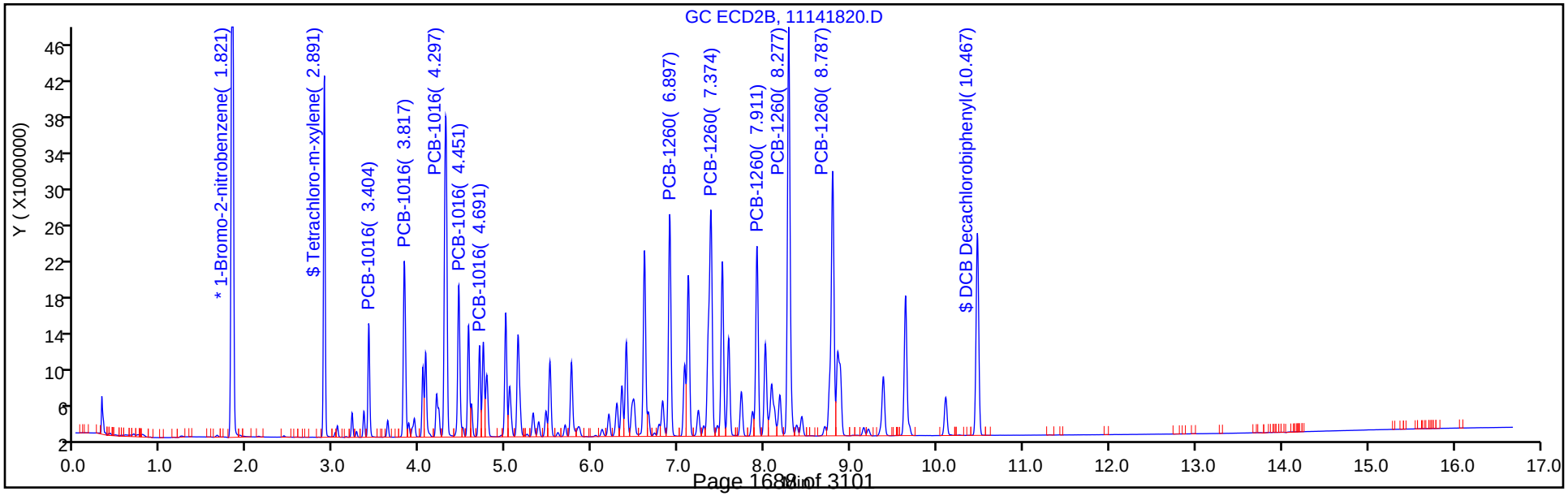
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141820.D

Injection Date:	14-Nov-2018 18:25:16	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL61660			Worklist Smp#:	20
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141821.D
Lims ID: STDL51660
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 14-Nov-2018 18:46:25 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL51660
Misc. Info.: 280-0076197-021
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:40 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:27:15

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.049	2.049	0.000	19722596	1000.0	1000.0	
2	1.820	1.820	0.000	124805946	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.989	2.989	0.000	11476636	25.0	24.6	
2	2.886	2.886	0.000	36881097	25.0	25.4	
						RPD = 2.94	
1 PCB-1016							
1	3.396	3.396	0.000	3855156	500.0	509.2	
1	3.776	3.776	0.000	8558955	500.0	503.9	
1	4.289	4.289	0.000	13741612	500.0	493.1	
1	4.443	4.443	0.000	5852969	500.0	496.0	
1	4.926	4.926	0.000	6016445	500.0	497.2	
		Average of Peak Amounts =				499.9	
2	3.403	3.403	0.000	12300468	500.0	507.7	
2	3.816	3.816	0.000	24283127	500.0	504.9	
2	4.296	4.296	0.000	50853595	500.0	503.5	
2	4.450	4.450	0.000	20636262	500.0	504.5	
2	4.690	4.690	0.000	11334196	500.0	505.6	
		Average of Peak Amounts =				505.2	
						RPD = 1.07	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.486	6.486	0.000	7636859	500.0	500.1	
1	7.243	7.243	0.000	11247315	500.0	494.3	
1	7.746	7.746	0.000	6956270	500.0	497.6	
1	8.193	8.193	0.000	14851559	500.0	490.9	
1	8.586	8.586	0.000	7227152	500.0	495.3	
		Average of Peak Amounts =				495.7	
2	6.896	6.896	0.000	32611377	500.0	499.4	
2	7.373	7.373	0.000	48523897	500.0	500.4	
2	7.910	7.910	0.000	29285328	500.0	501.5	
2	8.276	8.276	0.000	66250517	500.0	505.1	
2	8.786	8.786	0.000	50228777	500.0	508.1	
		Average of Peak Amounts =				502.9	
						RPD = 1.45	
$ 15 DCB Decachlorobiphenyl							
1	10.186	10.186	0.000	7222178	25.0	25.4	
2	10.466	10.466	0.000	33138334	25.0	25.4	
						RPD = 0.10	

Reagents:

AR_1660_L5_00066	Amount Added: 1.00	Units: mL	
BNB IS_00012	Amount Added: 1.00	Units: mL	Run Reagent

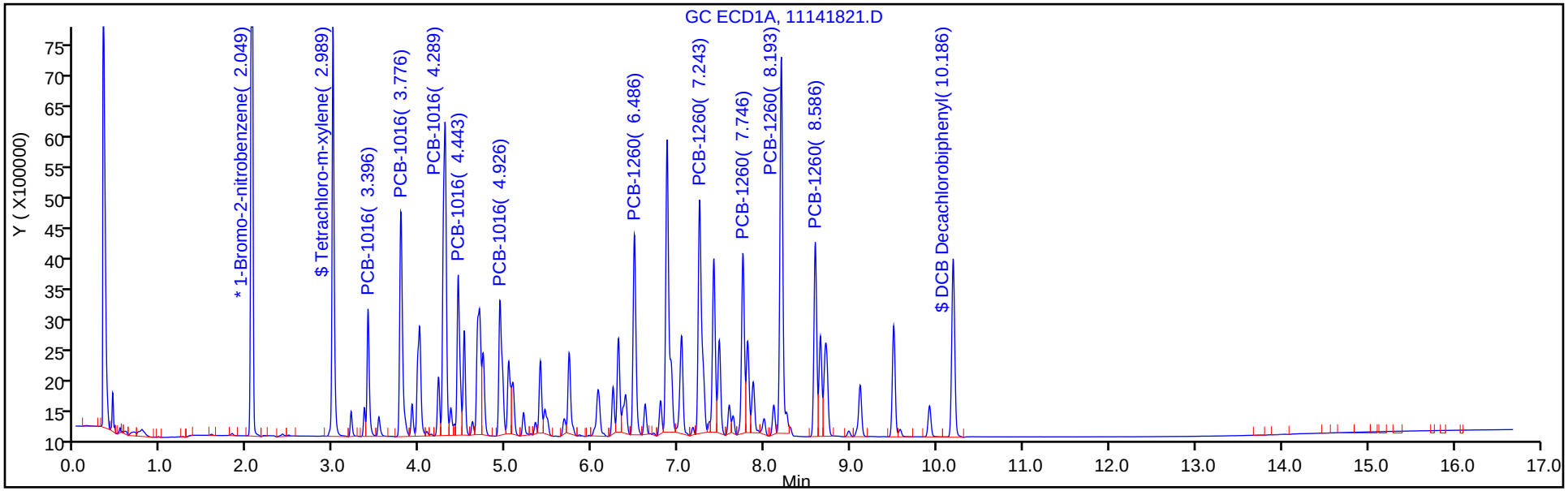
Report Date: 15-Nov-2018 16:08:41 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

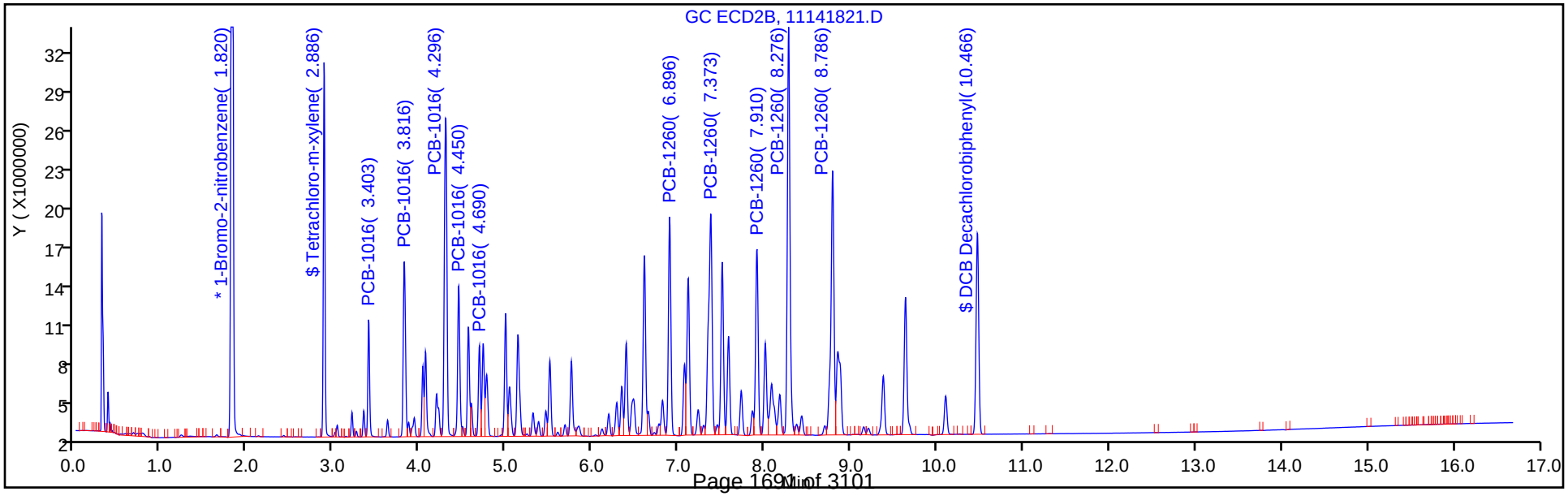
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141821.D

Injection Date:	14-Nov-2018 18:46:25	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL51660			Worklist Smp#:	21
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141822.D
Lims ID: STDL41660
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 14-Nov-2018 19:07:35 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL41660
Misc. Info.: 280-0076197-022
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:42 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:33:18

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.048	2.049	-0.001	20177349	1000.0	1000.0	
2	1.818	1.820	-0.002	128126902	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.992	2.989	0.003	5611062	12.5	11.9	
2	2.888	2.886	0.002	19589391	12.5	12.9	
						RPD = 8.18	
1 PCB-1016							
1	3.398	3.396	0.002	2085408	250.0	259.0	
1	3.778	3.776	0.002	4592327	250.0	258.4	
1	4.292	4.289	0.003	6921871	250.0	242.3	
1	4.442	4.443	-0.001	3112816	250.0	255.2	
1	4.928	4.926	0.002	3143209	250.0	251.4	
		Average of Peak Amounts =				253.3	
2	3.405	3.403	0.002	6641725	250.0	261.3	
2	3.815	3.816	-0.001	13023757	250.0	257.2	
2	4.298	4.296	0.002	26626264	250.0	251.4	
2	4.448	4.450	-0.002	10852622	250.0	251.7	
2	4.688	4.690	-0.002	6099792	250.0	259.2	
		Average of Peak Amounts =				256.2	
						RPD = 1.14	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.488	6.486	0.002	4023532	250.0	253.5	
1	7.245	7.243	0.002	5796848	250.0	247.3	
1	7.748	7.746	0.002	3637943	250.0	251.6	
1	8.192	8.193	-0.001	7651380	250.0	245.9	
1	8.588	8.586	0.002	3703965	250.0	246.7	
		Average of Peak Amounts =				249.0	
2	6.898	6.896	0.002	17351048	250.0	254.1	
2	7.372	7.373	-0.001	25715022	250.0	253.7	
2	7.908	7.910	-0.002	15536224	250.0	254.4	
2	8.278	8.276	0.002	34663686	250.0	253.2	
2	8.788	8.786	0.002	26155275	250.0	253.1	
		Average of Peak Amounts =				253.7	
						RPD = 1.88	
$ 15 DCB Decachlorobiphenyl							
1	10.185	10.186	-0.001	3833555	12.5	12.9	
2	10.468	10.466	0.002	17683772	12.5	12.9	
						RPD = 0.04	
S 8 Polychlorinated biphenyls, Total							
1						502.3	
2						509.9	
						RPD = 1.51	

Reagents:

AR_1660_L4_00068	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

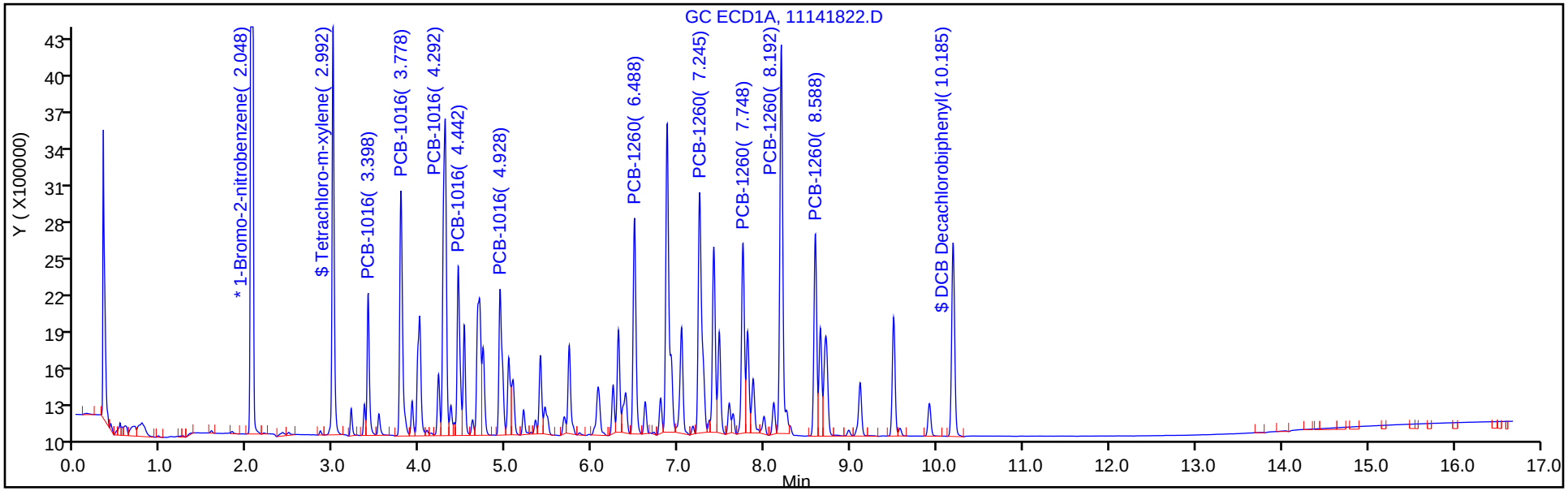
Report Date: 15-Nov-2018 16:08:43 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

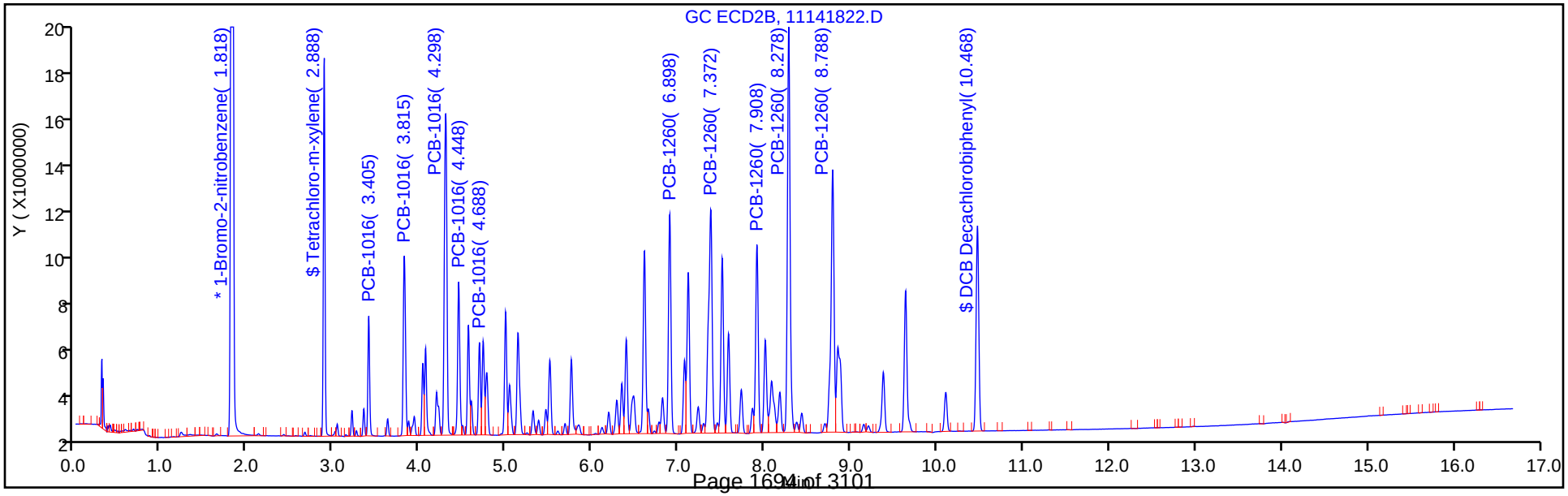
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141822.D

Injection Date:	14-Nov-2018 19:07:35	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL41660			Worklist Smp#:	22
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141823.D
Lims ID: STDL31660
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 14-Nov-2018 19:28:44 ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL31660
Misc. Info.: 280-0076197-023
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:45 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:29:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.049	-0.003	21174828	1000.0	1000.0	
2	1.816	1.820	-0.004	132788086	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.989	2.989	0.000	2317625	5.00	4.80	
2	2.886	2.886	0.000	8666483	5.00	5.22	
						RPD = 8.51	
1 PCB-1016							
1	3.396	3.396	0.000	1071067	100.0	115.7	
1	3.776	3.776	0.000	2098349	100.0	105.5	
1	4.286	4.289	-0.003	2949693	100.0	97.9	
1	4.439	4.443	-0.004	1336874	100.0	101.1	
1	4.926	4.926	0.000	1338678	100.0	99.0	
		Average of Peak Amounts =				103.8	
2	3.403	3.403	0.000	2992119	100.0	106.8	
2	3.813	3.816	-0.003	5923068	100.0	105.2	
2	4.296	4.296	0.000	11884327	100.0	102.1	
2	4.446	4.450	-0.004	4870593	100.0	101.1	
2	4.686	4.690	-0.004	2748384	100.0	105.8	
		Average of Peak Amounts =				104.2	
						RPD = 0.33	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.483	6.486	-0.003	1797390	100.0	103.1	
1	7.239	7.243	-0.004	2522328	100.0	100.4	
1	7.743	7.746	-0.003	1577920	100.0	100.6	
1	8.186	8.193	-0.007	3316711	100.0	100.1	
1	8.583	8.586	-0.003	1574178	100.0	98.2	
		Average of Peak Amounts =				100.5	
2	6.893	6.896	-0.003	7836775	100.0	105.2	
2	7.370	7.373	-0.003	11522472	100.0	104.3	
2	7.906	7.910	-0.004	6942969	100.0	104.1	
2	8.273	8.276	-0.003	15401087	100.0	103.6	
2	8.783	8.786	-0.003	11784530	100.0	104.8	
		Average of Peak Amounts =				104.4	
						RPD = 3.82	
$ 15 DCB Decachlorobiphenyl							
1	10.179	10.186	-0.007	1715210	5.00	5.18	
2	10.463	10.466	-0.003	8118777	5.00	5.37	
						RPD = 3.57	
S 8 Polychlorinated biphenyls, Total							
1						204.3	
2						208.6	
						RPD = 2.06	

Reagents:

AR_1660_L3_00031	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

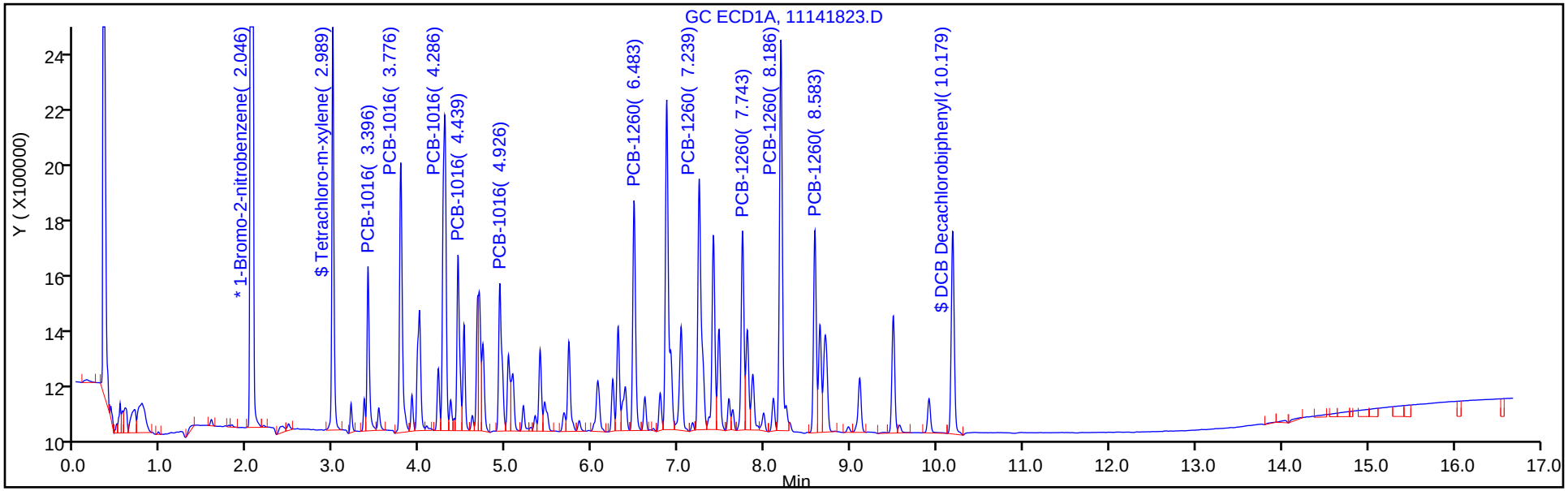
Report Date: 15-Nov-2018 16:08:46 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

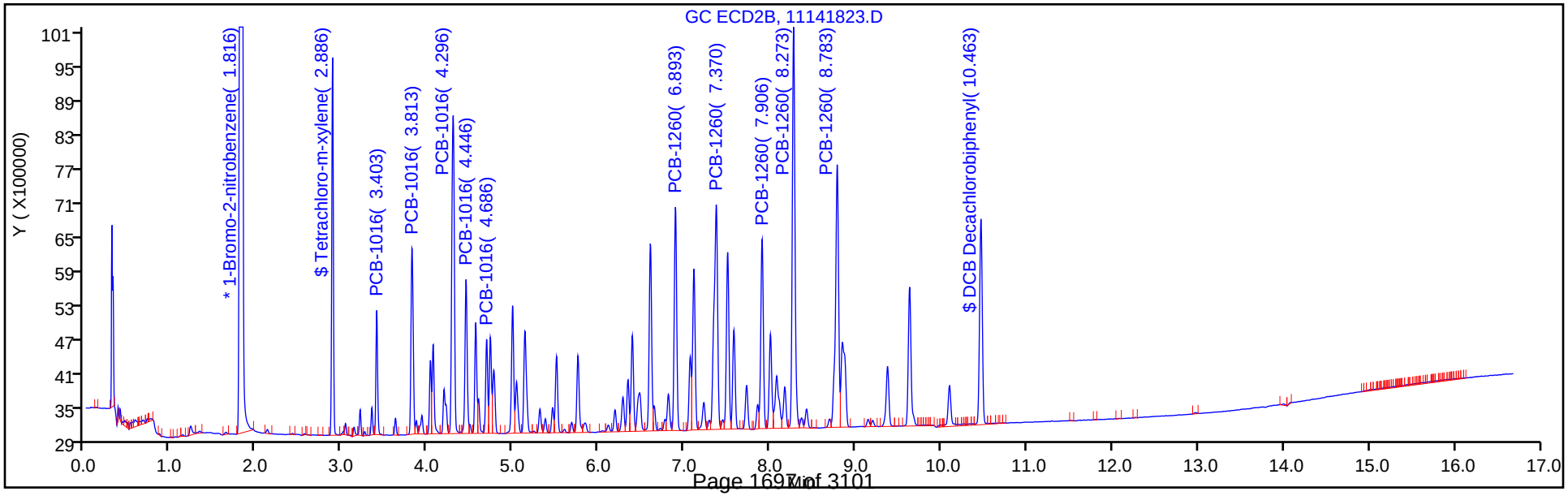
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141823.D

Injection Date:	14-Nov-2018 19:28:44	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL31660			Worklist Smp#:	23
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141824.D
Lims ID: STDL21660
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 14-Nov-2018 19:49:52 ALS Bottle#: 24 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL21660
Misc. Info.: 280-0076197-024
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:47 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:34:24

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.052	2.049	0.003	21177360	1000.0	1000.0	
2	1.822	1.820	0.002	133437802	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.992	2.989	0.003	1155178	2.50	2.49	
2	2.888	2.886	0.002	4611040	2.50	2.54	
						RPD = 1.78	
1 PCB-1016							
1	3.398	3.396	0.002	631773	50.0	59.4	
1	3.778	3.776	0.002	1136498	50.0	51.4	
1	4.292	4.289	0.003	1592318	50.0	52.4	
1	4.442	4.443	-0.001	727650	50.0	52.5	
1	4.928	4.926	0.002	749641	50.0	53.2	
		Average of Peak Amounts =				53.8	
2	3.405	3.403	0.002	1628265	50.0	52.3	
2	3.818	3.816	0.002	3345280	50.0	53.1	
2	4.298	4.296	0.002	6705591	50.0	52.5	
2	4.448	4.450	-0.002	2902444	50.0	54.3	
2	4.688	4.690	-0.002	1537880	50.0	53.5	
		Average of Peak Amounts =				53.1	
						RPD = 1.20	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							M
1	6.488	6.486	0.002	951143	50.0	50.6	
1	7.242	7.243	-0.001	1296867	50.0	49.9	
1	7.748	7.746	0.002	824066	50.0	49.8	
1	8.192	8.193	-0.001	1710706	50.0	50.4	
1	8.585	8.586	-0.001	811777	50.0	49.3	
		Average of Peak Amounts =				50.0	
2	6.895	6.896	-0.001	4074724	50.0	49.7	
2	7.375	7.373	0.002	6047255	50.0	50.0	
2	7.908	7.910	-0.002	3667853	50.0	50.1	
2	8.278	8.276	0.002	8072772	50.0	49.9	
2	8.788	8.786	0.002	6120793	50.0	49.7	M
		Average of Peak Amounts =				49.9	
						RPD = 0.27	
$ 15 DCB Decachlorobiphenyl							
1	10.185	10.186	-0.001	903655	2.50	2.47	
2	10.468	10.466	0.002	4230018	2.50	2.48	
						RPD = 0.70	
S 8 Polychlorinated biphenyls, Total							
1						103.8	
2						103.0	
						RPD = 0.75	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_1660_L2_00030	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

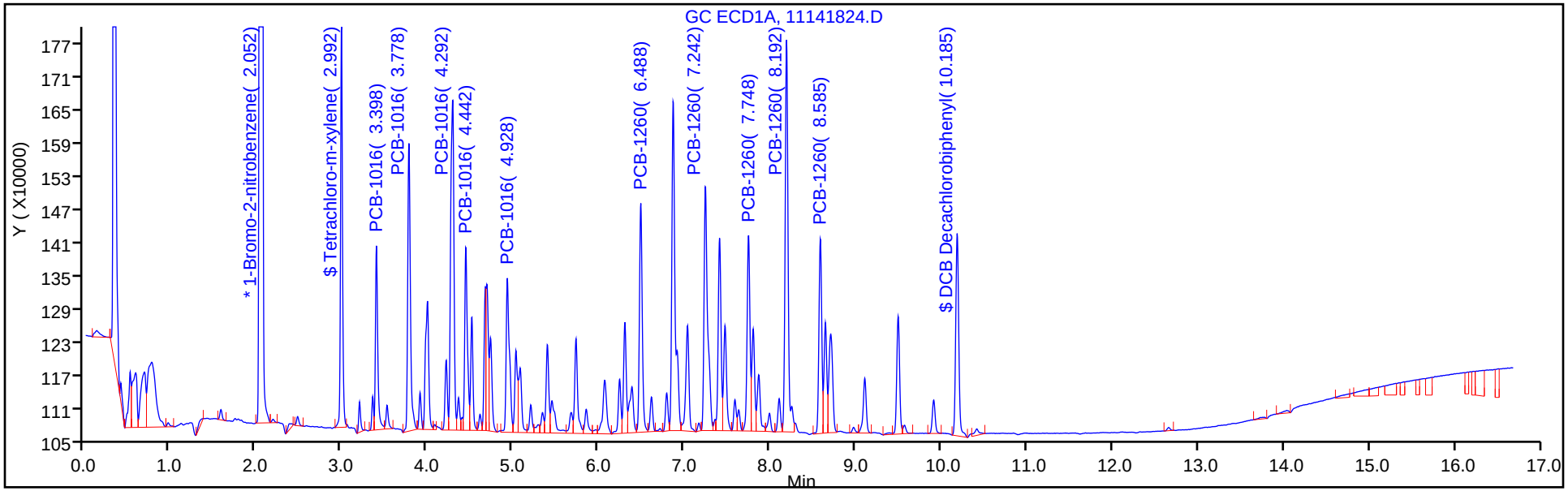
Report Date: 15-Nov-2018 16:08:48 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

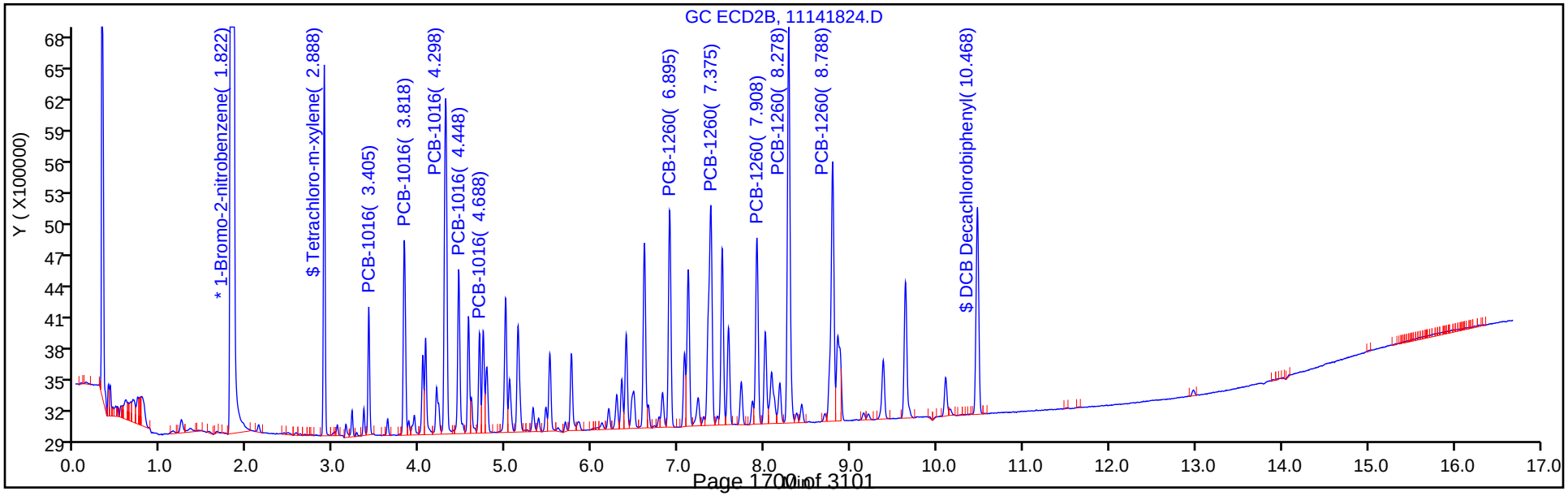
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141824.D

Injection Date:	14-Nov-2018 19:49:52	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL21660			Worklist Smp#:	24
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 15-Nov-2018 16:08:48 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141824.D

Injection Date: 14-Nov-2018 19:49:52 Instrument ID: SGC_J

Lims ID: STDL21660

Client ID:

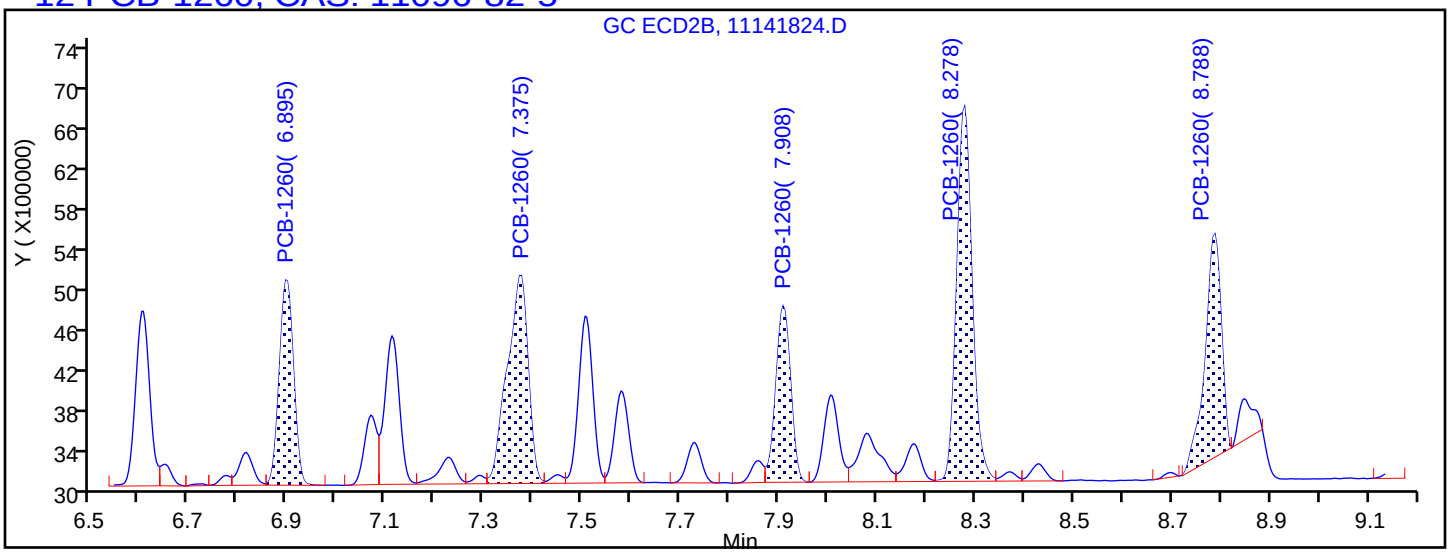
Operator ID: ALS ALS Bottle#: 24 Worklist Smp#: 24

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

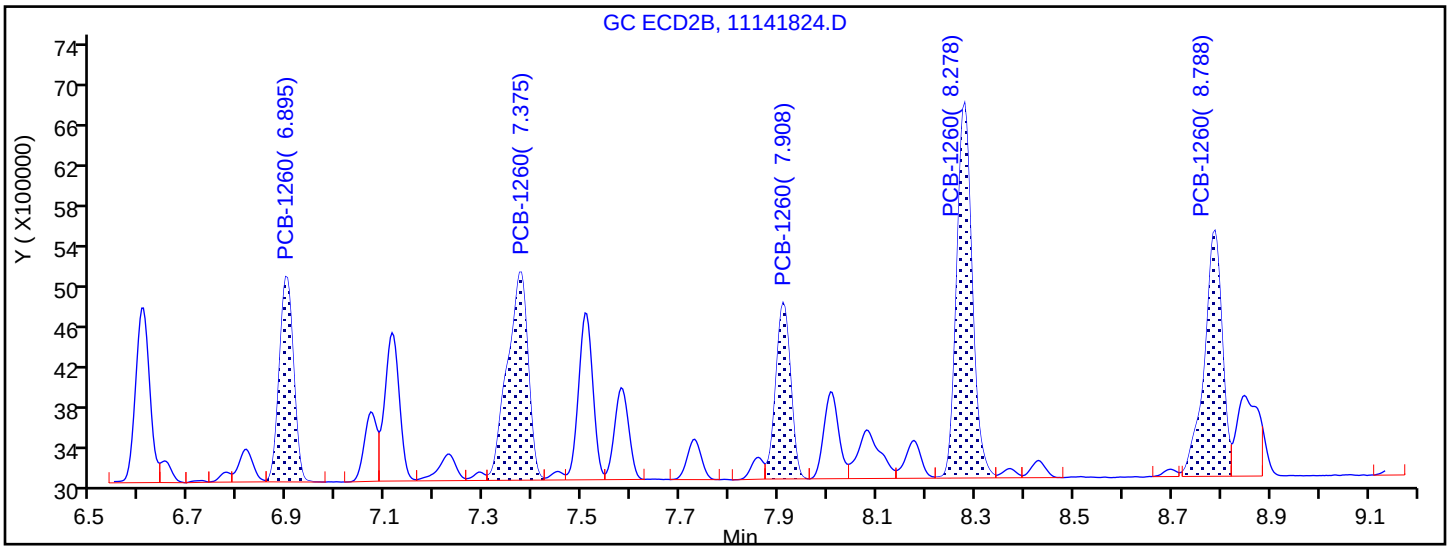
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

12 PCB-1260, CAS: 11096-82-5



Processing Integration Results

6.895	Response = 4074724
7.375	Response = 6047255
7.908	Response = 3667853
8.278	Response = 8072772
8.788	Response = 5066575



Manual Integration Results

6.895	Response = 4074724	
7.375	Response = 6047255	
7.908	Response = 3667853	
8.278	Response = 8072772	
8.788	Response = 6120793	M

Reviewer: patadiab, 15-Nov-2018 09:34:18

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141825.D
Lims ID: STDL11660
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 14-Nov-2018 20:11:01 ALS Bottle#: 25 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL11660
Misc. Info.: 280-0076197-025
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:50 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:35:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.054	2.049	0.005	19869071	1000.0	1000.0	
2	1.824	1.820	0.004	125492424	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.990	2.989	0.001	547261	1.25	1.36	
2	2.890	2.886	0.004	2337365	1.25	1.14	
						RPD = 17.21	
1 PCB-1016							
1	3.397	3.396	0.001	275370	25.0	16.0	
1	3.780	3.776	0.004	579938	25.0	22.3	
1	4.290	4.289	0.001	729300	25.0	25.1	
1	4.444	4.443	0.001	339943	25.0	23.3	
1	4.930	4.926	0.004	347503	25.0	23.7	
		Average of Peak Amounts =				22.1	
2	3.407	3.403	0.004	793006	25.0	21.2	
2	3.817	3.816	0.001	1660272	25.0	21.6	
2	4.300	4.296	0.004	3371824	25.0	23.0	
2	4.450	4.450	0.000	1450847	25.0	22.3	
2	4.690	4.690	0.000	734430	25.0	21.1	
		Average of Peak Amounts =				21.9	
						RPD = 1.09	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.487	6.486	0.001	484856	25.0	23.7	
1	7.244	7.243	0.001	655251	25.0	25.2	
1	7.747	7.746	0.001	425211	25.0	24.8	
1	8.194	8.193	0.001	844592	25.0	25.3	
1	8.587	8.586	0.001	421204	25.0	26.0	
		Average of Peak Amounts =				25.0	
2	6.897	6.896	0.001	2145656	25.0	23.5	
2	7.374	7.373	0.001	3169753	25.0	23.7	
2	7.910	7.910	0.000	1920199	25.0	23.6	
2	8.280	8.276	0.004	4210923	25.0	23.8	
2	8.790	8.786	0.004	3203346	25.0	23.5	
		Average of Peak Amounts =				23.6	
						RPD = 5.74	
$ 15 DCB Decachlorobiphenyl							
1	10.187	10.186	0.001	486993	1.25	1.18	
2	10.467	10.466	0.001	2241643	1.25	1.13	
						RPD = 4.59	
S 8 Polychlorinated biphenyls, Total							
1						47.1	
2						45.5	
						RPD = 3.53	

Reagents:

AR_1660_L1_00031	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

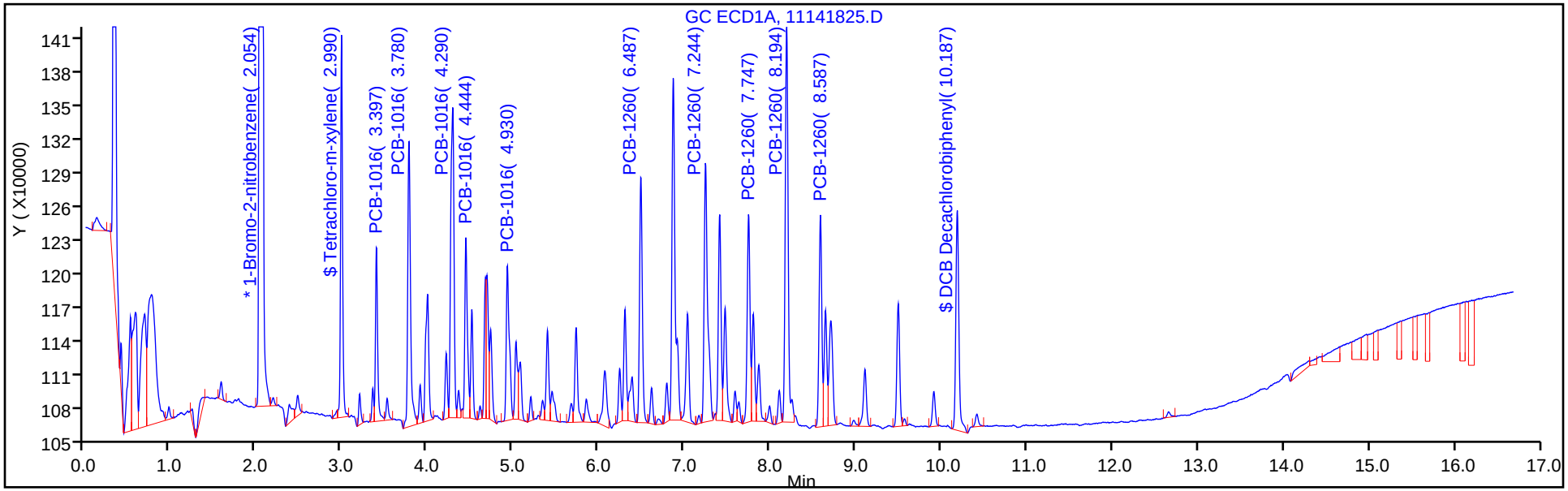
Report Date: 15-Nov-2018 16:08:51 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

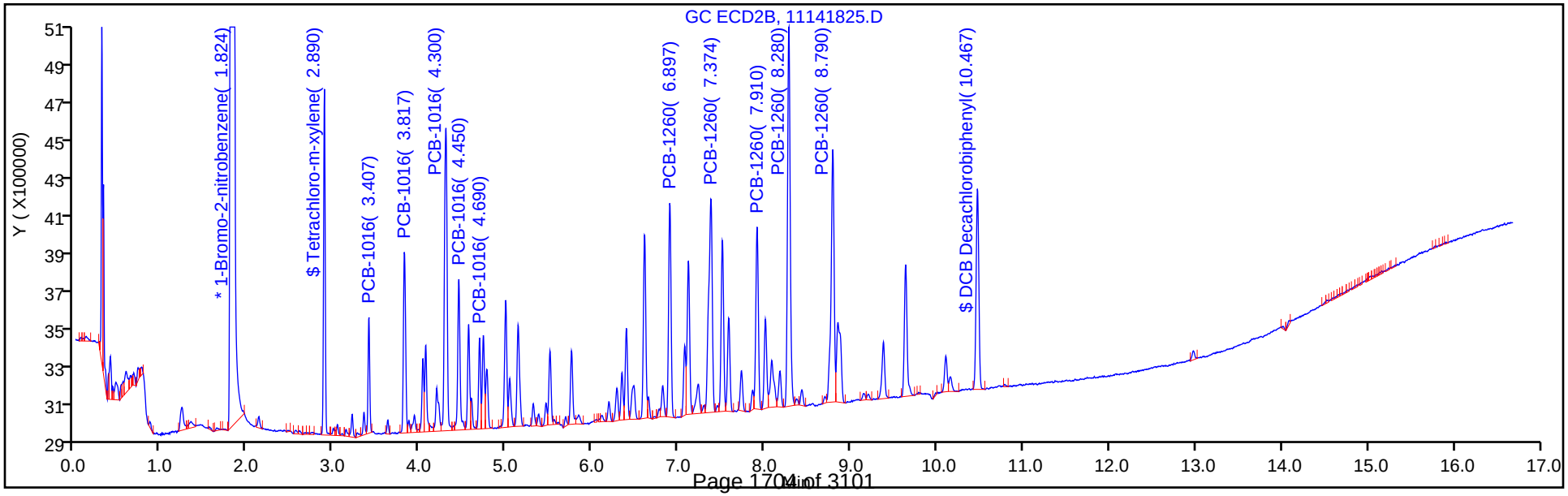
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141825.D

Injection Date:	14-Nov-2018 20:11:01	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL11660			Worklist Smp#:	25
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 20:32 Calibration End Date: 11/14/2018 22:39 Calibration ID: 34322

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL13262 280-437583/32	11141832.D
Level 2	STDL23262 280-437583/31	11141831.D
Level 3	STDL33262 280-437583/30	11141830.D
Level 4	STDL43262 280-437583/29	11141829.D
Level 5	STDL53262 280-437583/28	11141828.D
Level 6	STDL63262 280-437583/27	11141827.D
Level 7	STDL73262 280-437583/26	11141826.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1232 Peak 1	0.2030 0.1377	0.1875 0.1334	0.1621	0.1537	0.1452	Lin1	2.2080	0.1357							0.9980		0.9900
PCB-1232 Peak 2	0.7339 0.3986	0.6658 0.3980	0.5217	0.4838	0.4330	Lin1	10.937	0.3969							0.9960		0.9900
PCB-1232 Peak 3	0.6802 0.5470	0.6515 0.5334	0.6177	0.5886	0.5602	Lin1	4.9953	0.5411							0.9990		0.9900
PCB-1232 Peak 4	0.3151 0.2391	0.2867 0.2294	0.2908	0.2548	0.2516	Lin1	2.7976	0.2355							0.9980		0.9900
PCB-1232 Peak 5	0.3444 0.2283	0.2788 0.2205	0.2793	0.2409	0.2418	Lin1	3.3809	0.2242							0.9980		0.9900
PCB-1262 Peak 1	0.8745 0.5736	0.7548 0.5674	0.7115	0.6647	0.5861	Lin1	9.6354	0.5683							0.9980		0.9900
PCB-1262 Peak 2	1.1925 0.9030	1.1514 0.9007	1.0916	1.0226	0.9068	Lin1	11.157	0.8992							0.9980		0.9900
PCB-1262 Peak 3	1.0814 0.7924	1.0235 0.7930	0.9628	0.9131	0.8051	Lin1	10.559	0.7920							0.9980		0.9900
PCB-1262 Peak 4	1.9724 1.6165	1.9208 1.6213	1.8085	1.7337	1.5931	Lin1	12.977	1.6071							0.9990		0.9900
PCB-1262 Peak 5	0.6635 0.5128	0.6555 0.5154	0.5966	0.5806	0.5266	Lin1	5.6940	0.5150							0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 20:32 Calibration End Date: 11/14/2018 22:39 Calibration ID: 34322

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL13262 280-437583/32	11141832.D
Level 2	STDL23262 280-437583/31	11141831.D
Level 3	STDL33262 280-437583/30	11141830.D
Level 4	STDL43262 280-437583/29	11141829.D
Level 5	STDL53262 280-437583/28	11141828.D
Level 6	STDL63262 280-437583/27	11141827.D
Level 7	STDL73262 280-437583/26	11141826.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1232 Peak 1	BNB	Lin1	104620 2254652	193108 2831638	319988	796911	1551795	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 2	BNB	Lin1	378295 6527146	685668 8449422	1029856	2508702	4625796	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 3	BNB	Lin1	350638 8957715	670904 11324819	1219374	3052132	5985592	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 4	BNB	Lin1	162431 3915116	295309 4870672	574089	1320922	2687546	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 5	BNB	Lin1	177535 3739235	287134 4680974	551401	1249176	2583202	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 1	BNB	Lin1	450811 9392671	777342 12046259	1404428	3446401	6261599	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 2	BNB	Lin1	614709 14786831	1185748 19123440	2154802	5302103	9688107	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 3	BNB	Lin1	557469 12974902	1054085 16836688	1900414	4734437	8602059	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 4	BNB	Lin1	1016742 26470689	1978172 34422832	3569720	8989383	17020143	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 5	BNB	Lin1	342010 8397581	675102 10941873	1177566	3010386	5626429	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141826.D
Lims ID: STDL73262
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 14-Nov-2018 20:32:10 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL73262
Misc. Info.: 280-0076197-026
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:52 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:40:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.051	2.049	0.002	21231757	1000.0	1000.0	
2	1.821	1.820	0.001	133486698	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.201	3.199	0.002	2831638	1000.0	966.8	
1	3.398	3.396	0.002	8449422	1000.0	975.2	
1	4.291	4.289	0.002	11324819	1000.0	976.6	
1	4.444	4.439	0.005	4870672	1000.0	962.3	
1	4.931	4.926	0.005	4680974	1000.0	968.4	
		Average of Peak Amounts =				969.9	
2	3.405	3.403	0.002	26868144	1000.0	949.8	
2	3.818	3.816	0.002	22058828	1000.0	949.0	
2	4.298	4.296	0.002	42387655	1000.0	951.8	
2	4.448	4.446	0.002	17424817	1000.0	924.5	
2	5.138	5.136	0.002	14372981	1000.0	947.2	
		Average of Peak Amounts =				944.5	
						RPD = 2.66	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.488	6.486	0.002	12046259	1000.0	981.5	
1	7.411	7.406	0.005	19123440	1000.0	989.2	
1	7.748	7.746	0.002	16836688	1000.0	987.9	
1	8.194	8.189	0.005	34422832	1000.0	1000.8	
1	8.588	8.583	0.005	10941873	1000.0	989.7	
		Average of Peak Amounts =				989.8	
2	6.898	6.896	0.002	48332435	1000.0	959.1	
2	7.508	7.503	0.005	69027234	1000.0	963.4	
2	7.911	7.906	0.005	67798382	1000.0	965.4	
2	8.278	8.276	0.002	134947777	1000.0	964.2	
2	8.788	8.783	0.005	100152141	1000.0	959.0	
		Average of Peak Amounts =				962.2	
						RPD = 2.83	
S 8 Polychlorinated biphenyls, Total							
1						1959.7	
2						1906.7	
						RPD = 2.74	

Reagents:

AR_3262_L7_00017	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

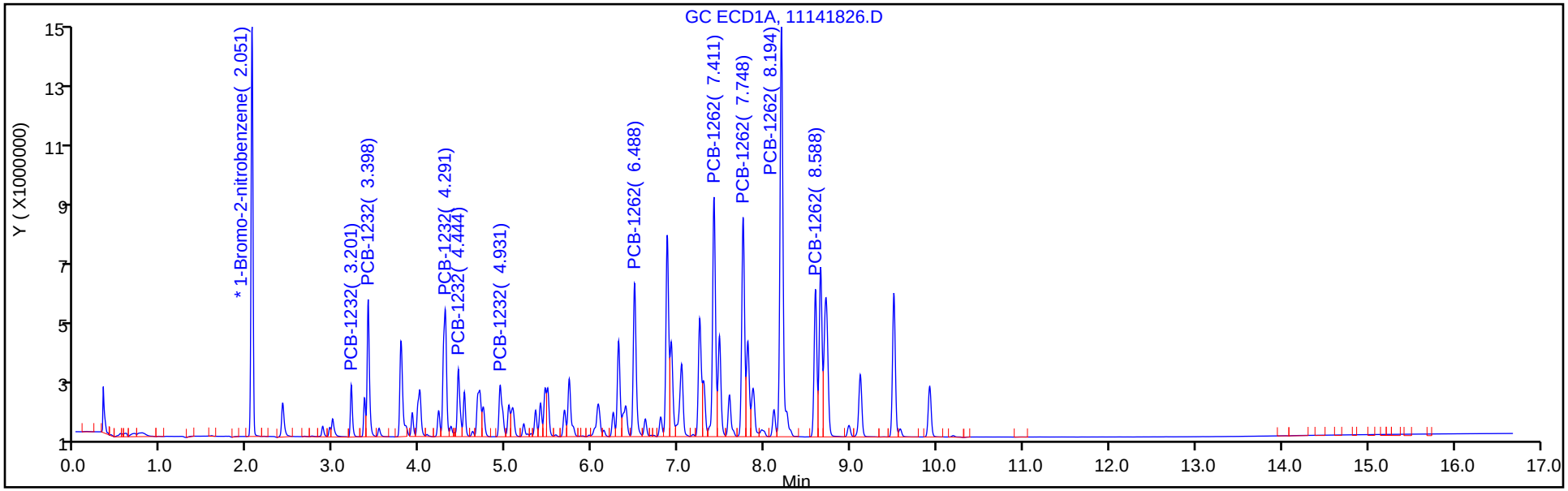
Report Date: 15-Nov-2018 16:08:53 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

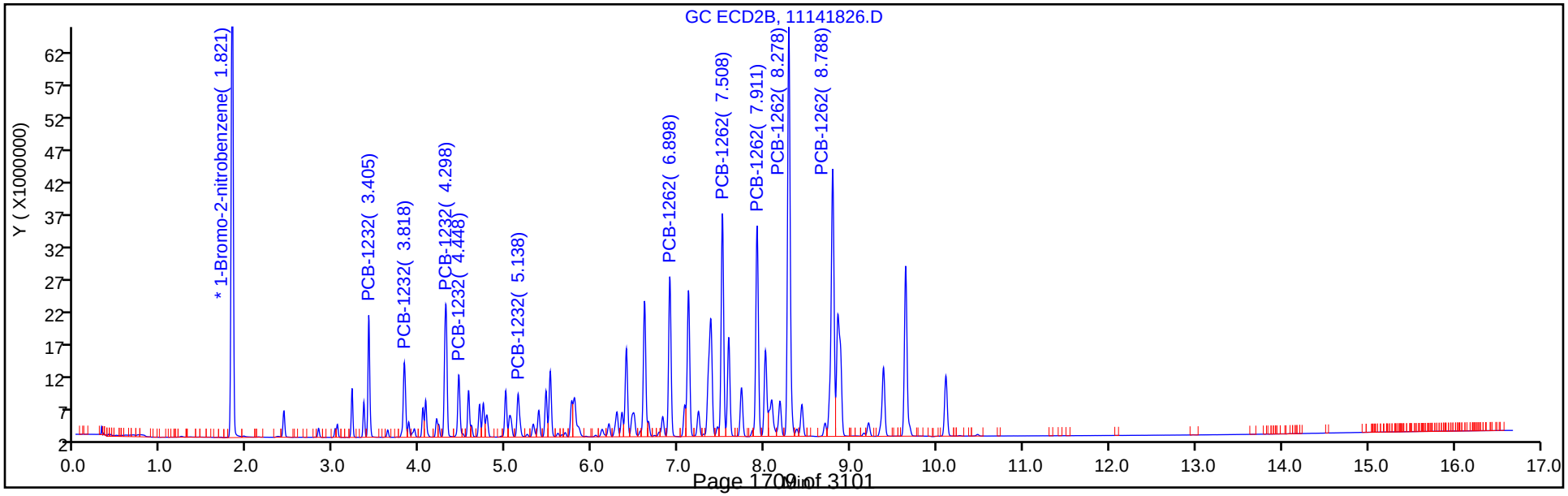
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141826.D

Injection Date:	14-Nov-2018 20:32:10	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL73262			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141827.D
Lims ID: STDL63262
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 14-Nov-2018 20:53:18 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL63262
Misc. Info.: 280-0076197-027
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:55 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:41:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.047	2.049	-0.002	21833530	1000.0	1000.0	
2	1.820	1.820	0.000	136066888	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.200	3.199	0.001	2254652	750.0	744.9	
1	3.397	3.396	0.001	6527146	750.0	725.7	
1	4.290	4.289	0.001	8957715	750.0	749.0	
1	4.444	4.439	0.005	3915116	750.0	749.6	
1	4.927	4.926	0.001	3739235	750.0	748.9	
		Average of Peak Amounts =				743.6	
2	3.404	3.403	0.001	21593856	750.0	744.5	
2	3.817	3.816	0.001	17699708	750.0	742.4	
2	4.297	4.296	0.001	34076080	750.0	746.4	
2	4.447	4.446	0.001	14636830	750.0	757.9	
2	5.137	5.136	0.001	11551676	750.0	743.0	
		Average of Peak Amounts =				746.8	
						RPD = 0.43	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.487	6.486	0.001	9392671	750.0	740.1	
1	7.407	7.406	0.001	14786831	750.0	740.7	
1	7.743	7.746	-0.003	12974902	750.0	737.0	
1	8.190	8.189	0.001	26470689	750.0	746.3	
1	8.583	8.583	0.000	8397581	750.0	735.8	
		Average of Peak Amounts =				740.0	
2	6.894	6.896	-0.002	38046773	750.0	736.5	
2	7.504	7.503	0.001	54278429	750.0	738.6	
2	7.907	7.906	0.001	53155676	750.0	738.2	
2	8.277	8.276	0.001	105946106	750.0	738.6	
2	8.784	8.783	0.001	79607351	750.0	743.7	
		Average of Peak Amounts =				739.1	
						RPD = 0.12	
S 8 Polychlorinated biphenyls, Total							
1						1483.6	
2						1485.9	
						RPD = 0.16	

Reagents:

AR_3262_L6_00019	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

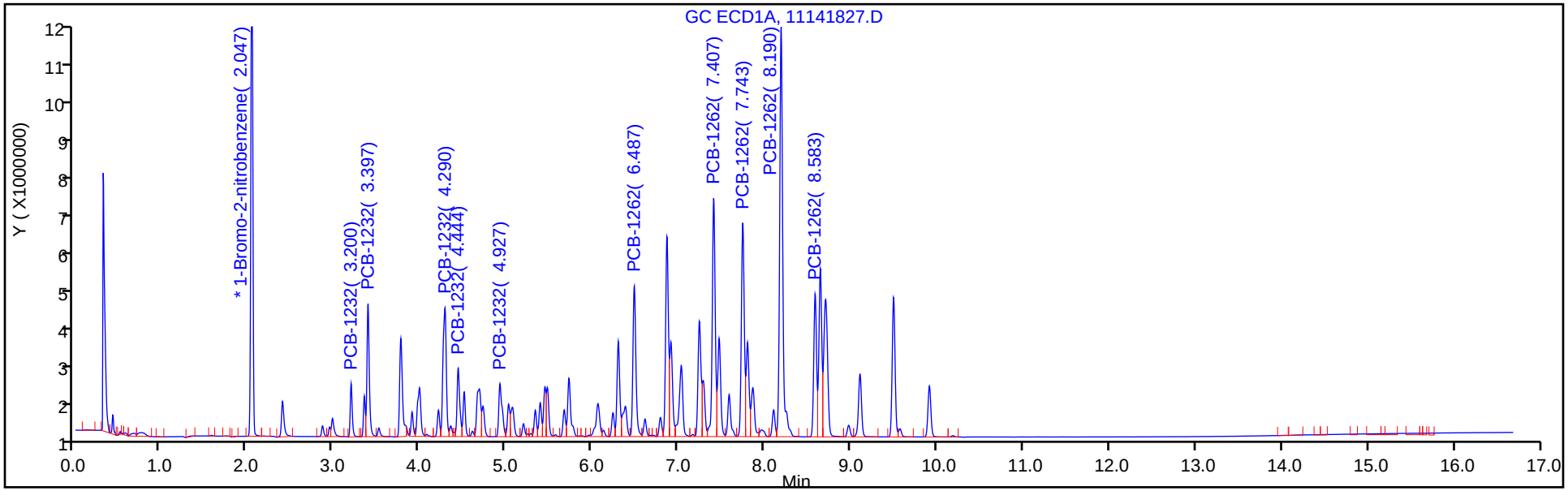
Report Date: 15-Nov-2018 16:08:55 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

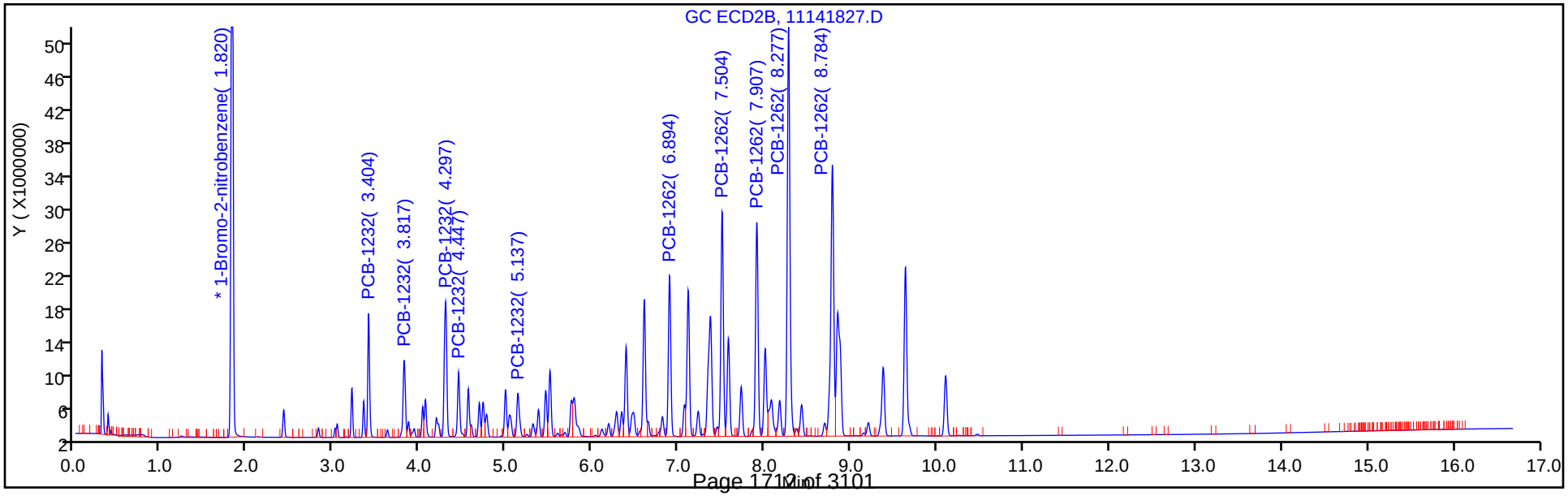
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141827.D

Injection Date:	14-Nov-2018 20:53:18	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL63262			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141828.D
Lims ID: STDL53262
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 14-Nov-2018 21:14:26 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL53262
Misc. Info.: 280-0076197-028
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:57 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:39:33

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.046	0.000	21367852	1000.0	1000.0	
2	1.816	1.816	0.000	132809566	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.199	3.199	0.000	1551795	500.0	519.1	
1	3.396	3.396	0.000	4625796	500.0	517.9	
1	4.289	4.289	0.000	5985592	500.0	508.5	
1	4.439	4.439	0.000	2687546	500.0	522.2	
1	4.926	4.926	0.000	2583202	500.0	524.2	
		Average of Peak Amounts =				518.4	
2	3.403	3.403	0.000	14932706	500.0	521.3	
2	3.816	3.816	0.000	12328279	500.0	523.6	
2	4.296	4.296	0.000	23531515	500.0	522.1	
2	4.446	4.446	0.000	10221717	500.0	536.0	
2	5.136	5.136	0.000	8110999	500.0	529.4	
		Average of Peak Amounts =				526.5	
						RPD = 1.55	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.486	6.486	0.000	6261599	500.0	498.7	
1	7.406	7.406	0.000	9688107	500.0	491.8	
1	7.746	7.746	0.000	8602059	500.0	494.9	
1	8.189	8.189	0.000	17020143	500.0	487.6	
1	8.583	8.583	0.000	5626429	500.0	500.2	
		Average of Peak Amounts =				494.7	
2	6.896	6.896	0.000	26167770	500.0	513.5	
2	7.503	7.503	0.000	36929726	500.0	508.8	
2	7.906	7.906	0.000	36143588	500.0	508.5	
2	8.276	8.276	0.000	72269930	500.0	510.8	
2	8.783	8.783	0.000	53712789	500.0	508.4	
		Average of Peak Amounts =				510.0	
						RPD = 3.06	

Reagents:

AR_3262_L5_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

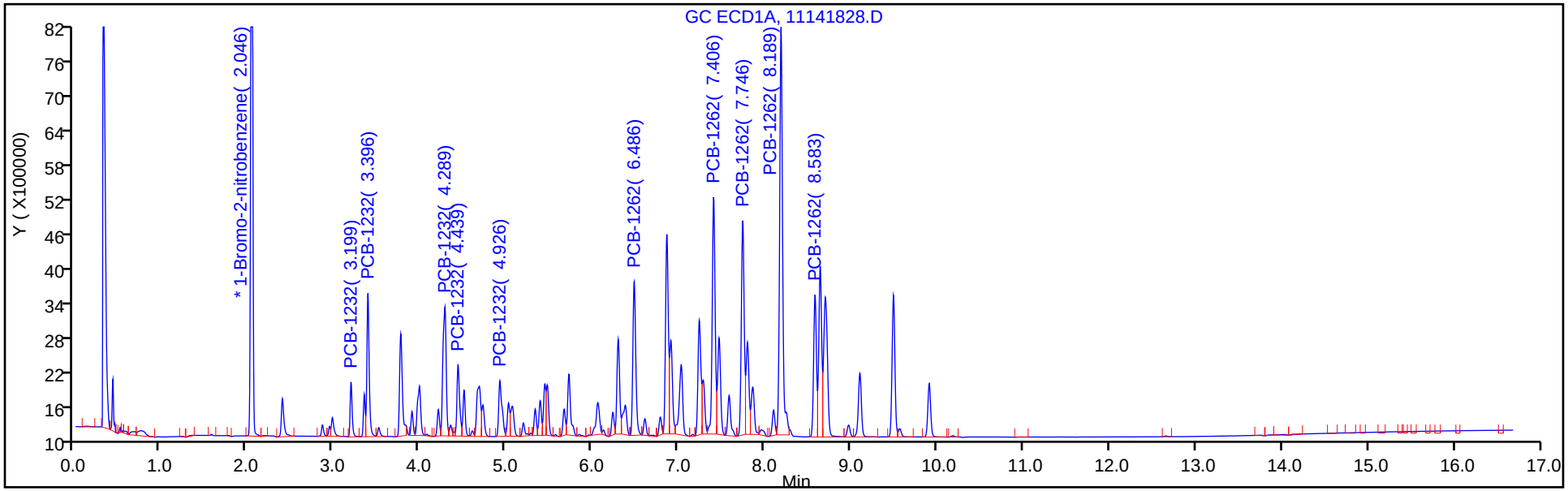
Report Date: 15-Nov-2018 16:08:58 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

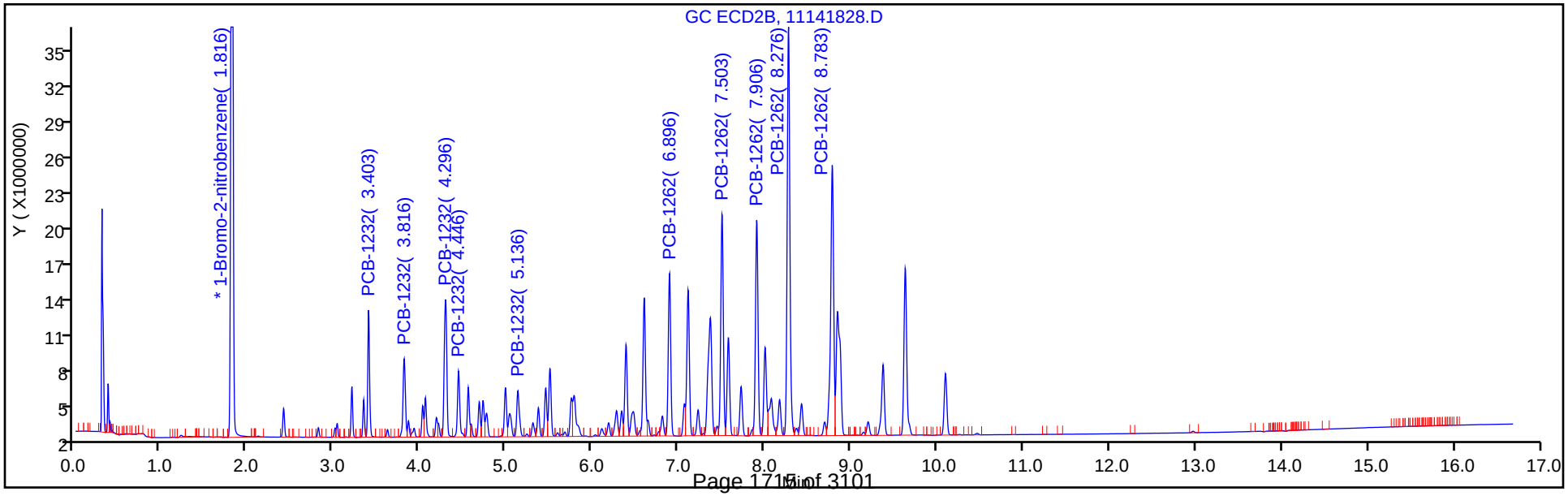
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141828.D

Injection Date:	14-Nov-2018 21:14:26	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL53262			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	28
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141829.D
Lims ID: STDL43262
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 14-Nov-2018 21:35:48 ALS Bottle#: 29 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL43262
Misc. Info.: 280-0076197-029
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:00 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:40:06

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.046	0.000	20740155	1000.0	1000.0	
2	1.817	1.816	0.001	129363491	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.200	3.199	0.001	796911	250.0	267.0	
1	3.393	3.396	-0.003	2508702	250.0	277.2	
1	4.286	4.289	-0.003	3052132	250.0	262.8	
1	4.440	4.439	0.001	1320922	250.0	258.6	
1	4.926	4.926	0.000	1249176	250.0	253.6	
		Average of Peak Amounts =				263.8	
2	3.403	3.403	0.000	8044059	250.0	278.9	
2	3.813	3.816	-0.003	6602871	250.0	278.2	
2	4.293	4.296	-0.003	12465129	250.0	274.6	
2	4.443	4.446	-0.003	5312136	250.0	275.6	
2	5.133	5.136	-0.003	4203285	250.0	273.1	
		Average of Peak Amounts =				276.1	
						RPD = 4.55	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.483	6.486	-0.003	3446401	250.0	275.5	
1	7.406	7.406	0.000	5302103	250.0	271.9	
1	7.743	7.746	-0.003	4734437	250.0	274.9	
1	8.186	8.189	-0.003	8989383	250.0	261.6	
1	8.583	8.583	0.000	3010386	250.0	270.8	
		Average of Peak Amounts =				270.9	
2	6.890	6.896	-0.006	14409948	250.0	282.3	
2	7.503	7.503	0.000	20481207	250.0	281.1	
2	7.903	7.906	-0.003	19970671	250.0	280.3	
2	8.273	8.276	-0.003	39613836	250.0	279.7	
2	8.783	8.783	0.000	29770539	250.0	281.2	
		Average of Peak Amounts =				280.9	
						RPD = 3.63	
S 8 Polychlorinated biphenyls, Total							
1						534.8	
2						557.0	
						RPD = 4.08	

Reagents:

AR_3262_L4_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

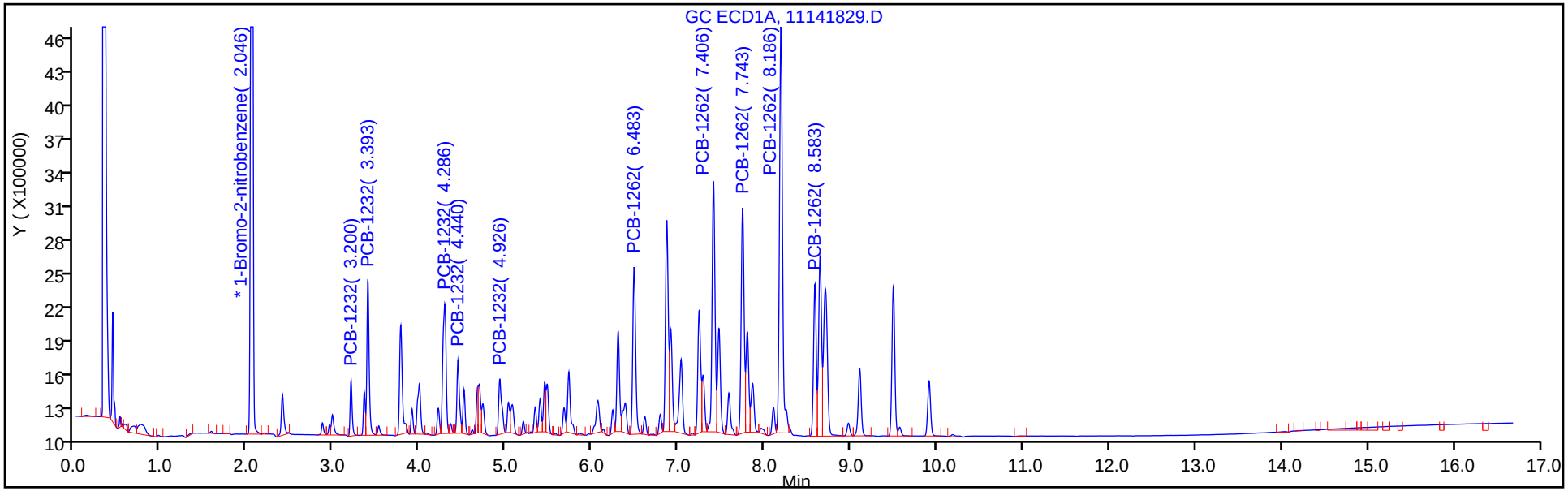
Report Date: 15-Nov-2018 16:09:01 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

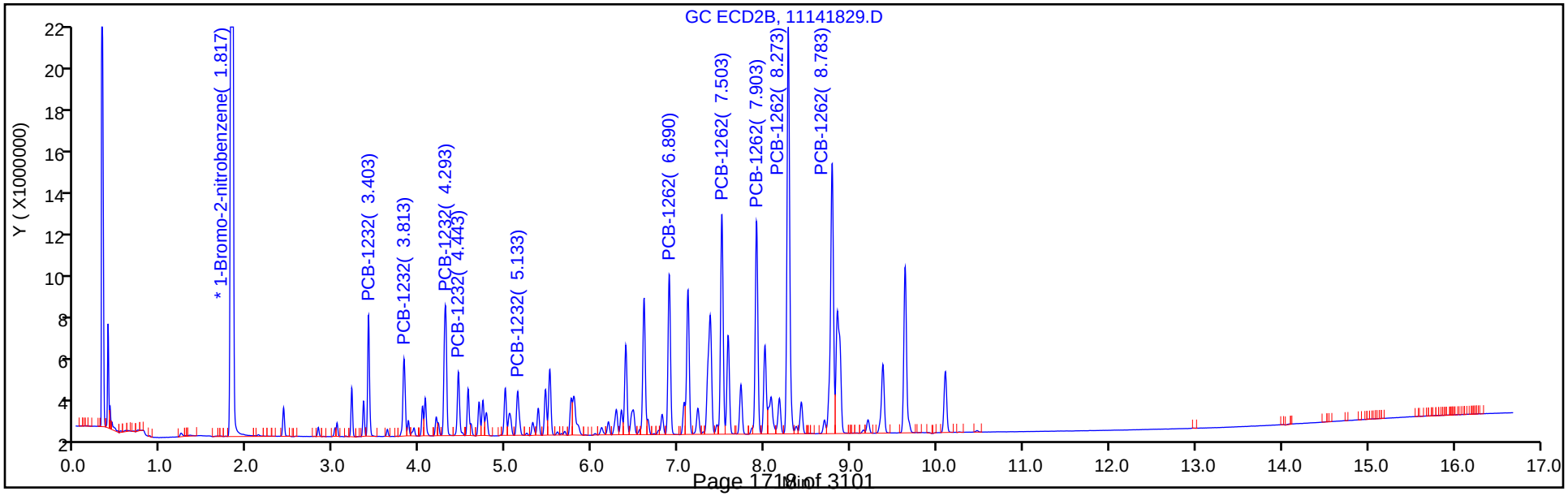
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141829.D

Injection Date:	14-Nov-2018 21:35:48	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL43262			Worklist Smp#:	29
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141830.D
Lims ID: STDL33262
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 14-Nov-2018 21:56:56 ALS Bottle#: 30 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL33262
Misc. Info.: 280-0076197-030
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:04 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:42:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.048	2.046	0.002	19739038	1000.0	1000.0	
2	1.819	1.816	0.003	123407828	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							M
1	3.195	3.199	-0.004	319988	100.0	103.2	
1	3.392	3.396	-0.004	1029856	100.0	103.9	
1	4.282	4.289	-0.007	1219374	100.0	104.9	
1	4.435	4.439	-0.004	574089	100.0	111.6	
1	4.918	4.926	-0.008	551401	100.0	109.5	
		Average of Peak Amounts =				106.6	
2	3.399	3.403	-0.004	3318705	100.0	108.7	
2	3.812	3.816	-0.004	2747002	100.0	109.2	
2	4.292	4.296	-0.004	5126387	100.0	106.8	M
2	4.442	4.446	-0.004	2217776	100.0	108.1	
2	5.129	5.136	-0.007	1771734	100.0	110.5	
		Average of Peak Amounts =				108.7	
						RPD = 1.88	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.478	6.486	-0.008	1404428	100.0	108.3	
1	7.398	7.406	-0.008	2154802	100.0	109.0	
1	7.738	7.746	-0.008	1900414	100.0	108.2	
1	8.182	8.189	-0.007	3569720	100.0	104.5	
1	8.575	8.583	-0.008	1177566	100.0	104.8	
		Average of Peak Amounts =				106.9	
2	6.889	6.896	-0.007	5985723	100.0	112.5	
2	7.499	7.503	-0.004	8563902	100.0	112.0	
2	7.899	7.906	-0.007	8272876	100.0	111.1	
2	8.269	8.276	-0.007	16228927	100.0	110.0	
2	8.775	8.783	-0.008	12356132	100.0	111.8	
		Average of Peak Amounts =				111.5	
						RPD = 4.16	
S 8 Polychlorinated biphenyls, Total							
1						213.6	
2						220.2	
						RPD = 3.03	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_3262_L3_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

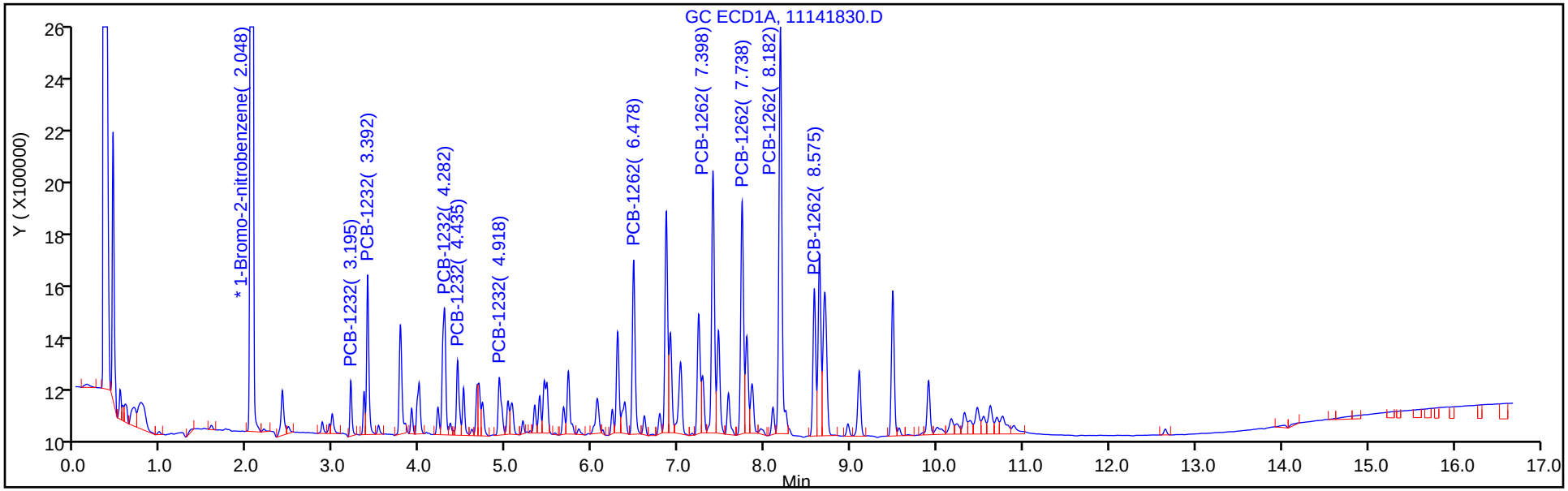
Report Date: 15-Nov-2018 16:09:05 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

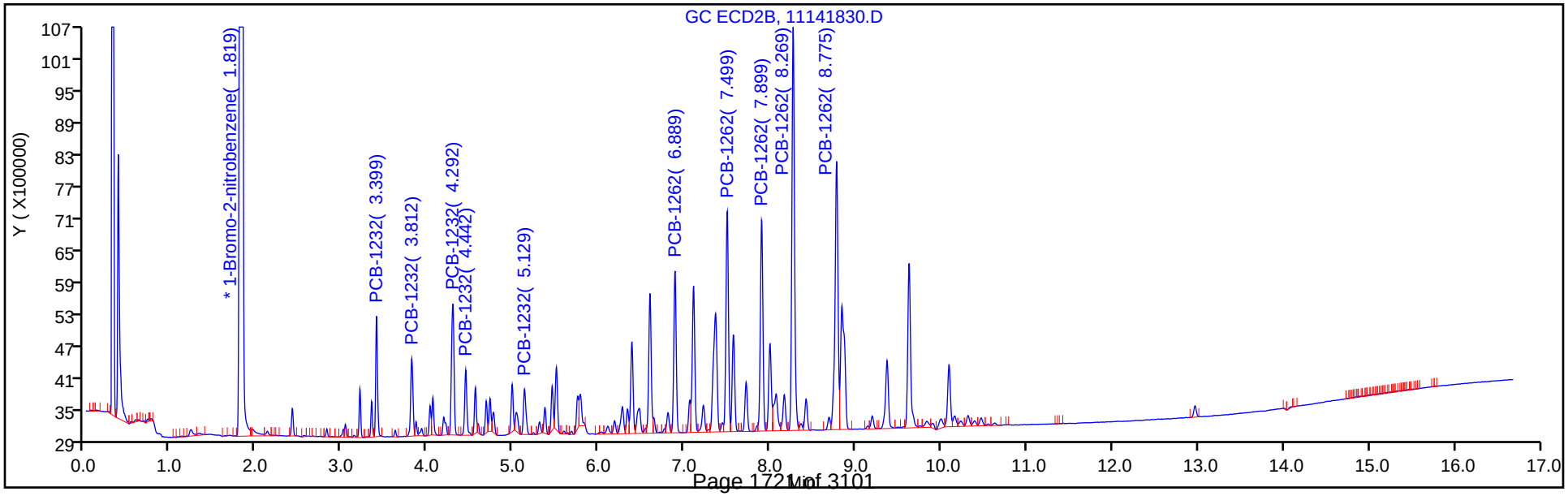
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141830.D

Injection Date:	14-Nov-2018 21:56:56	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL33262			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141831.D
Lims ID: STDL23262
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 14-Nov-2018 22:18:05 ALS Bottle#: 31 Worklist Smp#: 31
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL23262
Misc. Info.: 280-0076197-031
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:08 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:43:01

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.046	0.000	20597153	1000.0	1000.0	
2	1.816	1.816	0.000	127415826	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.196	3.199	-0.003	193108	50.0	52.8	
1	3.393	3.396	-0.003	685668	50.0	56.3	
1	4.283	4.289	-0.006	670904	50.0	51.0	
1	4.436	4.439	-0.003	295309	50.0	49.0	
1	4.919	4.926	-0.007	287134	50.0	47.1	
		Average of Peak Amounts =				51.2	
2	3.400	3.403	-0.003	1949384	50.0	52.8	
2	3.810	3.816	-0.006	1657370	50.0	54.8	
2	4.293	4.296	-0.003	3116917	50.0	54.5	
2	4.443	4.446	-0.003	1365241	50.0	55.5	
2	5.130	5.136	-0.006	1013201	50.0	53.1	
		Average of Peak Amounts =				54.2	
						RPD = 5.51	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.479	6.486	-0.007	777342	50.0	49.5	
1	7.399	7.406	-0.007	1185748	50.0	51.6	
1	7.736	7.746	-0.010	1054085	50.0	51.3	
1	8.183	8.189	-0.006	1978172	50.0	51.7	
1	8.576	8.583	-0.007	675102	50.0	52.6	
		Average of Peak Amounts =				51.3	
2	6.890	6.896	-0.006	3390781	50.0	53.4	
2	7.496	7.503	-0.007	4887286	50.0	52.9	
2	7.900	7.906	-0.006	4711786	50.0	52.9	
2	8.270	8.276	-0.006	9242293	50.0	52.7	
2	8.776	8.783	-0.007	6917957	50.0	52.1	
		Average of Peak Amounts =				52.8	
						RPD = 2.85	
S 8 Polychlorinated biphenyls, Total							
1						102.6	
2						107.0	
						RPD = 4.19	

Reagents:

AR_3262_L2_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

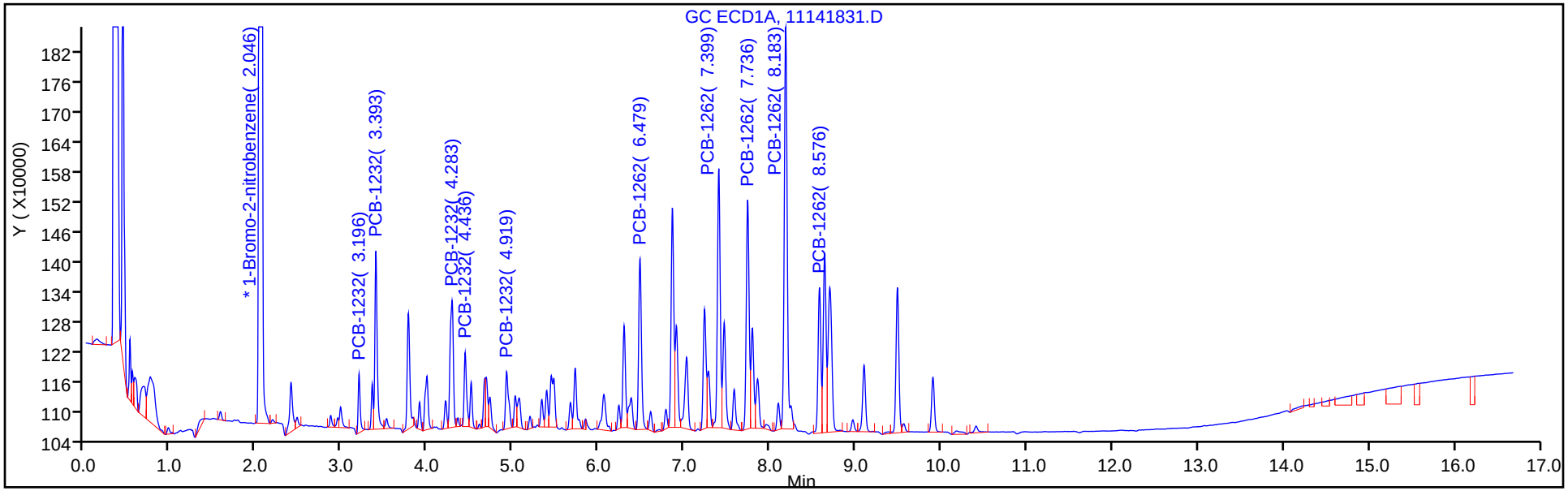
Report Date: 15-Nov-2018 16:09:09 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

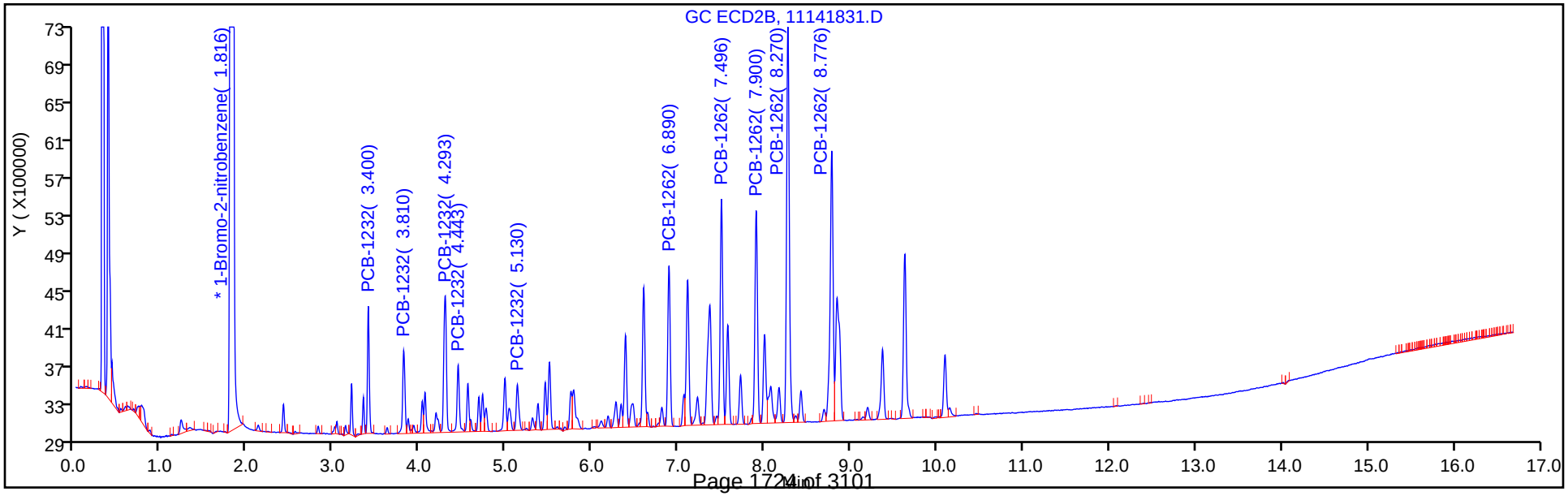
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141831.D

Injection Date:	14-Nov-2018 22:18:05	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL23262			Worklist Smp#:	31
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141832.D
Lims ID: STDL13262
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 14-Nov-2018 22:39:12 ALS Bottle#: 32 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL13262
Misc. Info.: 280-0076197-032
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:11 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:43:30

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.045	2.046	-0.001	20619710	1000.0	1000.0	
2	1.819	1.816	0.003	127555062	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.195	3.199	-0.004	104620	25.0	21.1	
1	3.392	3.396	-0.004	378295	25.0	18.7	
1	4.282	4.289	-0.007	350638	25.0	22.2	
1	4.435	4.439	-0.004	162431	25.0	21.6	
1	4.918	4.926	-0.008	177535	25.0	23.3	
		Average of Peak Amounts =				21.4	
2	3.399	3.403	-0.004	1054941	25.0	18.9	
2	3.809	3.816	-0.007	855216	25.0	17.8	
2	4.292	4.296	-0.004	1632408	25.0	18.8	
2	4.442	4.446	-0.004	698619	25.0	17.5	
2	5.125	5.136	-0.011	522961	25.0	18.6	
		Average of Peak Amounts =				18.3	
						RPD = 15.41	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.478	6.486	-0.008	450811	25.0	21.5	
1	7.398	7.406	-0.008	614709	25.0	20.7	
1	7.735	7.746	-0.011	557469	25.0	20.8	
1	8.178	8.189	-0.011	1016742	25.0	22.6	
1	8.575	8.583	-0.008	342010	25.0	21.2	
		Average of Peak Amounts =				21.4	
2	6.885	6.896	-0.011	1710118	25.0	17.7	
2	7.499	7.503	-0.004	2567297	25.0	18.3	
2	7.899	7.906	-0.007	2460785	25.0	18.6	
2	8.269	8.276	-0.007	4810868	25.0	18.9	
2	8.775	8.783	-0.008	3650328	25.0	18.7	
		Average of Peak Amounts =				18.4	
						RPD = 14.71	
S 8 Polychlorinated biphenyls, Total							
1						42.7	
2						36.8	
						RPD = 15.06	

Reagents:

AR_3262_L1_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

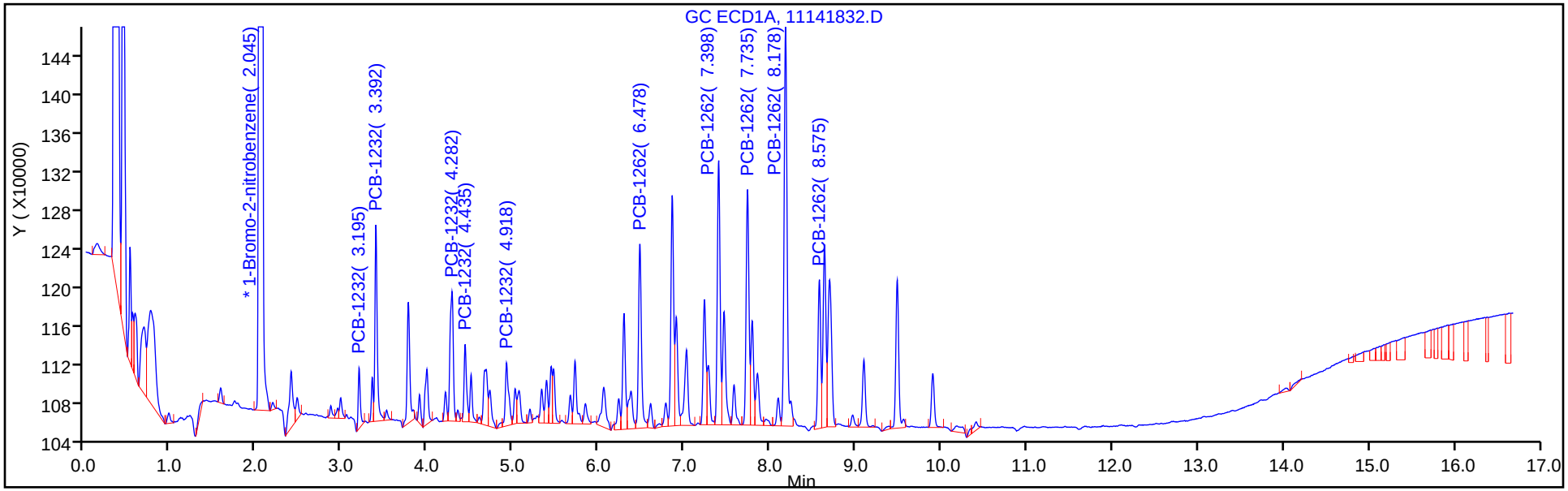
Report Date: 15-Nov-2018 16:09:12 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

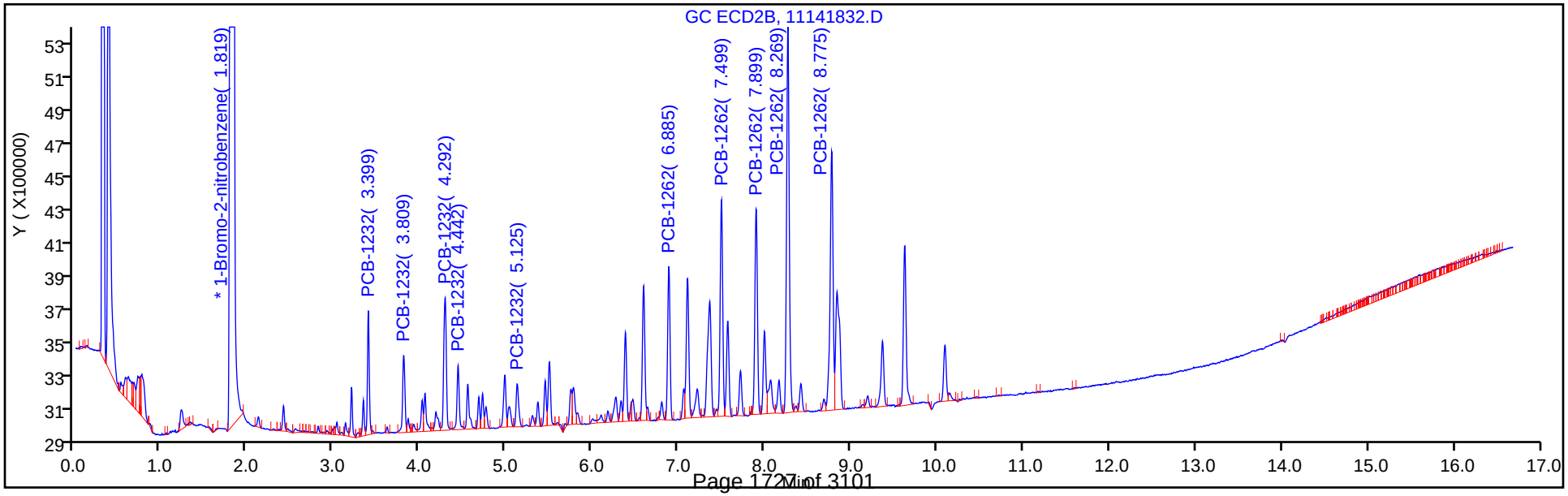
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141832.D

Injection Date:	14-Nov-2018 22:39:12	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL13262			Worklist Smp#:	32
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	32
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 20:32 Calibration End Date: 11/14/2018 22:39 Calibration ID: 34323

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL13262 280-437583/32	11141832.D
Level 2	STDL23262 280-437583/31	11141831.D
Level 3	STDL33262 280-437583/30	11141830.D
Level 4	STDL43262 280-437583/29	11141829.D
Level 5	STDL53262 280-437583/28	11141828.D
Level 6	STDL63262 280-437583/27	11141827.D
Level 7	STDL73262 280-437583/26	11141826.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1232 Peak 1	0.3308 0.2116	0.3060 0.2013	0.2689	0.2487	0.2249	Lin1	4.3524	0.2073							0.9960		0.9900
PCB-1232 Peak 2	0.2682 0.1734	0.2602 0.1653	0.2226	0.2042	0.1857	Lin1	3.6708	0.1703							0.9950		0.9900
PCB-1232 Peak 3	0.5119 0.3339	0.4893 0.3175	0.4154	0.3854	0.3544	Lin1	6.6566	0.3266							0.9960		0.9900
PCB-1232 Peak 4	0.2191 0.1434	0.2143 0.1305	0.1797	0.1643	0.1539	Lin1	3.0641	0.1379							0.9930		0.9900
PCB-1232 Peak 5	0.1640 0.1132	0.1590 0.1077	0.1436	0.1300	0.1221	Lin1	2.0280	0.1115							0.9950		0.9900
PCB-1262 Peak 1	0.5363 0.3728	0.5322 0.3621	0.4850	0.4456	0.3941	Lin1	6.8339	0.3704							0.9950		0.9900
PCB-1262 Peak 2	0.8051 0.5319	0.7671 0.5171	0.6940	0.6333	0.5561	Lin1	10.513	0.5259							0.9960		0.9900
PCB-1262 Peak 3	0.7717 0.5209	0.7396 0.5079	0.6704	0.6175	0.5443	Lin1	9.6980	0.5161							0.9960		0.9900
PCB-1262 Peak 4	1.5086 1.0382	1.4507 1.0109	1.3151	1.2249	1.0883	Lin1	18.259	1.0295							0.9960		0.9900
PCB-1262 Peak 5	1.1447 0.7801	1.0859 0.7503	1.0012	0.9205	0.8089	Lin1	14.292	0.7674							0.9960		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 20:32 Calibration End Date: 11/14/2018 22:39 Calibration ID: 34323

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL13262 280-437583/32	11141832.D
Level 2	STDL23262 280-437583/31	11141831.D
Level 3	STDL33262 280-437583/30	11141830.D
Level 4	STDL43262 280-437583/29	11141829.D
Level 5	STDL53262 280-437583/28	11141828.D
Level 6	STDL63262 280-437583/27	11141827.D
Level 7	STDL73262 280-437583/26	11141826.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1232 Peak 1	BNB	Lin1	1054941 21593856	1949384 26868144	3318705	8044059	14932706	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 2	BNB	Lin1	855216 17699708	1657370 22058828	2747002	6602871	12328279	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 3	BNB	Lin1	1632408 34076080	3116917 42387655	5126387	12465129	23531515	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 4	BNB	Lin1	698619 14636830	1365241 17424817	2217776	5312136	10221717	25.0 750	50.0 1000	100	250	500
PCB-1232 Peak 5	BNB	Lin1	522961 11551676	1013201 14372981	1771734	4203285	8110999	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 1	BNB	Lin1	1710118 38046773	3390781 48332435	5985723	14409948	26167770	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 2	BNB	Lin1	2567297 54278429	4887286 69027234	8563902	20481207	36929726	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 3	BNB	Lin1	2460785 53155676	4711786 67798382	8272876	19970671	36143588	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 4	BNB	Lin1	4810868 105946106	9242293 134947777	16228927	39613836	72269930	25.0 750	50.0 1000	100	250	500
PCB-1262 Peak 5	BNB	Lin1	3650328 79607351	6917957 100152141	12356132	29770539	53712789	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141826.D
Lims ID: STDL73262
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 14-Nov-2018 20:32:10 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL73262
Misc. Info.: 280-0076197-026
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:52 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:40:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.051	2.049	0.002	21231757	1000.0	1000.0	
2	1.821	1.820	0.001	133486698	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.201	3.199	0.002	2831638	1000.0	966.8	
1	3.398	3.396	0.002	8449422	1000.0	975.2	
1	4.291	4.289	0.002	11324819	1000.0	976.6	
1	4.444	4.439	0.005	4870672	1000.0	962.3	
1	4.931	4.926	0.005	4680974	1000.0	968.4	
		Average of Peak Amounts =				969.9	
2	3.405	3.403	0.002	26868144	1000.0	949.8	
2	3.818	3.816	0.002	22058828	1000.0	949.0	
2	4.298	4.296	0.002	42387655	1000.0	951.8	
2	4.448	4.446	0.002	17424817	1000.0	924.5	
2	5.138	5.136	0.002	14372981	1000.0	947.2	
		Average of Peak Amounts =				944.5	
						RPD = 2.66	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.488	6.486	0.002	12046259	1000.0	981.5	
1	7.411	7.406	0.005	19123440	1000.0	989.2	
1	7.748	7.746	0.002	16836688	1000.0	987.9	
1	8.194	8.189	0.005	34422832	1000.0	1000.8	
1	8.588	8.583	0.005	10941873	1000.0	989.7	
		Average of Peak Amounts =				989.8	
2	6.898	6.896	0.002	48332435	1000.0	959.1	
2	7.508	7.503	0.005	69027234	1000.0	963.4	
2	7.911	7.906	0.005	67798382	1000.0	965.4	
2	8.278	8.276	0.002	134947777	1000.0	964.2	
2	8.788	8.783	0.005	100152141	1000.0	959.0	
		Average of Peak Amounts =				962.2	
						RPD = 2.83	
S 8 Polychlorinated biphenyls, Total							
1						1959.7	
2						1906.7	
						RPD = 2.74	

Reagents:

AR_3262_L7_00017	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

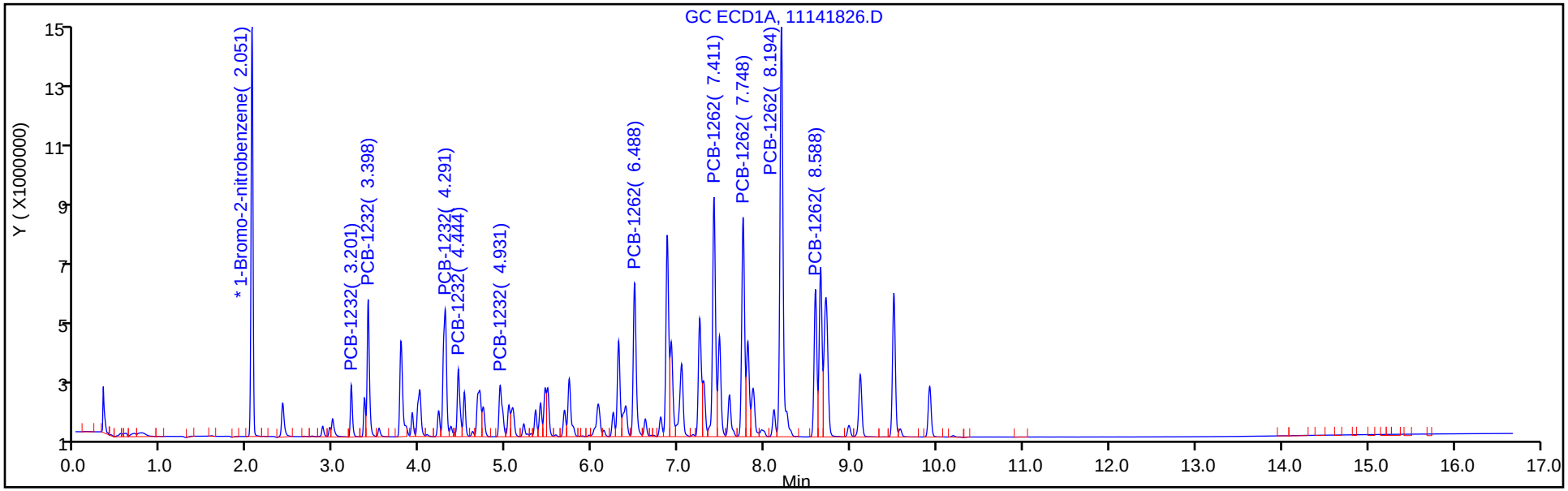
Report Date: 15-Nov-2018 16:08:53 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

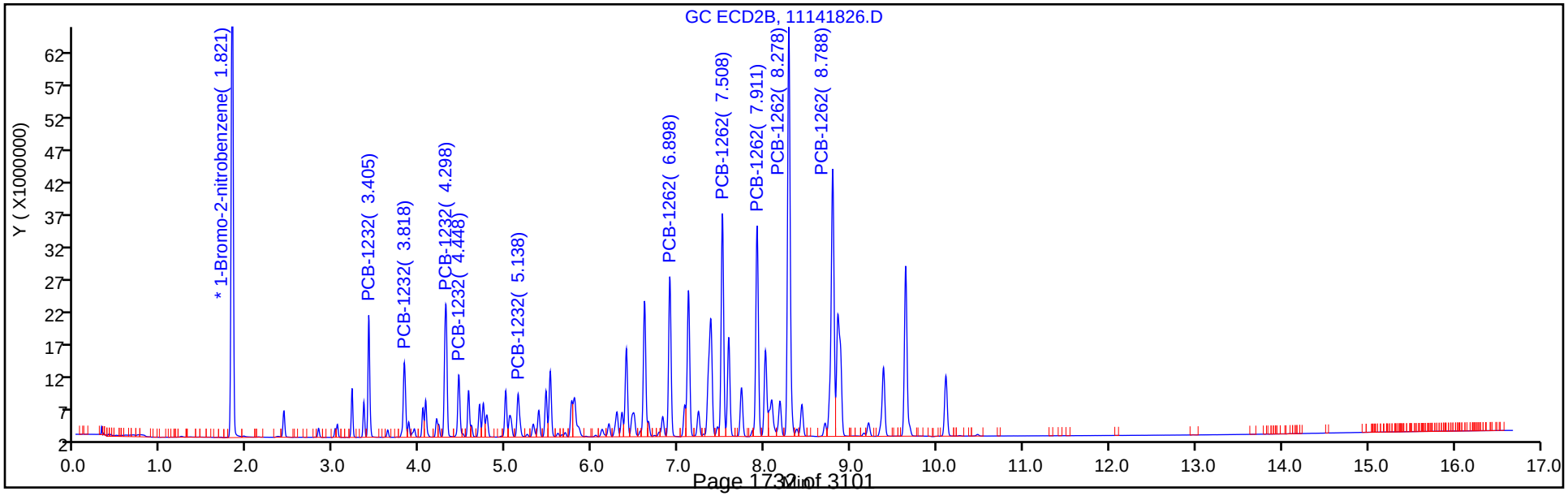
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141826.D

Injection Date:	14-Nov-2018 20:32:10	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL73262			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141827.D
Lims ID: STDL63262
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 14-Nov-2018 20:53:18 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL63262
Misc. Info.: 280-0076197-027
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:55 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:41:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.047	2.049	-0.002	21833530	1000.0	1000.0	
2	1.820	1.820	0.000	136066888	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.200	3.199	0.001	2254652	750.0	744.9	
1	3.397	3.396	0.001	6527146	750.0	725.7	
1	4.290	4.289	0.001	8957715	750.0	749.0	
1	4.444	4.439	0.005	3915116	750.0	749.6	
1	4.927	4.926	0.001	3739235	750.0	748.9	
		Average of Peak Amounts =				743.6	
2	3.404	3.403	0.001	21593856	750.0	744.5	
2	3.817	3.816	0.001	17699708	750.0	742.4	
2	4.297	4.296	0.001	34076080	750.0	746.4	
2	4.447	4.446	0.001	14636830	750.0	757.9	
2	5.137	5.136	0.001	11551676	750.0	743.0	
		Average of Peak Amounts =				746.8	
						RPD = 0.43	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.487	6.486	0.001	9392671	750.0	740.1	
1	7.407	7.406	0.001	14786831	750.0	740.7	
1	7.743	7.746	-0.003	12974902	750.0	737.0	
1	8.190	8.189	0.001	26470689	750.0	746.3	
1	8.583	8.583	0.000	8397581	750.0	735.8	
		Average of Peak Amounts =				740.0	
2	6.894	6.896	-0.002	38046773	750.0	736.5	
2	7.504	7.503	0.001	54278429	750.0	738.6	
2	7.907	7.906	0.001	53155676	750.0	738.2	
2	8.277	8.276	0.001	105946106	750.0	738.6	
2	8.784	8.783	0.001	79607351	750.0	743.7	
		Average of Peak Amounts =				739.1	
						RPD = 0.12	
S 8 Polychlorinated biphenyls, Total							
1						1483.6	
2						1485.9	
						RPD = 0.16	

Reagents:

AR_3262_L6_00019	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

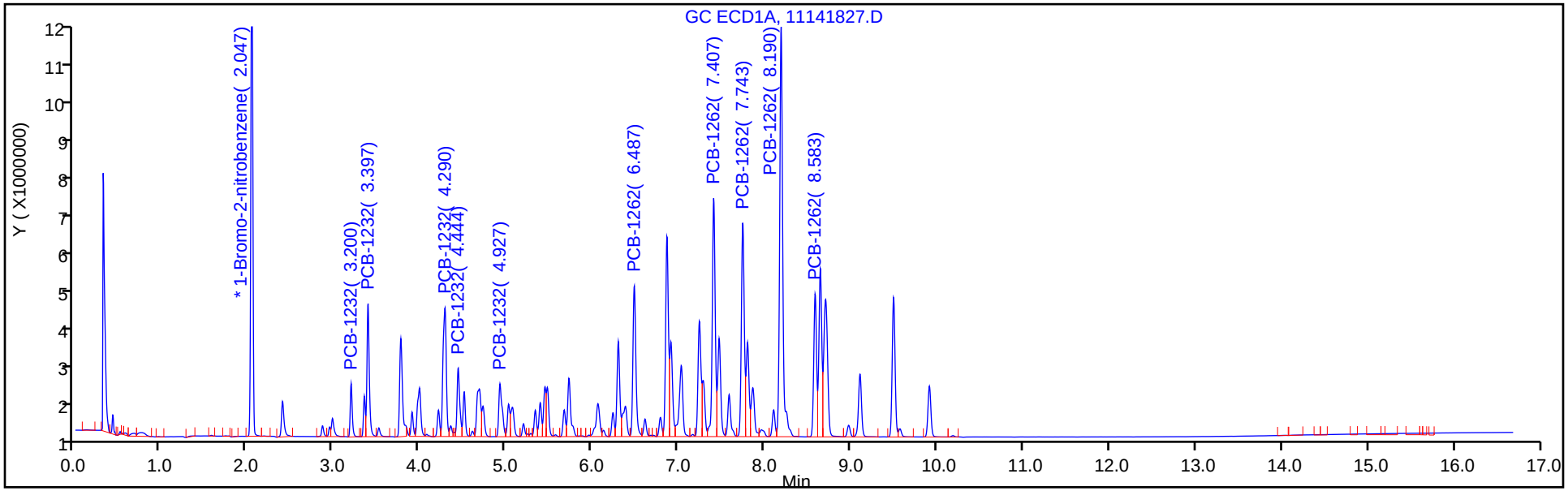
Report Date: 15-Nov-2018 16:08:56 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

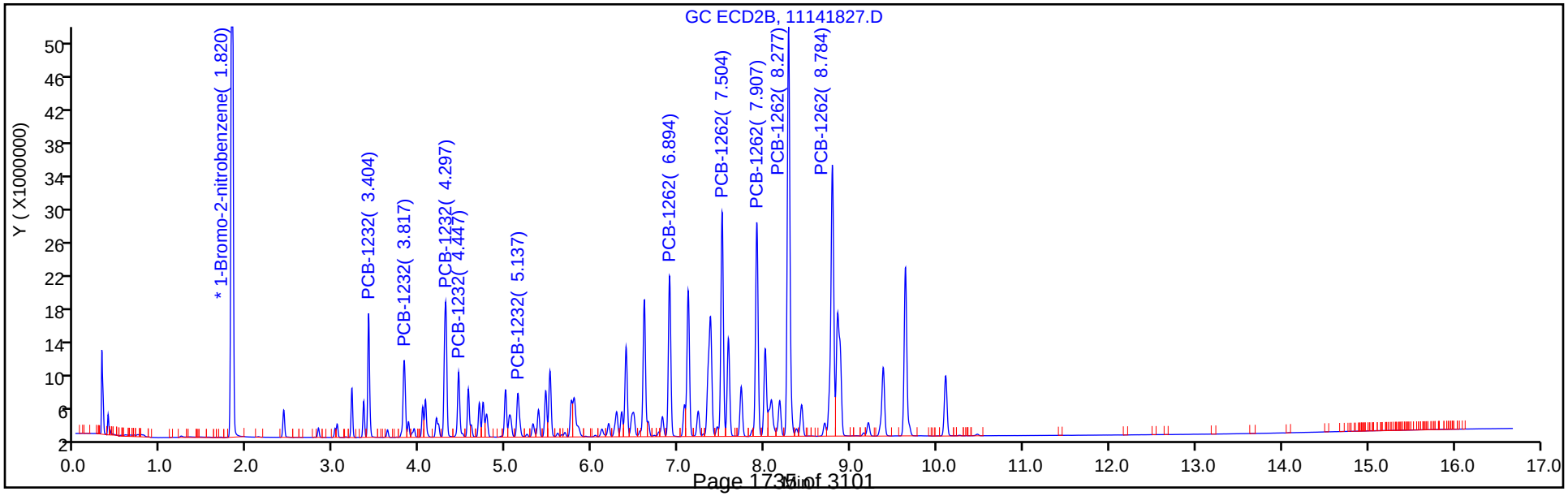
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141827.D

Injection Date:	14-Nov-2018 20:53:18	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL63262			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141828.D
Lims ID: STDL53262
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 14-Nov-2018 21:14:26 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL53262
Misc. Info.: 280-0076197-028
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:08:57 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:39:33

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.046	0.000	21367852	1000.0	1000.0	
2	1.816	1.816	0.000	132809566	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.199	3.199	0.000	1551795	500.0	519.1	
1	3.396	3.396	0.000	4625796	500.0	517.9	
1	4.289	4.289	0.000	5985592	500.0	508.5	
1	4.439	4.439	0.000	2687546	500.0	522.2	
1	4.926	4.926	0.000	2583202	500.0	524.2	
		Average of Peak Amounts =				518.4	
2	3.403	3.403	0.000	14932706	500.0	521.3	
2	3.816	3.816	0.000	12328279	500.0	523.6	
2	4.296	4.296	0.000	23531515	500.0	522.1	
2	4.446	4.446	0.000	10221717	500.0	536.0	
2	5.136	5.136	0.000	8110999	500.0	529.4	
		Average of Peak Amounts =				526.5	
						RPD = 1.55	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.486	6.486	0.000	6261599	500.0	498.7	
1	7.406	7.406	0.000	9688107	500.0	491.8	
1	7.746	7.746	0.000	8602059	500.0	494.9	
1	8.189	8.189	0.000	17020143	500.0	487.6	
1	8.583	8.583	0.000	5626429	500.0	500.2	
		Average of Peak Amounts =				494.7	
2	6.896	6.896	0.000	26167770	500.0	513.5	
2	7.503	7.503	0.000	36929726	500.0	508.8	
2	7.906	7.906	0.000	36143588	500.0	508.5	
2	8.276	8.276	0.000	72269930	500.0	510.8	
2	8.783	8.783	0.000	53712789	500.0	508.4	
		Average of Peak Amounts =				510.0	
						RPD = 3.06	

Reagents:

AR_3262_L5_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

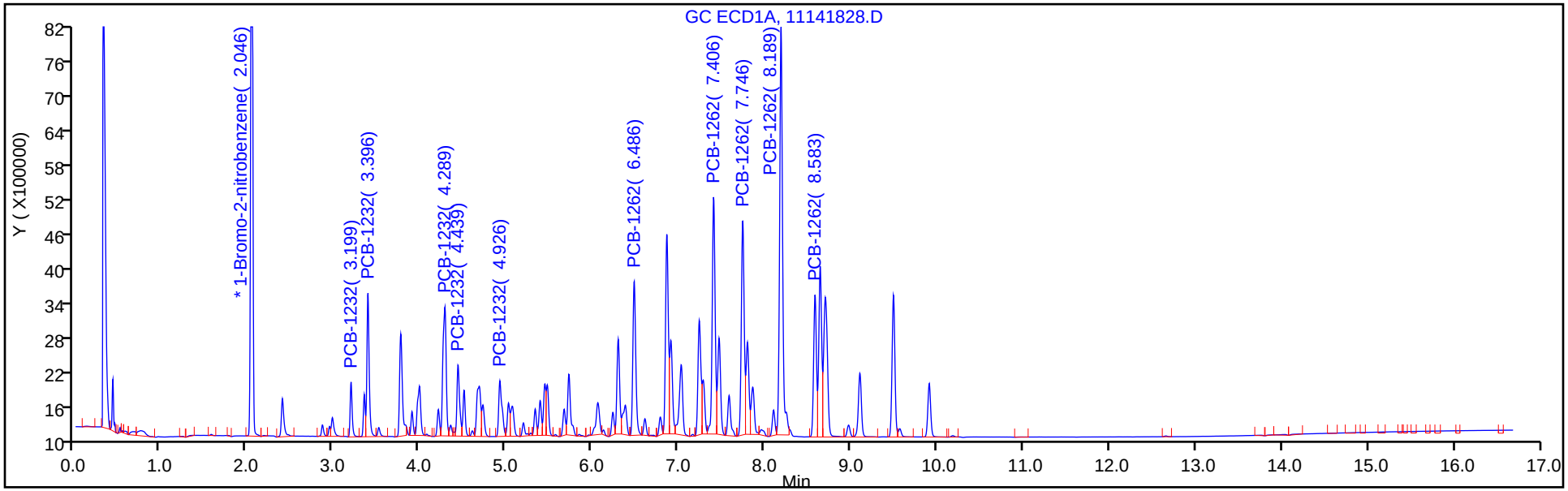
Report Date: 15-Nov-2018 16:08:58 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

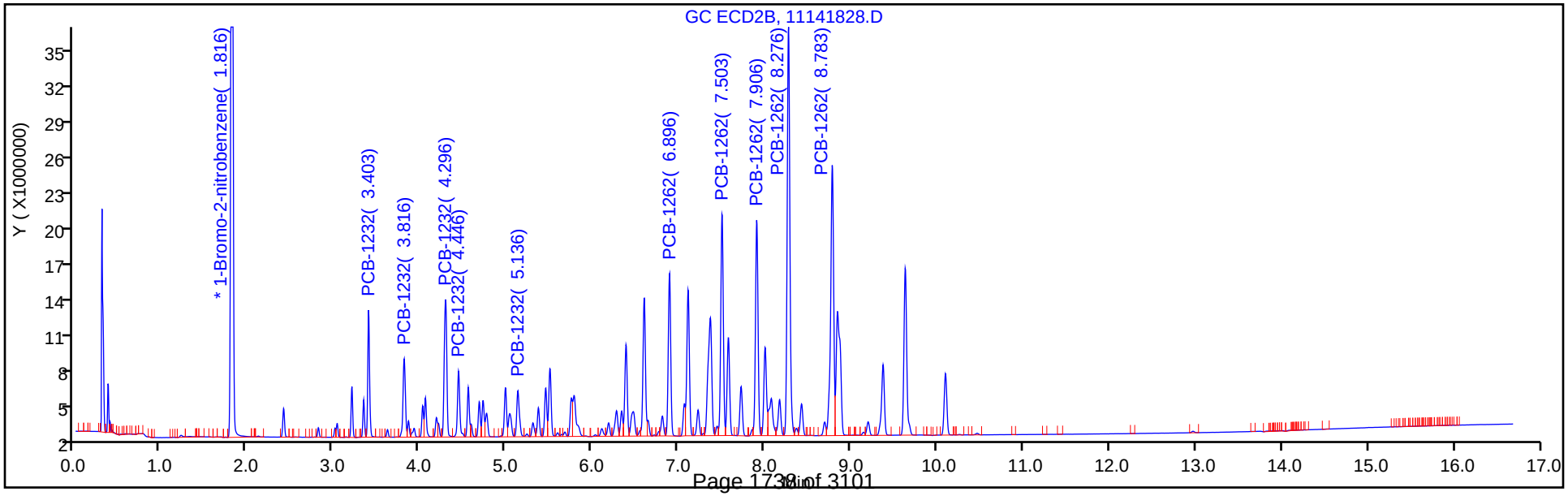
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141828.D

Injection Date:	14-Nov-2018 21:14:26	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL53262			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	28
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141829.D
Lims ID: STDL43262
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 14-Nov-2018 21:35:48 ALS Bottle#: 29 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL43262
Misc. Info.: 280-0076197-029
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:00 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:40:06

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.046	0.000	20740155	1000.0	1000.0	
2	1.817	1.816	0.001	129363491	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.200	3.199	0.001	796911	250.0	267.0	
1	3.393	3.396	-0.003	2508702	250.0	277.2	
1	4.286	4.289	-0.003	3052132	250.0	262.8	
1	4.440	4.439	0.001	1320922	250.0	258.6	
1	4.926	4.926	0.000	1249176	250.0	253.6	
		Average of Peak Amounts =				263.8	
2	3.403	3.403	0.000	8044059	250.0	278.9	
2	3.813	3.816	-0.003	6602871	250.0	278.2	
2	4.293	4.296	-0.003	12465129	250.0	274.6	
2	4.443	4.446	-0.003	5312136	250.0	275.6	
2	5.133	5.136	-0.003	4203285	250.0	273.1	
		Average of Peak Amounts =				276.1	
						RPD = 4.55	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.483	6.486	-0.003	3446401	250.0	275.5	
1	7.406	7.406	0.000	5302103	250.0	271.9	
1	7.743	7.746	-0.003	4734437	250.0	274.9	
1	8.186	8.189	-0.003	8989383	250.0	261.6	
1	8.583	8.583	0.000	3010386	250.0	270.8	
		Average of Peak Amounts =				270.9	
2	6.890	6.896	-0.006	14409948	250.0	282.3	
2	7.503	7.503	0.000	20481207	250.0	281.1	
2	7.903	7.906	-0.003	19970671	250.0	280.3	
2	8.273	8.276	-0.003	39613836	250.0	279.7	
2	8.783	8.783	0.000	29770539	250.0	281.2	
		Average of Peak Amounts =				280.9	
						RPD = 3.63	
S 8 Polychlorinated biphenyls, Total							
1						534.8	
2						557.0	
						RPD = 4.08	

Reagents:

AR_3262_L4_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

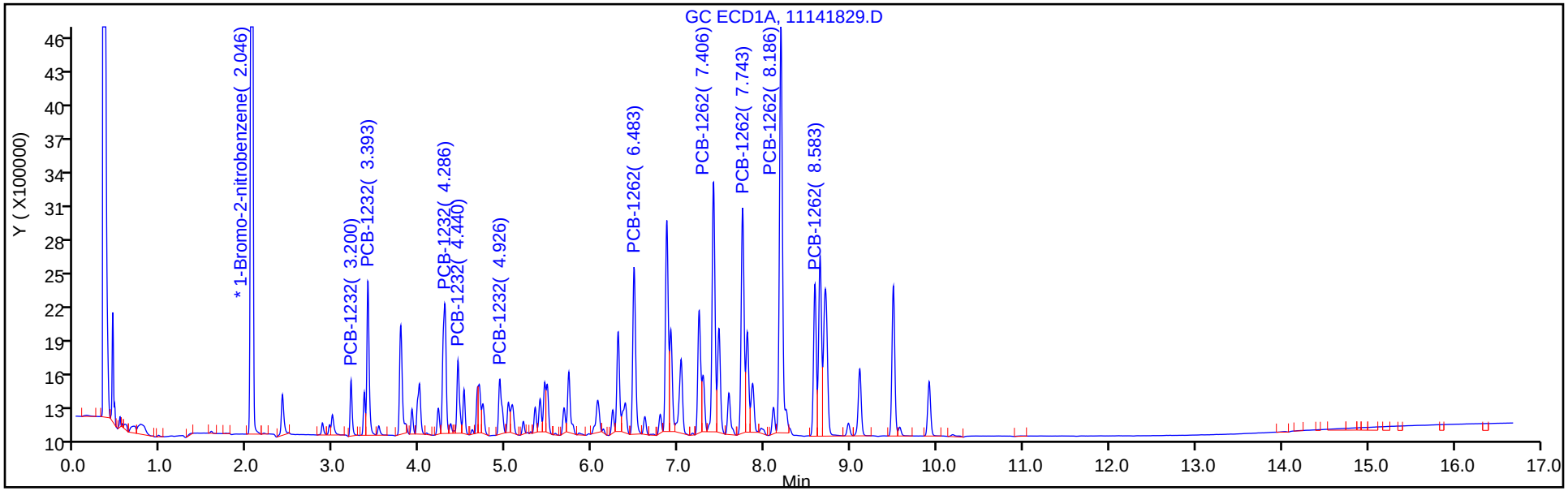
Report Date: 15-Nov-2018 16:09:01 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

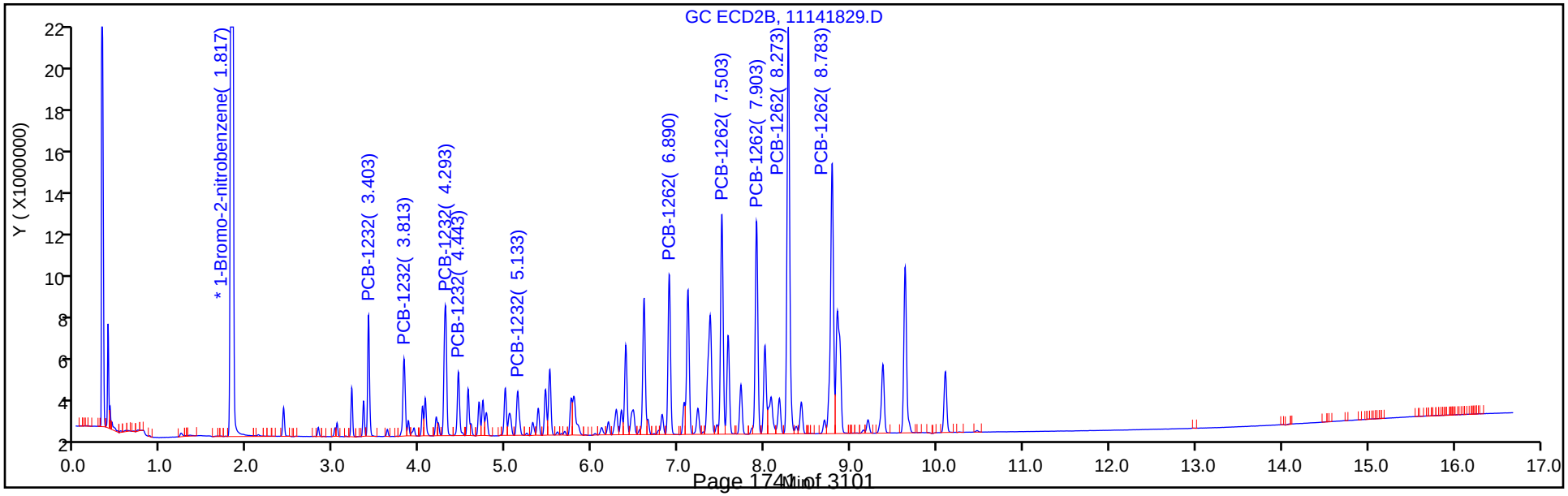
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141829.D

Injection Date:	14-Nov-2018 21:35:48	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL43262			Worklist Smp#:	29
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141830.D
Lims ID: STDL33262
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 14-Nov-2018 21:56:56 ALS Bottle#: 30 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL33262
Misc. Info.: 280-0076197-030
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:04 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:42:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.048	2.046	0.002	19739038	1000.0	1000.0	
2	1.819	1.816	0.003	123407828	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							M
1	3.195	3.199	-0.004	319988	100.0	103.2	
1	3.392	3.396	-0.004	1029856	100.0	103.9	
1	4.282	4.289	-0.007	1219374	100.0	104.9	
1	4.435	4.439	-0.004	574089	100.0	111.6	
1	4.918	4.926	-0.008	551401	100.0	109.5	
		Average of Peak Amounts =				106.6	
2	3.399	3.403	-0.004	3318705	100.0	108.7	
2	3.812	3.816	-0.004	2747002	100.0	109.2	
2	4.292	4.296	-0.004	5126387	100.0	106.8	M
2	4.442	4.446	-0.004	2217776	100.0	108.1	
2	5.129	5.136	-0.007	1771734	100.0	110.5	
		Average of Peak Amounts =				108.7	
						RPD = 1.88	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.478	6.486	-0.008	1404428	100.0	108.3	
1	7.398	7.406	-0.008	2154802	100.0	109.0	
1	7.738	7.746	-0.008	1900414	100.0	108.2	
1	8.182	8.189	-0.007	3569720	100.0	104.5	
1	8.575	8.583	-0.008	1177566	100.0	104.8	
		Average of Peak Amounts =				106.9	
2	6.889	6.896	-0.007	5985723	100.0	112.5	
2	7.499	7.503	-0.004	8563902	100.0	112.0	
2	7.899	7.906	-0.007	8272876	100.0	111.1	
2	8.269	8.276	-0.007	16228927	100.0	110.0	
2	8.775	8.783	-0.008	12356132	100.0	111.8	
		Average of Peak Amounts =				111.5	
						RPD = 4.16	
S 8 Polychlorinated biphenyls, Total							
1						213.6	
2						220.2	
						RPD = 3.03	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR_3262_L3_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

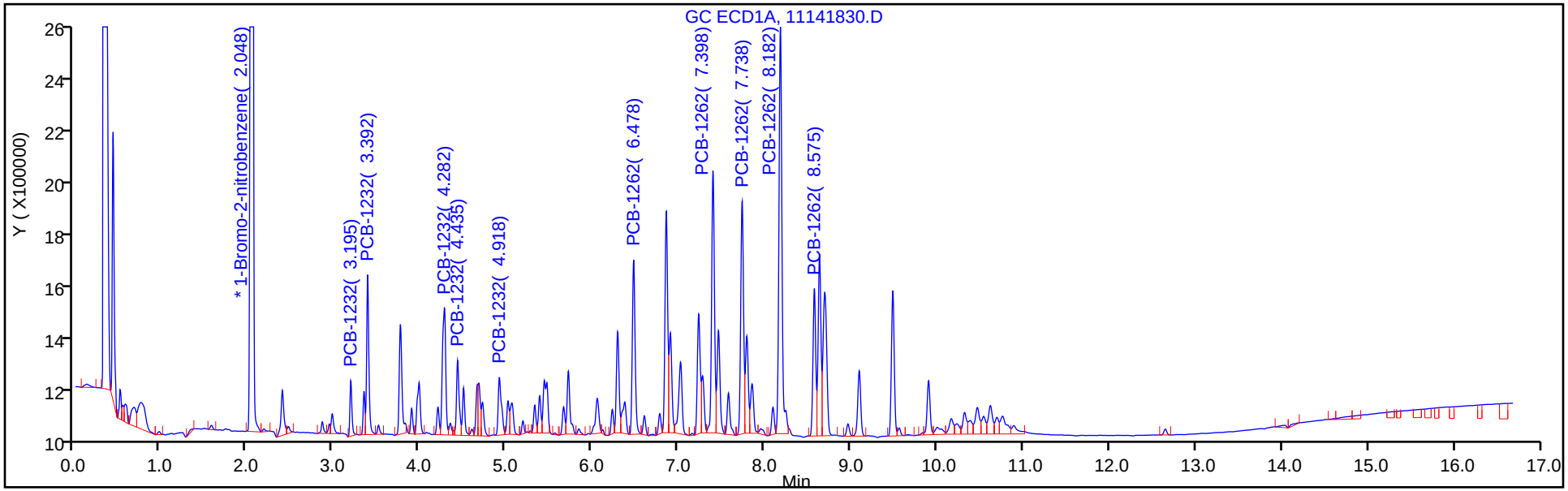
Report Date: 15-Nov-2018 16:09:05 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

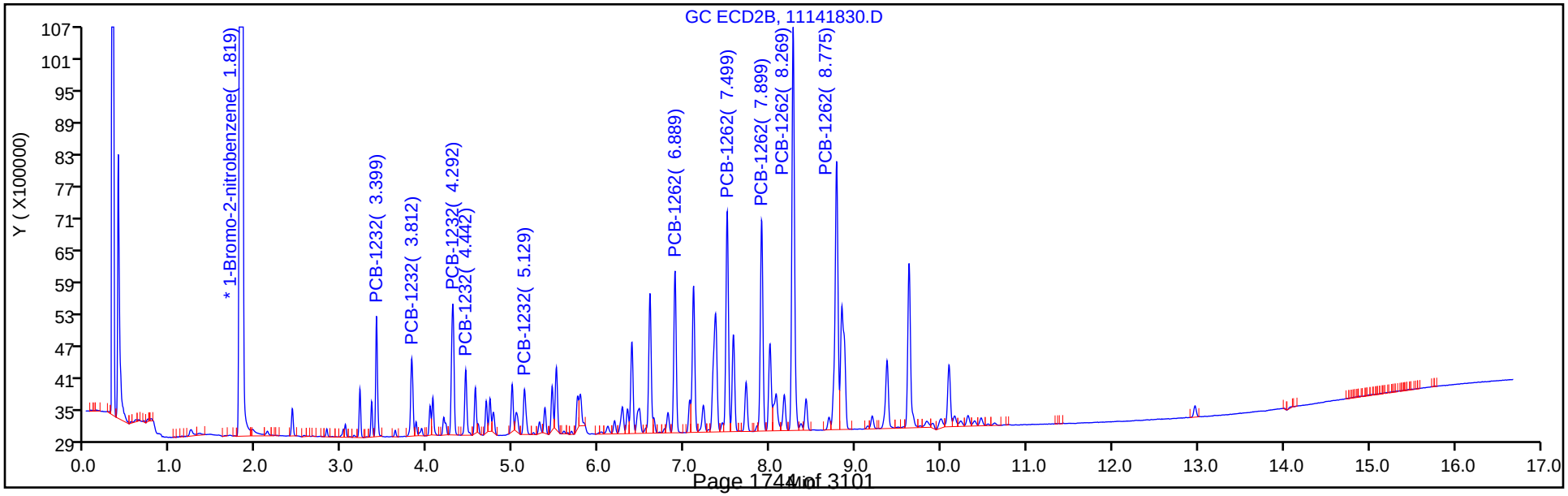
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141830.D

Injection Date:	14-Nov-2018 21:56:56	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL33262			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 15-Nov-2018 16:09:05 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141830.D

Injection Date: 14-Nov-2018 21:56:56 Instrument ID: SGC_J

Lims ID: STDL33262

Client ID:

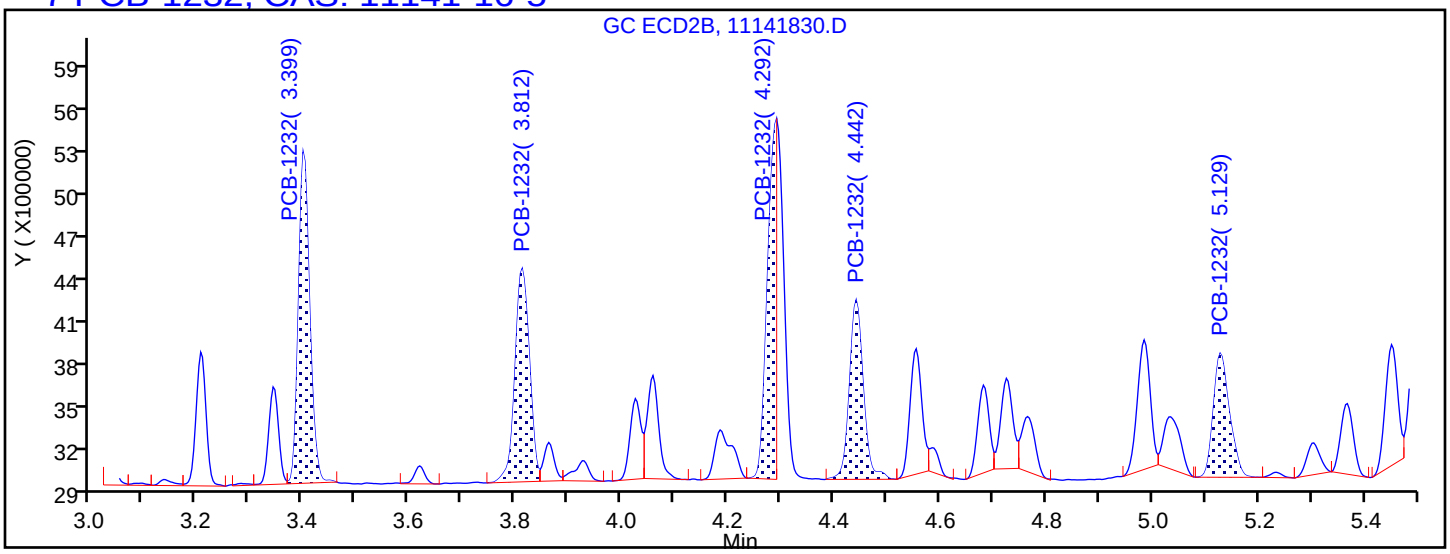
Operator ID: ALS ALS Bottle#: 30 Worklist Smp#: 30

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

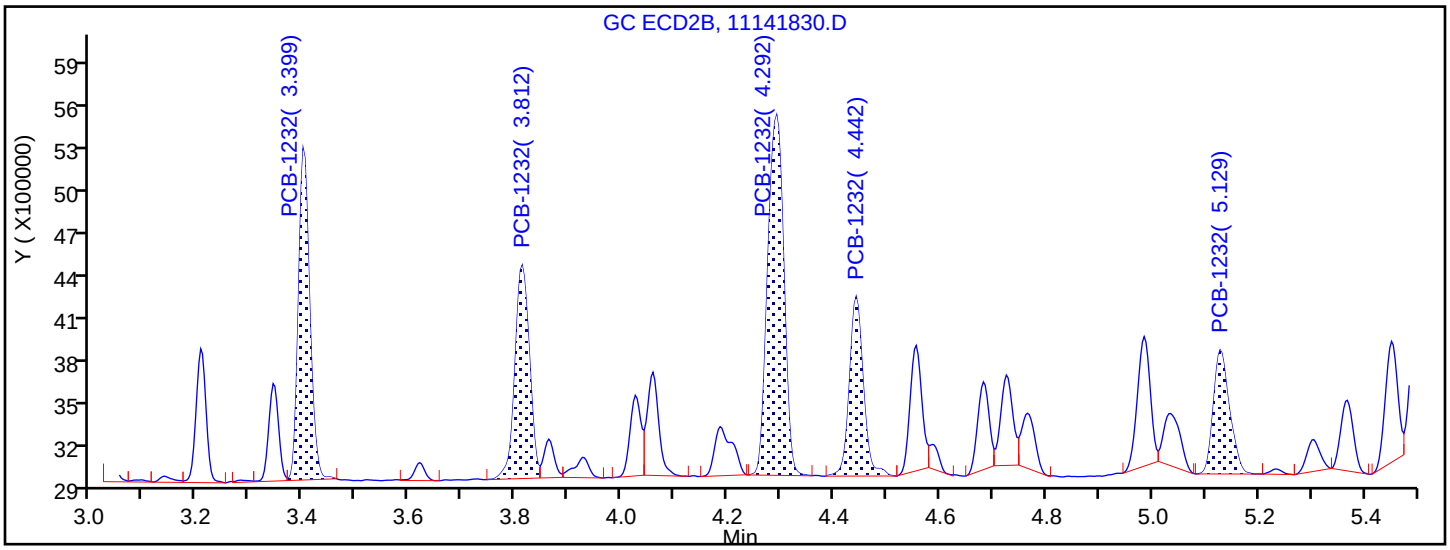
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

7 PCB-1232, CAS: 11141-16-5



Processing Integration Results

3.399	Response = 3318705
3.812	Response = 2747002
4.292	Response = 2793286
4.442	Response = 2217776
5.129	Response = 1771734



Manual Integration Results

3.399	Response = 3318705	
3.812	Response = 2747002	
4.292	Response = 5126387	M
4.442	Response = 2217776	
5.129	Response = 1771734	

Reviewer: patadiab, 15-Nov-2018 09:42:26

Audit Action: Manually Integrated Audit Reason: Split Peak

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141831.D
Lims ID: STDL23262
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 14-Nov-2018 22:18:05 ALS Bottle#: 31 Worklist Smp#: 31
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL23262
Misc. Info.: 280-0076197-031
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:08 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:43:01

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.046	0.000	20597153	1000.0	1000.0	
2	1.816	1.816	0.000	127415826	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.196	3.199	-0.003	193108	50.0	52.8	
1	3.393	3.396	-0.003	685668	50.0	56.3	
1	4.283	4.289	-0.006	670904	50.0	51.0	
1	4.436	4.439	-0.003	295309	50.0	49.0	
1	4.919	4.926	-0.007	287134	50.0	47.1	
		Average of Peak Amounts =				51.2	
2	3.400	3.403	-0.003	1949384	50.0	52.8	
2	3.810	3.816	-0.006	1657370	50.0	54.8	
2	4.293	4.296	-0.003	3116917	50.0	54.5	
2	4.443	4.446	-0.003	1365241	50.0	55.5	
2	5.130	5.136	-0.006	1013201	50.0	53.1	
		Average of Peak Amounts =				54.2	
						RPD = 5.51	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.479	6.486	-0.007	777342	50.0	49.5	
1	7.399	7.406	-0.007	1185748	50.0	51.6	
1	7.736	7.746	-0.010	1054085	50.0	51.3	
1	8.183	8.189	-0.006	1978172	50.0	51.7	
1	8.576	8.583	-0.007	675102	50.0	52.6	
		Average of Peak Amounts =				51.3	
2	6.890	6.896	-0.006	3390781	50.0	53.4	
2	7.496	7.503	-0.007	4887286	50.0	52.9	
2	7.900	7.906	-0.006	4711786	50.0	52.9	
2	8.270	8.276	-0.006	9242293	50.0	52.7	
2	8.776	8.783	-0.007	6917957	50.0	52.1	
		Average of Peak Amounts =				52.8	
						RPD = 2.85	
S 8 Polychlorinated biphenyls, Total							
1						102.6	
2						107.0	
						RPD = 4.19	

Reagents:

AR_3262_L2_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

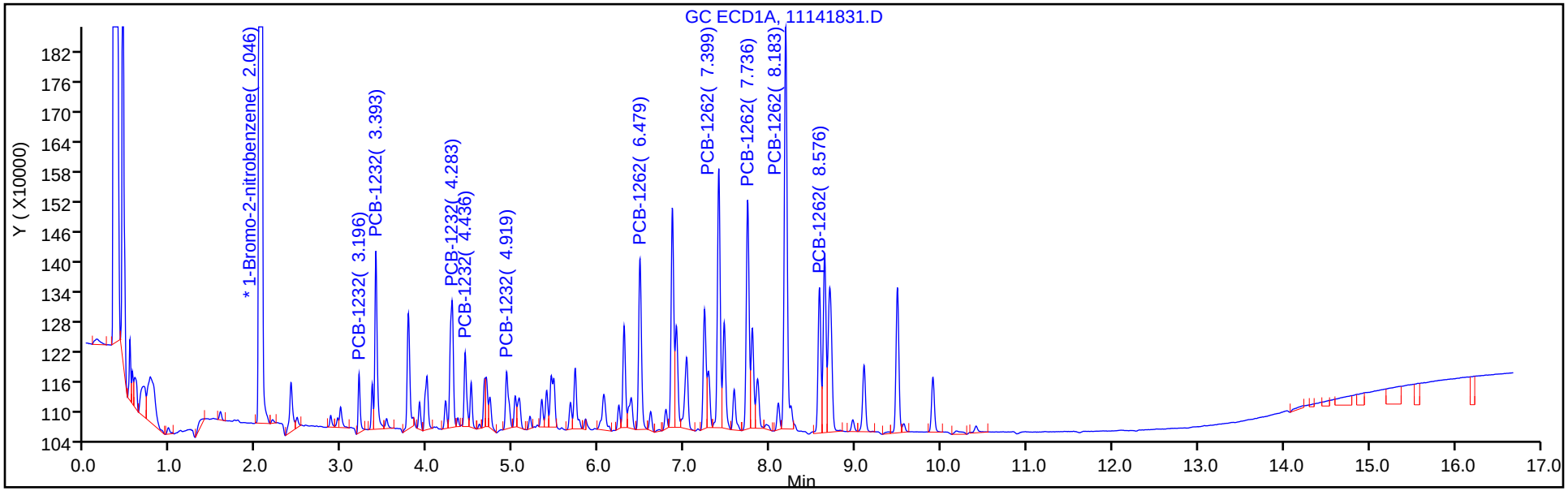
Report Date: 15-Nov-2018 16:09:09 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

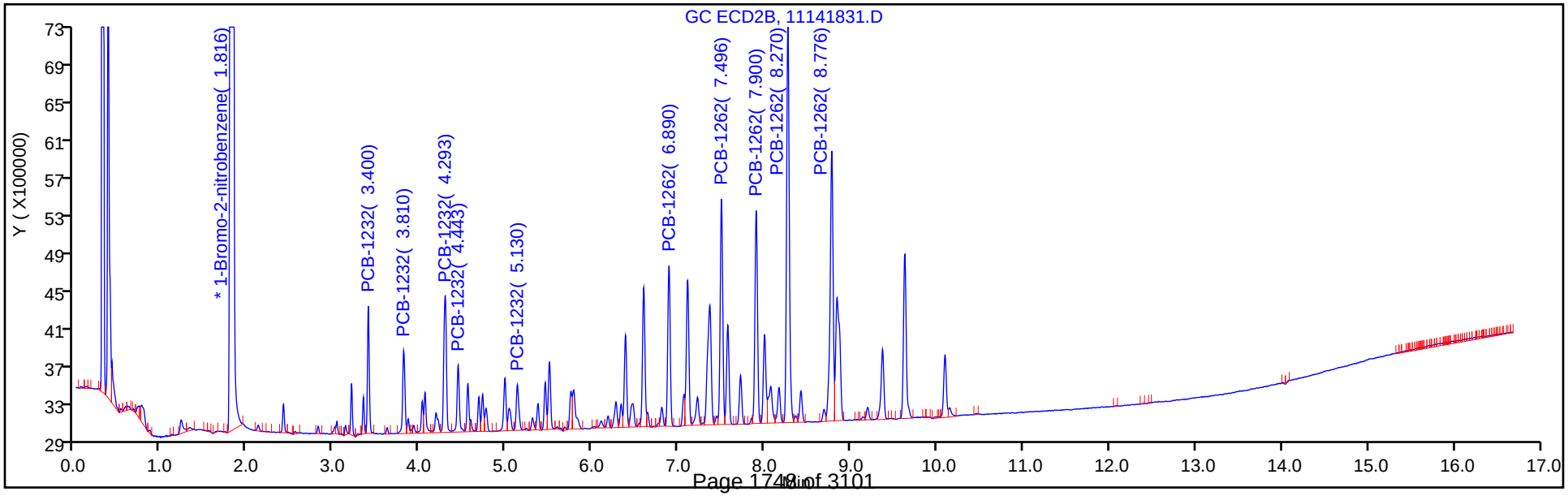
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141831.D

Injection Date:	14-Nov-2018 22:18:05	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL23262			Worklist Smp#:	31
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141832.D
Lims ID: STDL13262
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 14-Nov-2018 22:39:12 ALS Bottle#: 32 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL13262
Misc. Info.: 280-0076197-032
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub4

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:11 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:43:30

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.045	2.046	-0.001	20619710	1000.0	1000.0	
2	1.819	1.816	0.003	127555062	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.195	3.199	-0.004	104620	25.0	21.1	
1	3.392	3.396	-0.004	378295	25.0	18.7	
1	4.282	4.289	-0.007	350638	25.0	22.2	
1	4.435	4.439	-0.004	162431	25.0	21.6	
1	4.918	4.926	-0.008	177535	25.0	23.3	
		Average of Peak Amounts =				21.4	
2	3.399	3.403	-0.004	1054941	25.0	18.9	
2	3.809	3.816	-0.007	855216	25.0	17.8	
2	4.292	4.296	-0.004	1632408	25.0	18.8	
2	4.442	4.446	-0.004	698619	25.0	17.5	
2	5.125	5.136	-0.011	522961	25.0	18.6	
		Average of Peak Amounts =				18.3	
						RPD = 15.41	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.478	6.486	-0.008	450811	25.0	21.5	
1	7.398	7.406	-0.008	614709	25.0	20.7	
1	7.735	7.746	-0.011	557469	25.0	20.8	
1	8.178	8.189	-0.011	1016742	25.0	22.6	
1	8.575	8.583	-0.008	342010	25.0	21.2	
		Average of Peak Amounts =				21.4	
2	6.885	6.896	-0.011	1710118	25.0	17.7	
2	7.499	7.503	-0.004	2567297	25.0	18.3	
2	7.899	7.906	-0.007	2460785	25.0	18.6	
2	8.269	8.276	-0.007	4810868	25.0	18.9	
2	8.775	8.783	-0.008	3650328	25.0	18.7	
		Average of Peak Amounts =				18.4	
						RPD = 14.71	
S 8 Polychlorinated biphenyls, Total							
1						42.7	
2						36.8	
						RPD = 15.06	

Reagents:

AR_3262_L1_00022	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

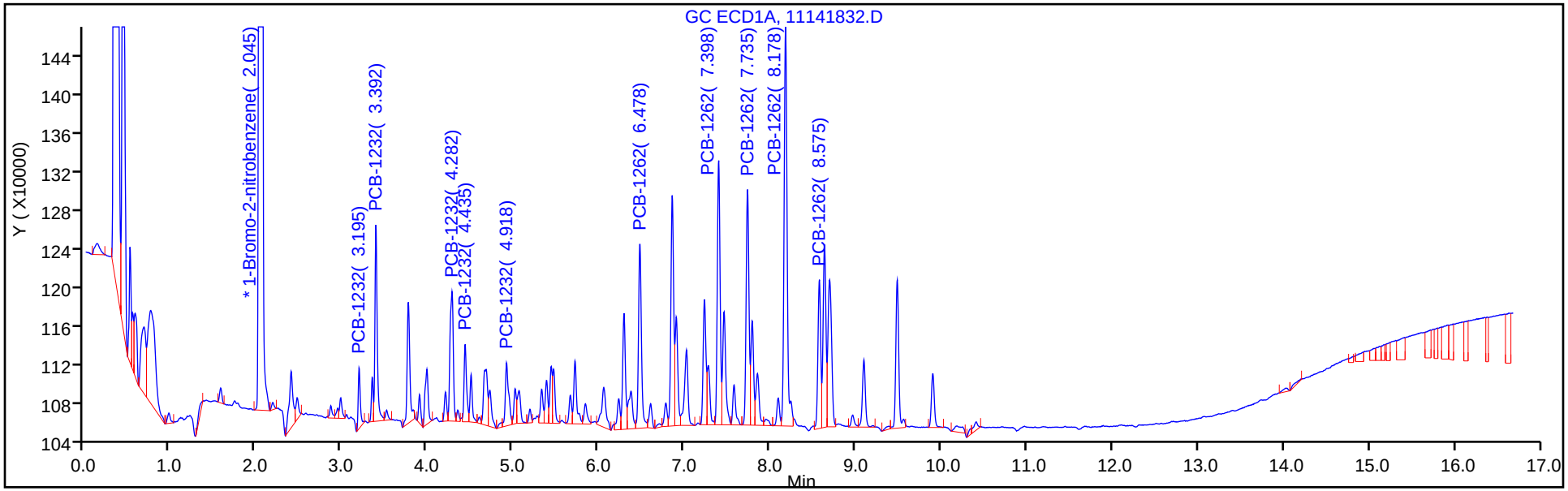
Report Date: 15-Nov-2018 16:09:12 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

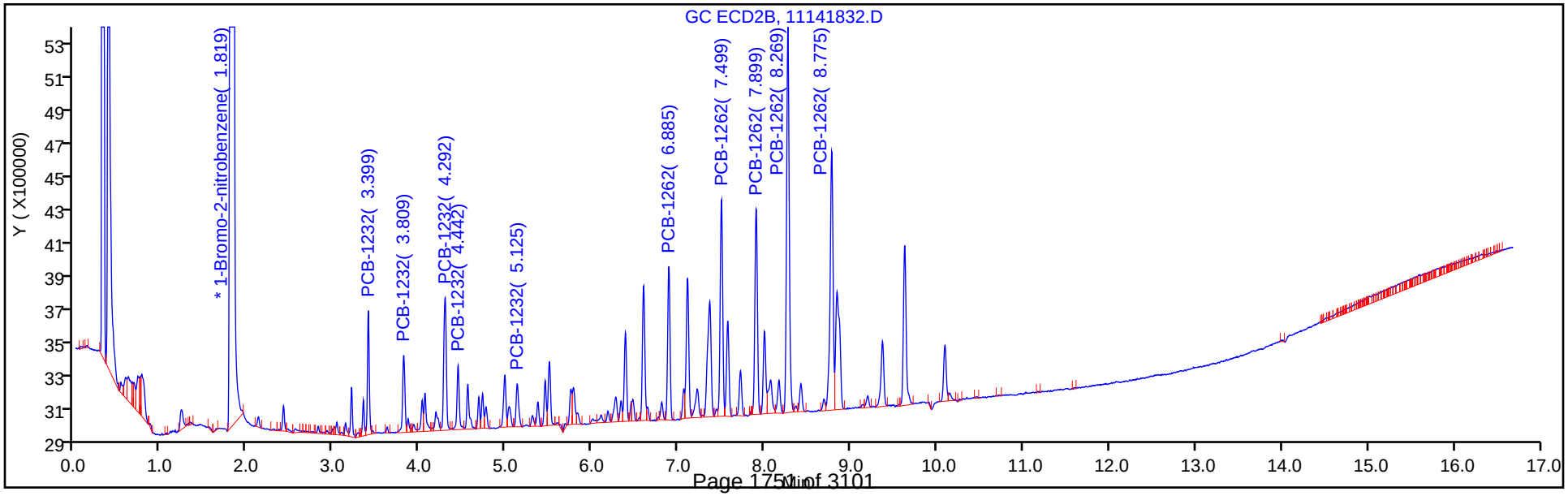
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141832.D

Injection Date:	14-Nov-2018 22:39:12	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL13262			Worklist Smp#:	32
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	32
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 23:00 Calibration End Date: 11/15/2018 01:07 Calibration ID: 34326

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL14268 280-437583/39	11141839.D
Level 2	STDL24268 280-437583/38	11141838.D
Level 3	STDL34268 280-437583/37	11141837.D
Level 4	STDL44268 280-437583/36	11141836.D
Level 5	STDL54268 280-437583/35	11141835.D
Level 6	STDL64268 280-437583/34	11141834.D
Level 7	STDL74268 280-437583/33	11141833.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1242 Peak 1	0.9715 0.6217	0.8021 0.6241	0.7960	0.7227	0.6598	Lin1	10.526	0.6248							0.9980		0.9900
PCB-1242 Peak 2	1.0524 0.9987	1.0765 1.0365	1.1235	1.0623	1.0266	Lin1	2.7036	1.0235							0.9990		0.9900
PCB-1242 Peak 3	0.4767 0.4315	0.5078 0.4428	0.5193	0.4813	0.4478	Lin1	2.7873	0.4413							0.9980		0.9900
PCB-1242 Peak 4	0.3378 0.2767	0.3332 0.2906	0.3538	0.3174	0.3016	Lin1	2.4507	0.2885							0.9970		0.9900
PCB-1242 Peak 5	0.3430 0.3199	0.3623 0.3434	0.3401	0.3398	0.3144	Lin1	0.7301	0.3294							0.9980		0.9900
PCB-1268 Peak 1	2.1311 1.8202	2.0865 1.8536	2.0124	1.9561	1.8408	Lin1	10.840	1.8360							1.0000		0.9900
PCB-1268 Peak 2	1.9383 1.6964	1.9544 1.8672	1.9453	1.8194	1.7870	Lin1	6.2086	1.7888							0.9980		0.9900
PCB-1268 Peak 3	1.6753 1.4216	1.6560 1.5039	1.6258	1.5385	1.4644	Lin1	8.0945	1.4645							0.9990		0.9900
PCB-1268 Peak 4	0.7121 0.5972	0.6786 0.6294	0.6763	0.6527	0.6187	Lin1	3.2812	0.6154							0.9990		0.9900
PCB-1268 Peak 5	4.8828 4.2753	4.7429 4.4911	4.6525	4.5419	4.3815	Lin1	16.049	4.3873							0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 23:00 Calibration End Date: 11/15/2018 01:07 Calibration ID: 34326

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL14268 280-437583/39	11141839.D
Level 2	STDL24268 280-437583/38	11141838.D
Level 3	STDL34268 280-437583/37	11141837.D
Level 4	STDL44268 280-437583/36	11141836.D
Level 5	STDL54268 280-437583/35	11141835.D
Level 6	STDL64268 280-437583/34	11141834.D
Level 7	STDL74268 280-437583/33	11141833.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1242 Peak 1	BNB	Lin1	534244 10311732	880800 12977478	1637974	3883549	7121305	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 2	BNB	Lin1	578706 16564672	1182139 21551940	2311958	5708470	11081213	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 3	BNB	Lin1	262157 7157226	557626 9207623	1068567	2586366	4833834	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 4	BNB	Lin1	185770 4589107	365913 6043210	728085	1705575	3255315	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 5	BNB	Lin1	188595 5305239	397810 7141477	699801	1826114	3393898	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 1	BNB	Lin1	1171912 30189190	2291252 38543872	4141067	10511109	19868613	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 2	BNB	Lin1	1065863 28136268	2146170 38824669	4002969	9776689	19287800	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 3	BNB	Lin1	921267 23579129	1818512 31270480	3345422	8266955	15806312	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 4	BNB	Lin1	391562 9904977	745186 13088332	1391651	3507340	6678257	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 5	BNB	Lin1	2685063 70909791	5208164 93384758	9573778	24405781	47292708	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141833.D
Lims ID: STDL74268
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 14-Nov-2018 23:00:21 ALS Bottle#: 33 Worklist Smp#: 33
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL74268
Misc. Info.: 280-0076197-033
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:14 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:48:39

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.047	2.046	0.001	20793516	1000.0	1000.0	
2	1.817	1.816	0.001	128525509	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.771	3.770	0.001	12977478	1000.0	982.1	
1	4.284	4.280	0.004	21551940	1000.0	1010.0	
1	4.434	4.434	0.000	9207623	1000.0	997.1	
1	5.441	5.440	0.001	6043210	1000.0	999.0	
1	5.467	5.467	0.000	7141477	1000.0	1040.5	
		Average of Peak Amounts =				1005.7	
2	3.811	3.807	0.004	36200040	1000.0	973.4	
2	4.291	4.287	0.004	75724484	1000.0	983.3	
2	4.441	4.437	0.004	30851888	1000.0	983.6	
2	4.984	4.984	0.000	24596278	1000.0	993.2	
2	5.127	5.127	0.000	29436631	1000.0	992.5	
		Average of Peak Amounts =				985.2	
						RPD = 2.06	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.634	8.634	0.000	38543872	1000.0	1003.7	
1	8.687	8.687	0.000	38824669	1000.0	1040.3	
1	8.964	8.964	0.000	31270480	1000.0	1021.4	
1	9.484	9.484	0.000	13088332	1000.0	1017.4	
1	9.901	9.900	0.001	93384758	1000.0	1020.0	
		Average of Peak Amounts =				1020.6	
2	8.771	8.770	0.001	159212661	1000.0	1001.9	
2	8.834	8.834	0.000	153056704	1000.0	997.2	
2	9.191	9.187	0.004	132069549	1000.0	1001.4	
2	9.621	9.620	0.001	63203133	1000.0	996.7	
2	10.087	10.087	0.000	402661023	1000.0	1001.6	
		Average of Peak Amounts =				999.8	
						RPD = 2.06	
S 8 Polychlorinated biphenyls, Total							
1						2026.3	
2						1984.9	
						RPD = 2.06	

Reagents:

AR_4268_L7_00016	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

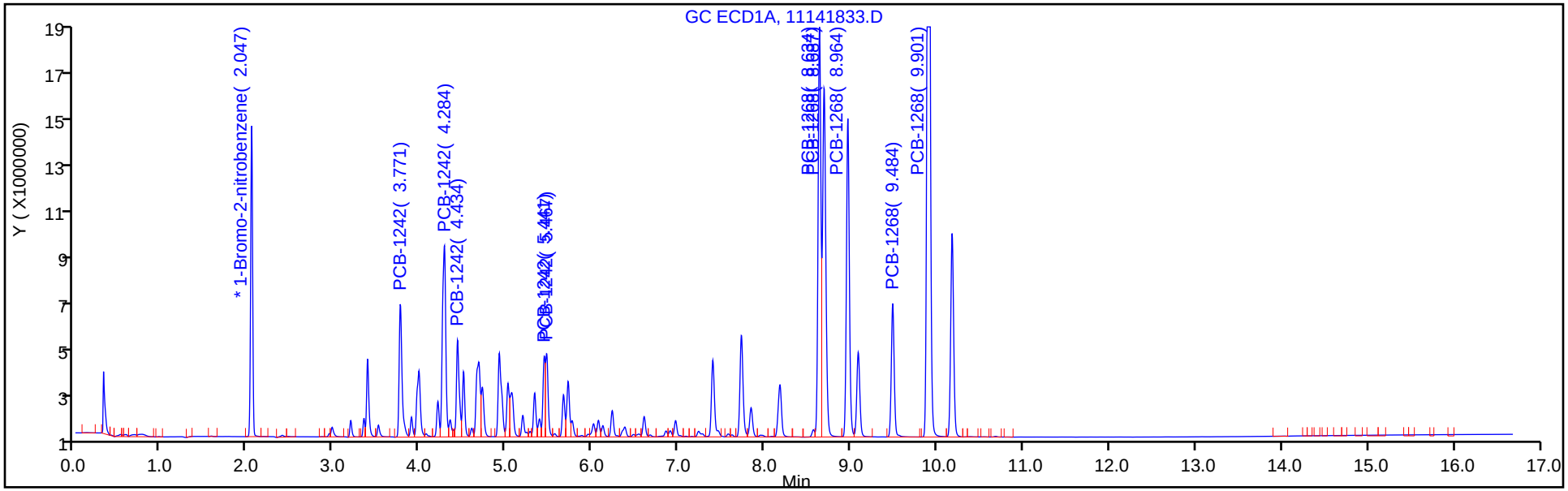
Report Date: 15-Nov-2018 16:09:14 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

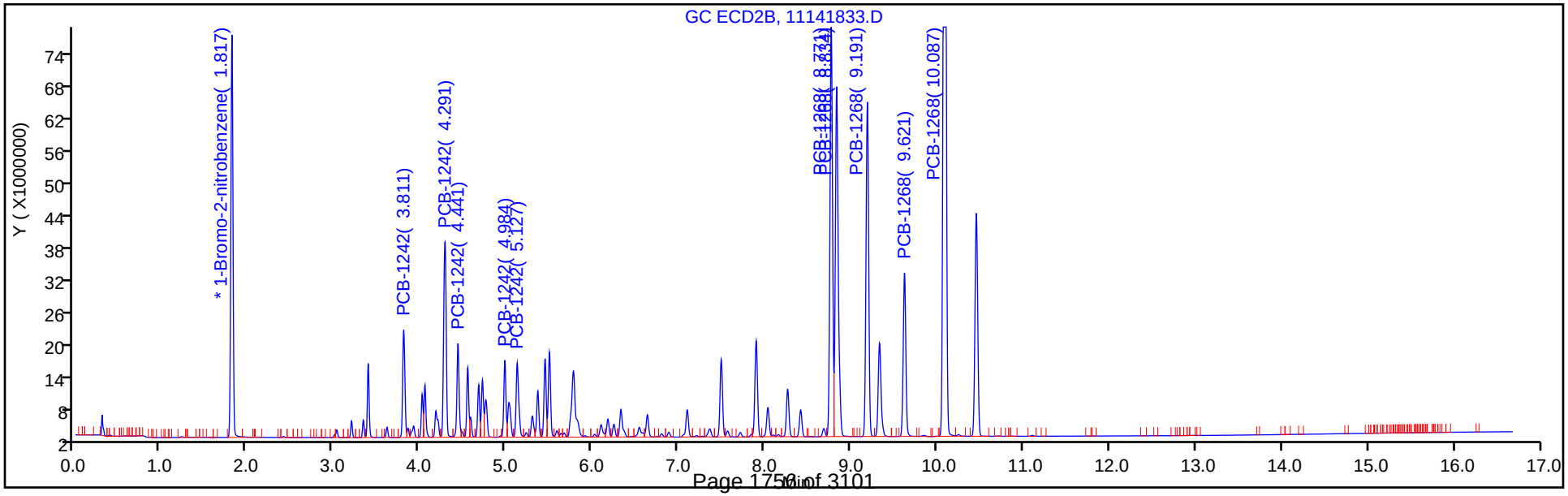
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141833.D

Injection Date:	14-Nov-2018 23:00:21	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL74268			Worklist Smp#:	33
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	33
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141834.D
Lims ID: STDL64268
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 14-Nov-2018 23:21:29 ALS Bottle#: 34 Worklist Smp#: 34
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL64268
Misc. Info.: 280-0076197-034
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:16 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:48:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.045	2.046	-0.001	22114339	1000.0	1000.0	
2	1.815	1.816	-0.001	134972624	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.771	3.770	0.001	10311732	750.0	729.5	
1	4.285	4.280	0.005	16564672	750.0	729.2	
1	4.435	4.434	0.001	7157226	750.0	727.1	
1	5.441	5.440	0.001	4589107	750.0	710.9	
1	5.468	5.467	0.001	5305239	750.0	726.1	
		Average of Peak Amounts =				724.6	
2	3.811	3.807	0.004	28704314	750.0	730.9	
2	4.291	4.287	0.004	59487755	750.0	732.1	
2	4.441	4.437	0.004	24091683	750.0	726.9	
2	4.985	4.984	0.001	19060016	750.0	727.6	
2	5.128	5.127	0.001	22753308	750.0	726.9	
		Average of Peak Amounts =				728.9	
						RPD = 0.60	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.635	8.634	0.001	30189190	750.0	737.7	
1	8.688	8.687	0.001	28136268	750.0	707.8	
1	8.965	8.964	0.001	23579129	750.0	722.5	
1	9.485	9.484	0.001	9904977	750.0	722.5	
1	9.901	9.900	0.001	70909791	750.0	727.2	
		Average of Peak Amounts =				723.5	
2	8.771	8.770	0.001	121417636	750.0	724.2	
2	8.835	8.834	0.001	117291287	750.0	724.7	
2	9.191	9.187	0.004	100858057	750.0	725.3	
2	9.621	9.620	0.001	48538063	750.0	725.8	
2	10.088	10.087	0.001	306882291	750.0	723.6	
		Average of Peak Amounts =				724.7	
						RPD = 0.16	
S 8 Polychlorinated biphenyls, Total							
1						1448.1	
2						1453.6	
						RPD = 0.38	

Reagents:

AR_4268_L6_00018	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

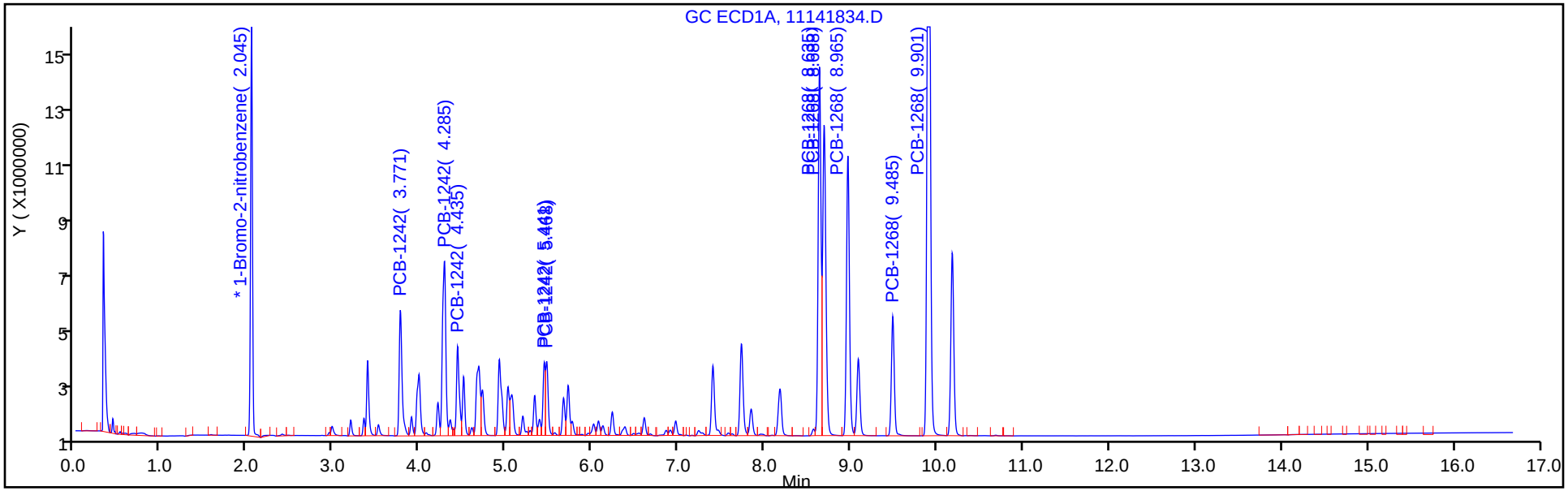
Report Date: 15-Nov-2018 16:09:17 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

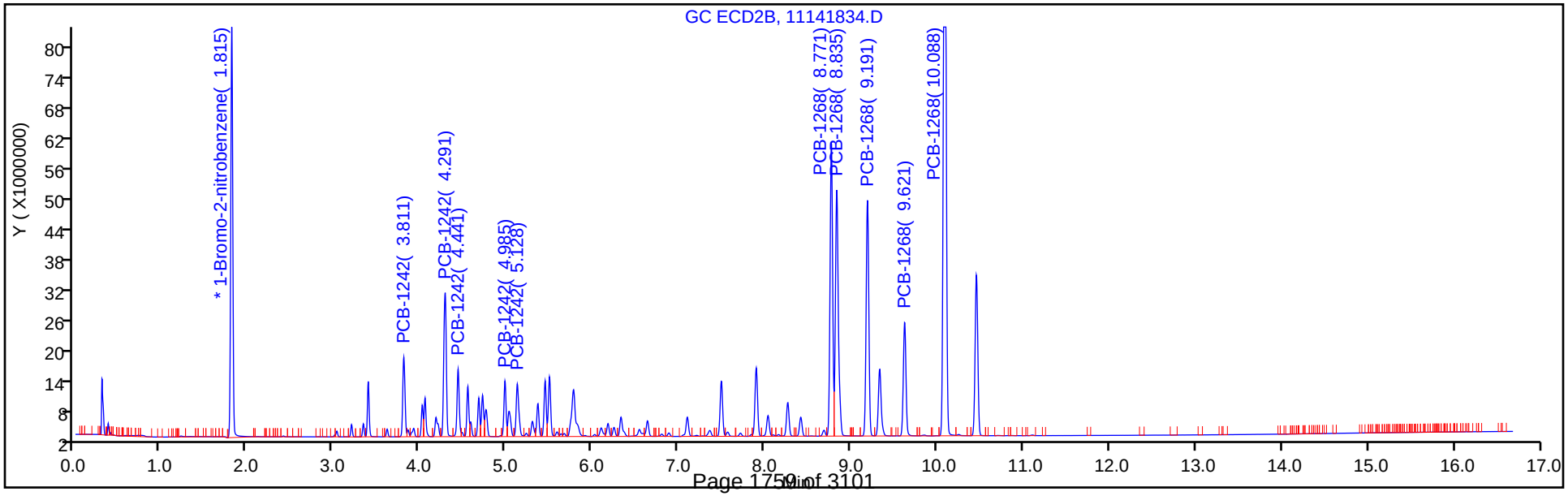
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141834.D

Injection Date:	14-Nov-2018 23:21:29	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL64268			Worklist Smp#:	34
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	34
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141835.D
Lims ID: STDL54268
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 14-Nov-2018 23:42:39 ALS Bottle#: 35 Worklist Smp#: 35
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL54268
Misc. Info.: 280-0076197-035
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:20 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:43:53

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.044	2.044	0.000	21587224	1000.0	1000.0	
2	1.814	1.814	0.000	132602008	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.770	3.770	0.000	7121305	500.0	511.2	
1	4.280	4.280	0.000	11081213	500.0	498.9	
1	4.434	4.434	0.000	4833834	500.0	501.1	
1	5.440	5.440	0.000	3255315	500.0	514.3	
1	5.467	5.467	0.000	3393898	500.0	475.1	
		Average of Peak Amounts =				500.1	
2	3.807	3.807	0.000	19929233	500.0	511.7	
2	4.287	4.287	0.000	40817877	500.0	507.1	
2	4.437	4.437	0.000	16681904	500.0	507.3	
2	4.984	4.984	0.000	12988024	500.0	498.4	
2	5.127	5.127	0.000	15587434	500.0	502.7	
		Average of Peak Amounts =				505.4	
						RPD = 1.06	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.634	8.634	0.000	19868613	500.0	495.4	
1	8.687	8.687	0.000	19287800	500.0	496.0	
1	8.964	8.964	0.000	15806312	500.0	494.4	
1	9.484	9.484	0.000	6678257	500.0	497.3	
1	9.900	9.900	0.000	47292708	500.0	495.7	
		Average of Peak Amounts =				495.8	
2	8.770	8.770	0.000	82891457	500.0	499.6	
2	8.834	8.834	0.000	80985943	500.0	506.1	
2	9.187	9.187	0.000	69026190	500.0	502.0	
2	9.620	9.620	0.000	33301974	500.0	503.4	
2	10.087	10.087	0.000	210642872	500.0	502.0	
		Average of Peak Amounts =				502.6	
						RPD = 1.37	

Reagents:

AR_4268_L5_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

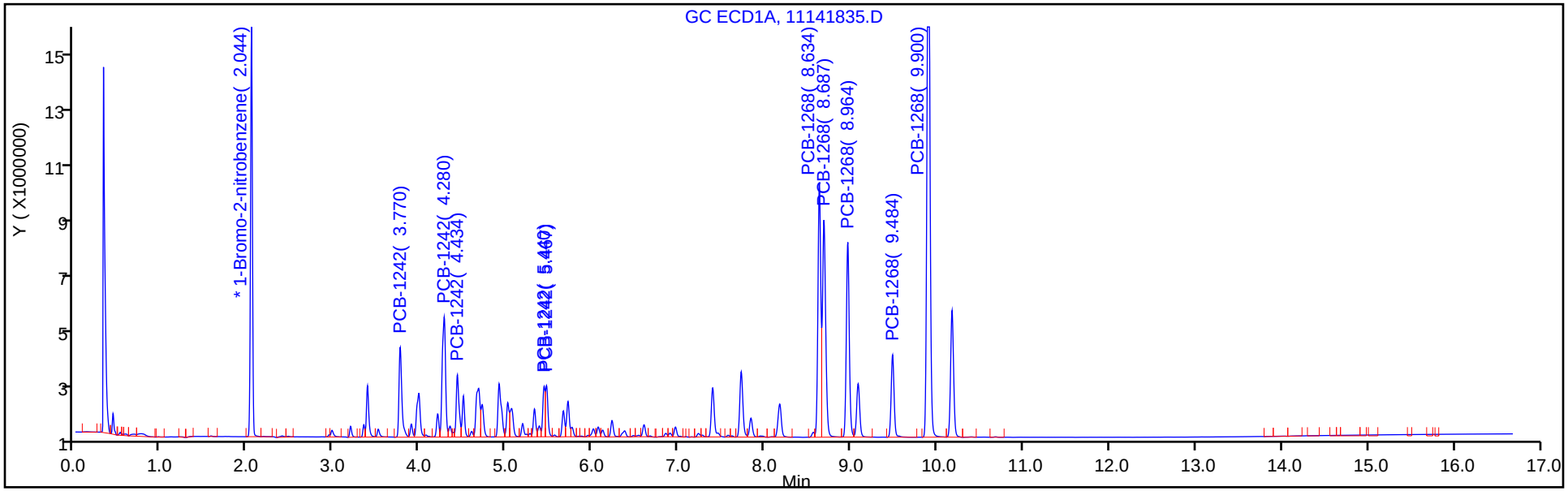
Report Date: 15-Nov-2018 16:09:21 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

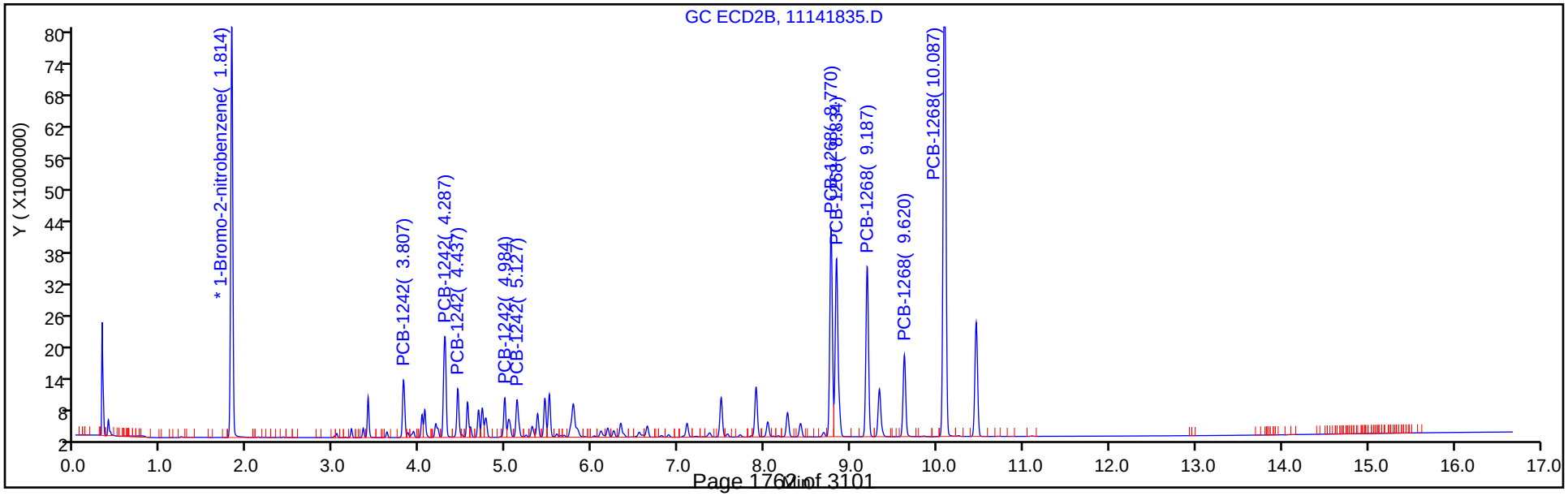
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141835.D

Injection Date:	14-Nov-2018 23:42:39	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL54268			Worklist Smp#:	35
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	35
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141836.D
Lims ID: STDL44268
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 15-Nov-2018 00:03:46 ALS Bottle#: 36 Worklist Smp#: 36
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL44268
Misc. Info.: 280-0076197-036
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:23 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:48:17

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.044	0.002	21493896	1000.0	1000.0	
2	1.817	1.814	0.003	131181708	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.773	3.770	0.003	3883549	250.0	272.3	
1	4.283	4.280	0.003	5708470	250.0	256.8	
1	4.436	4.434	0.002	2586366	250.0	266.4	
1	5.443	5.440	0.003	1705575	250.0	266.6	
1	5.470	5.467	0.003	1826114	250.0	255.7	
		Average of Peak Amounts =				263.6	
2	3.810	3.807	0.003	10874446	250.0	274.8	
2	4.290	4.287	0.003	21990570	250.0	269.9	
2	4.443	4.437	0.006	9028914	250.0	269.7	
2	4.987	4.984	0.003	7218568	250.0	271.1	
2	5.130	5.127	0.003	8446752	250.0	269.2	
		Average of Peak Amounts =				270.9	
						RPD = 2.76	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.636	8.634	0.002	10511109	250.0	260.5	
1	8.693	8.687	0.006	9776689	250.0	250.8	
1	8.966	8.964	0.002	8266955	250.0	257.1	
1	9.486	9.484	0.002	3507340	250.0	259.8	
1	9.903	9.900	0.003	24405781	250.0	255.2	
		Average of Peak Amounts =				256.7	
2	8.773	8.770	0.003	45030106	250.0	268.9	
2	8.837	8.834	0.003	43123915	250.0	267.3	
2	9.193	9.187	0.006	36899298	250.0	266.3	
2	9.623	9.620	0.003	17909746	250.0	268.4	
2	10.090	10.087	0.003	113064793	250.0	266.9	
		Average of Peak Amounts =				267.6	
						RPD = 4.15	
S 8 Polychlorinated biphenyls, Total							
1						520.2	
2						538.5	
						RPD = 3.45	

Reagents:

AR_4268_L4_00023	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

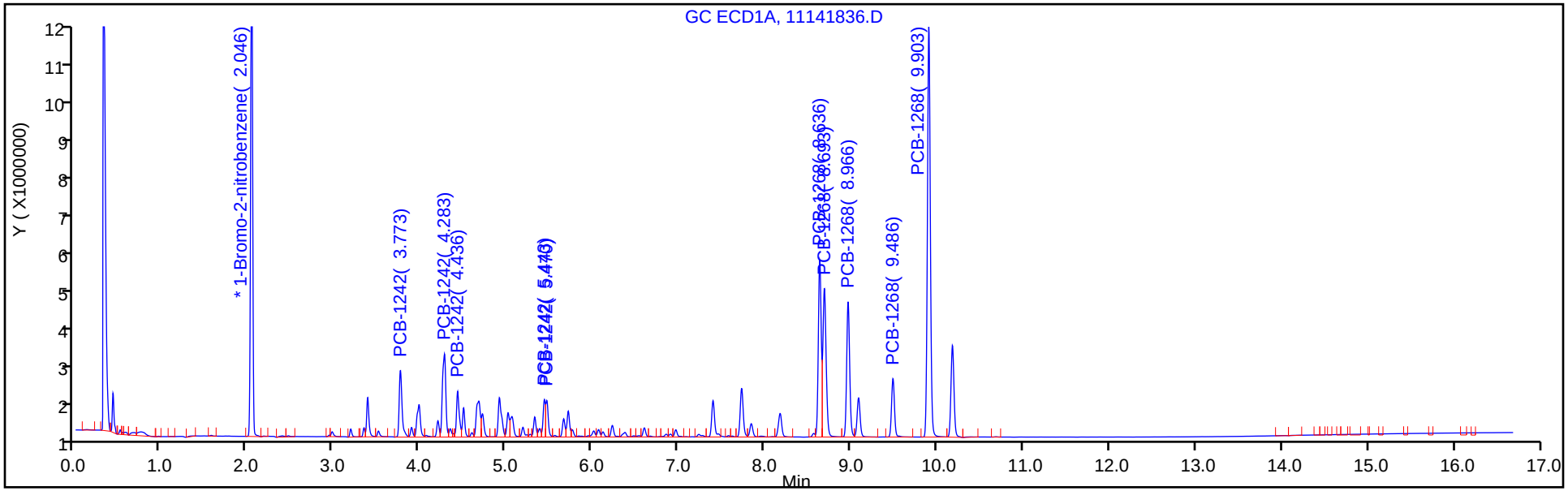
Report Date: 15-Nov-2018 16:09:24 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

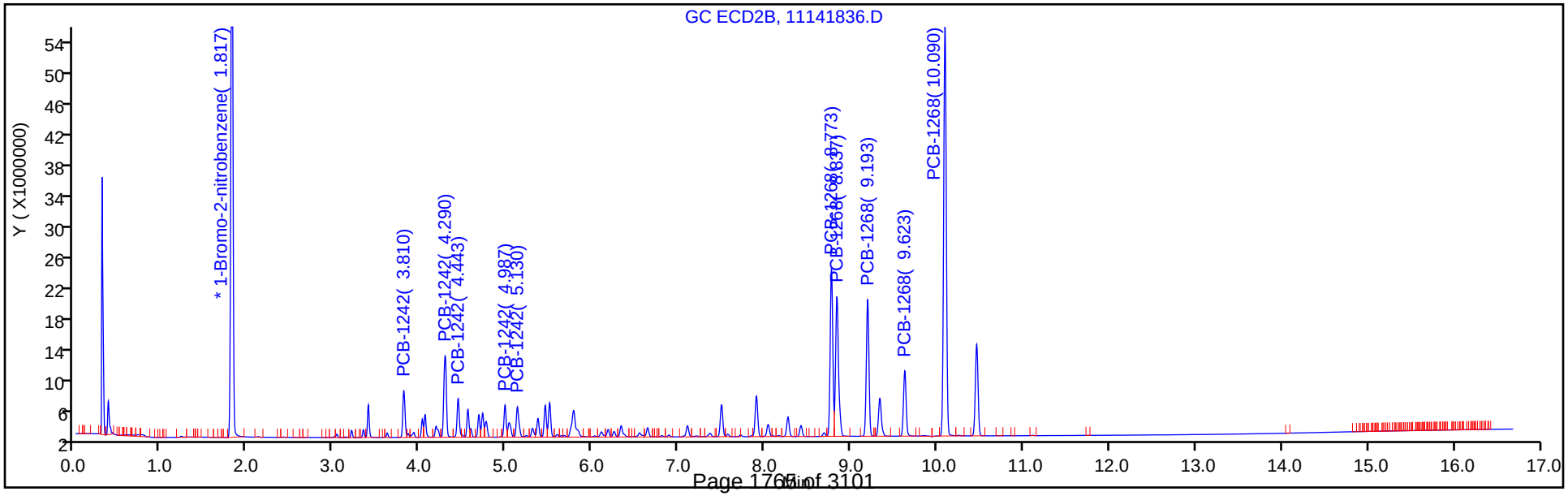
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141836.D

Injection Date:	15-Nov-2018 00:03:46	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL44268			Worklist Smp#:	36
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	36
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141837.D
Lims ID: STDL34268
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 15-Nov-2018 00:24:54 ALS Bottle#: 37 Worklist Smp#: 37
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL34268
Misc. Info.: 280-0076197-037
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:27 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:49:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.047	2.044	0.003	20577492	1000.0	1000.0	
2	1.817	1.814	0.003	126482389	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.774	3.770	0.004	1637974	100.0	110.6	
1	4.284	4.280	0.004	2311958	100.0	107.1	
1	4.437	4.434	0.003	1068567	100.0	111.4	
1	5.444	5.440	0.004	728085	100.0	114.2	
1	5.474	5.467	0.007	699801	100.0	101.0	
		Average of Peak Amounts =				108.8	
2	3.814	3.807	0.007	4665611	100.0	113.1	
2	4.294	4.287	0.007	9322338	100.0	110.9	
2	4.444	4.437	0.007	4066841	100.0	116.8	
2	4.987	4.984	0.003	3200257	100.0	113.7	
2	5.131	5.127	0.004	3629646	100.0	112.4	
		Average of Peak Amounts =				113.4	
						RPD = 4.08	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.641	8.634	0.007	4141067	100.0	103.7	
1	8.694	8.687	0.007	4002969	100.0	105.3	
1	8.971	8.964	0.007	3345422	100.0	105.5	
1	9.491	9.484	0.007	1391651	100.0	104.6	
1	9.907	9.900	0.007	9573778	100.0	102.4	
		Average of Peak Amounts =				104.3	
2	8.777	8.770	0.007	18501499	100.0	107.6	
2	8.841	8.834	0.007	17598588	100.0	106.8	
2	9.197	9.187	0.010	15137407	100.0	107.1	
2	9.627	9.620	0.007	7384722	100.0	108.2	
2	10.094	10.087	0.007	47016182	100.0	108.3	
		Average of Peak Amounts =				107.6	
						RPD = 3.14	
S 8 Polychlorinated biphenyls, Total							
1						213.1	
2						221.0	
						RPD = 3.62	

Reagents:

AR_4268_L3_00020	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

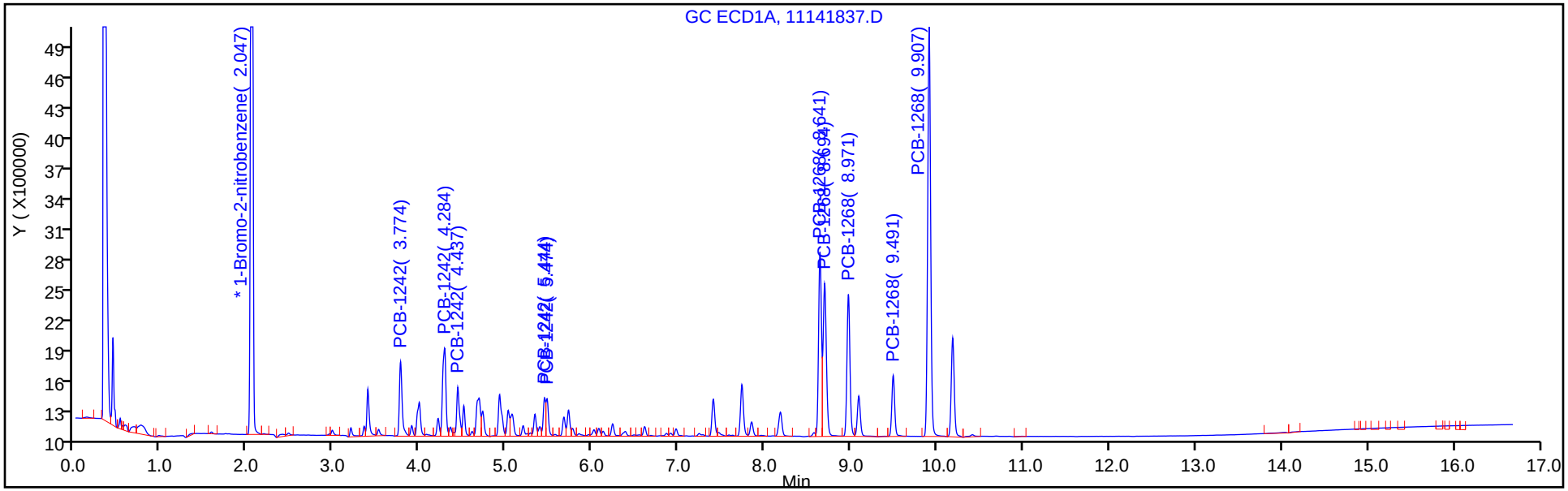
Report Date: 15-Nov-2018 16:09:27 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

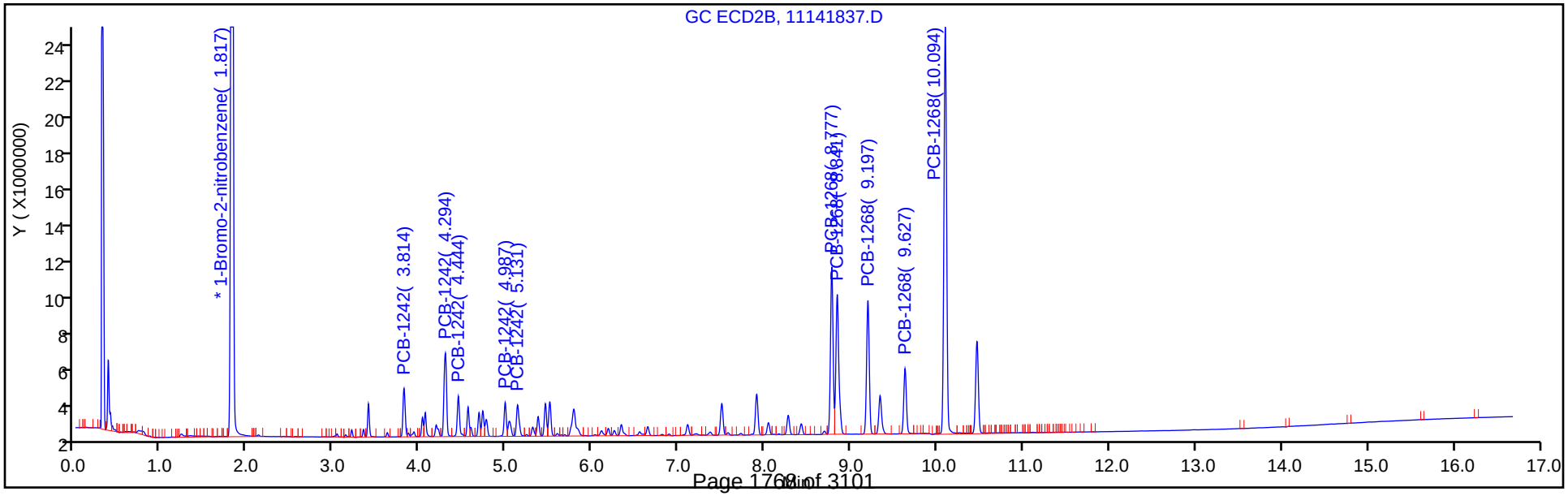
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141837.D

Injection Date:	15-Nov-2018 00:24:54	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL34268			Worklist Smp#:	37
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	37
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141838.D
Lims ID: STDL24268
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 15-Nov-2018 00:46:03 ALS Bottle#: 38 Worklist Smp#: 38
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL24268
Misc. Info.: 280-0076197-038
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:30 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:49:52

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.044	0.002	21962148	1000.0	1000.0	
2	1.816	1.814	0.002	132577610	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.773	3.770	0.003	880800	50.0	47.3	
1	4.286	4.280	0.006	1182139	50.0	49.9	
1	4.439	4.434	0.005	557626	50.0	51.2	
1	5.446	5.440	0.006	365913	50.0	49.3	
1	5.473	5.467	0.006	397810	50.0	52.8	
		Average of Peak Amounts =				50.1	
2	3.813	3.807	0.006	2591113	50.0	52.2	
2	4.293	4.287	0.006	5110290	50.0	51.4	
2	4.443	4.437	0.006	2208768	50.0	52.2	
2	4.990	4.984	0.006	1791710	50.0	51.2	
2	5.133	5.127	0.006	1948277	50.0	50.9	
		Average of Peak Amounts =				51.6	
						RPD = 2.89	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.643	8.634	0.009	2291252	50.0	50.9	
1	8.696	8.687	0.009	2146170	50.0	51.2	
1	8.973	8.964	0.009	1818512	50.0	51.0	
1	9.493	9.484	0.009	745186	50.0	49.8	
1	9.909	9.900	0.009	5208164	50.0	50.4	
		Average of Peak Amounts =				50.7	
2	8.780	8.770	0.010	10326352	50.0	51.6	
2	8.843	8.834	0.009	9793544	50.0	51.5	
2	9.200	9.187	0.013	8351626	50.0	51.3	
2	9.630	9.620	0.010	4065705	50.0	51.4	
2	10.096	10.087	0.009	25851047	50.0	51.2	
		Average of Peak Amounts =				51.4	
						RPD = 1.45	
S 8 Polychlorinated biphenyls, Total							
1						100.8	
2						103.0	
						RPD = 2.17	

Reagents:

AR_4268_L2_00020	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

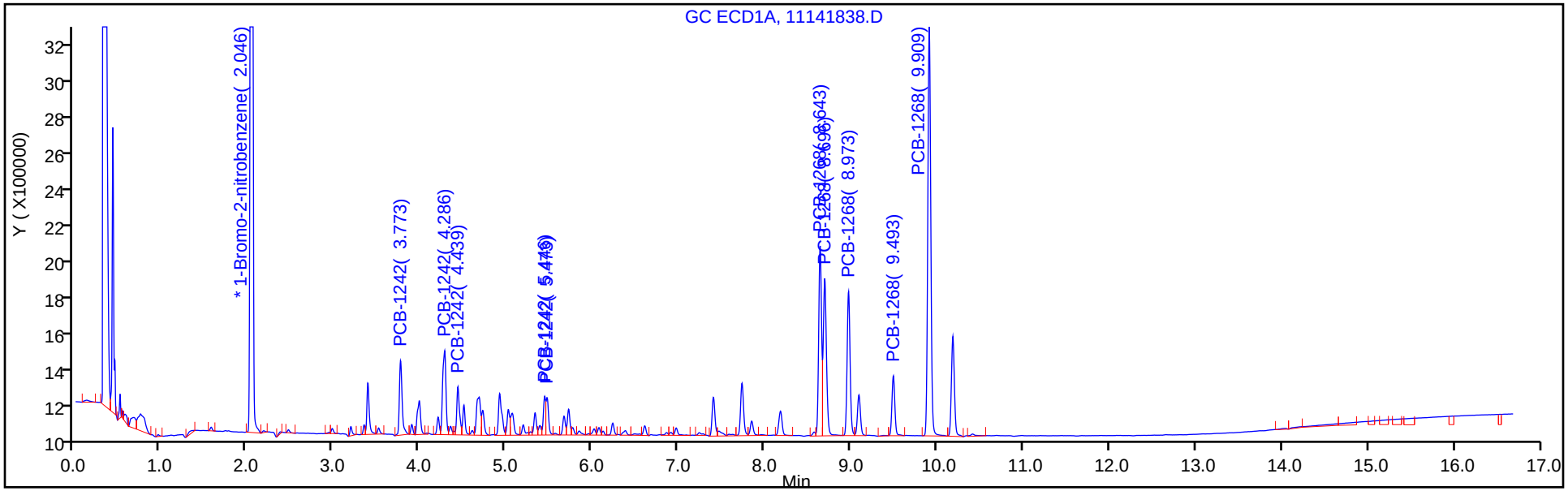
Report Date: 15-Nov-2018 16:09:30 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

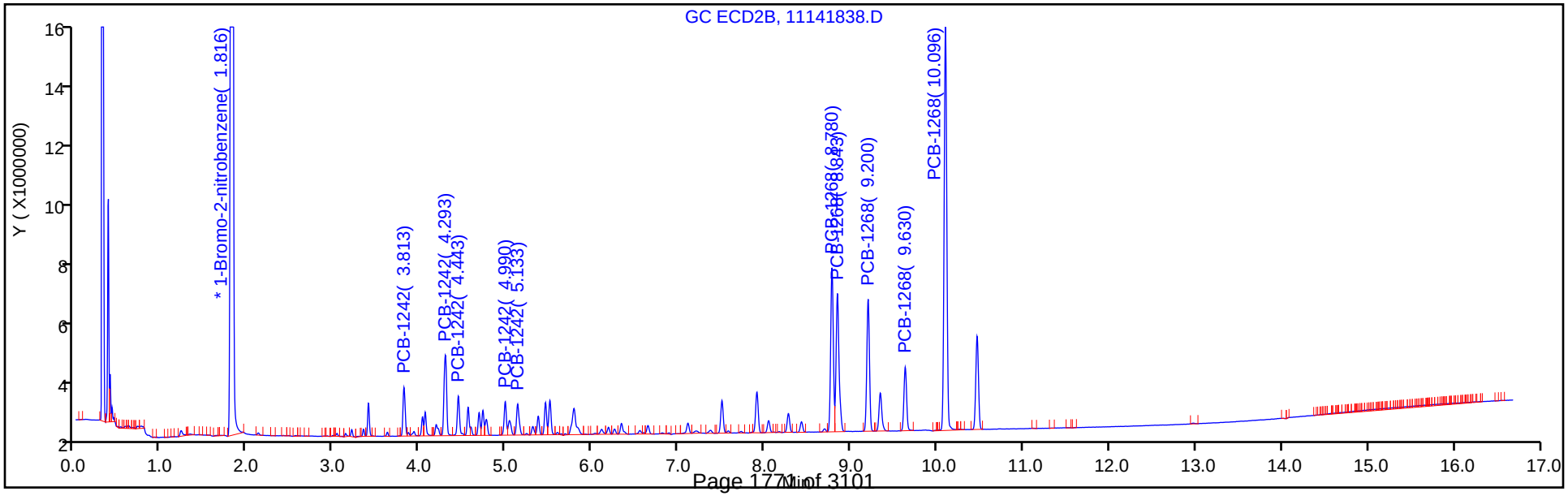
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141838.D

Injection Date:	15-Nov-2018 00:46:03	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL24268			Worklist Smp#:	38
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	38
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D
Lims ID: STDL14268
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 15-Nov-2018 01:07:13 ALS Bottle#: 39 Worklist Smp#: 39
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL14268
Misc. Info.: 280-0076197-039
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:32 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:50:28

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.045	2.044	0.001	21996237	1000.0	1000.0	
2	1.816	1.814	0.002	133242889	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.772	3.770	0.002	534244	25.0	22.0	
1	4.285	4.280	0.005	578706	25.0	23.1	
1	4.439	4.434	0.005	262157	25.0	20.7	
1	5.445	5.440	0.005	185770	25.0	20.8	
1	5.472	5.467	0.005	188595	25.0	23.8	
		Average of Peak Amounts =				22.1	
2	3.812	3.807	0.005	1340249	25.0	18.9	
2	4.292	4.287	0.005	2676299	25.0	20.2	
2	4.442	4.437	0.005	1145737	25.0	18.6	
2	4.986	4.984	0.002	1011795	25.0	19.9	
2	5.132	5.127	0.005	1033605	25.0	20.4	
		Average of Peak Amounts =				19.6	
						RPD = 12.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.642	8.634	0.008	1171912	25.0	23.1	
1	8.695	8.687	0.008	1065863	25.0	23.6	
1	8.969	8.964	0.005	921267	25.0	23.1	
1	9.489	9.484	0.005	391562	25.0	23.6	
1	9.905	9.900	0.005	2685063	25.0	24.2	
		Average of Peak Amounts =				23.5	
2	8.779	8.770	0.009	5431232	25.0	21.2	
2	8.842	8.834	0.008	5099654	25.0	21.4	
2	9.199	9.187	0.012	4389524	25.0	21.7	
2	9.629	9.620	0.009	2116874	25.0	21.1	
2	10.096	10.087	0.009	13719301	25.0	21.4	
		Average of Peak Amounts =				21.4	
						RPD = 9.59	
S 8 Polychlorinated biphenyls, Total							
1						45.6	
2						40.9	
						RPD = 10.76	

Reagents:

AR_4268_L1_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

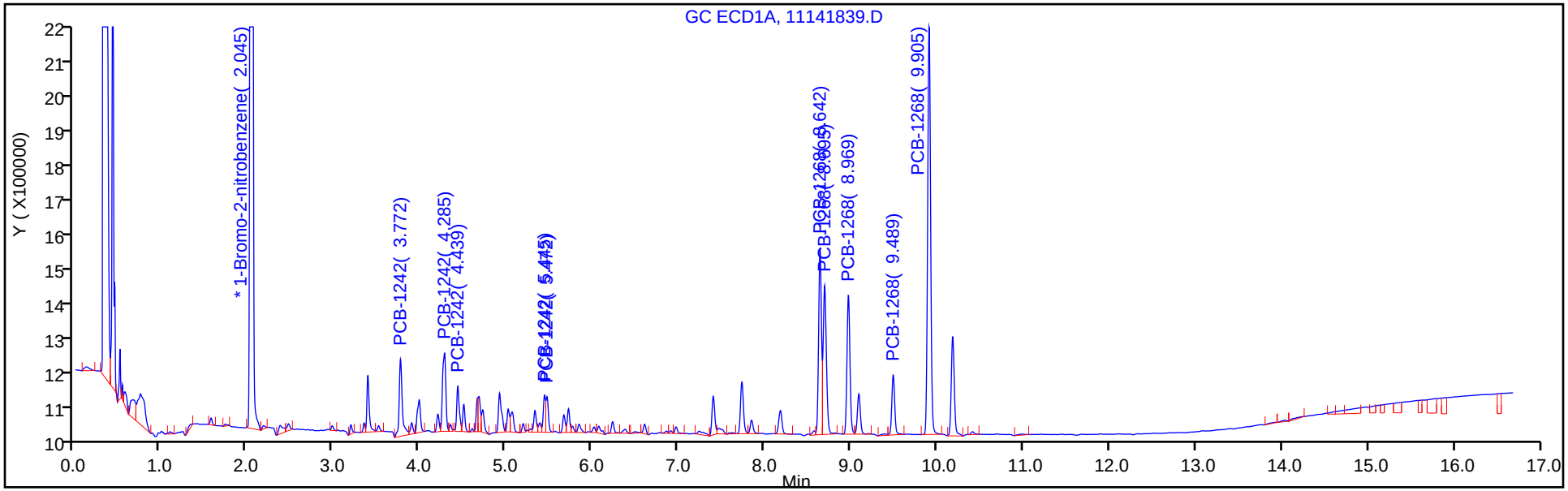
Report Date: 15-Nov-2018 16:09:33 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

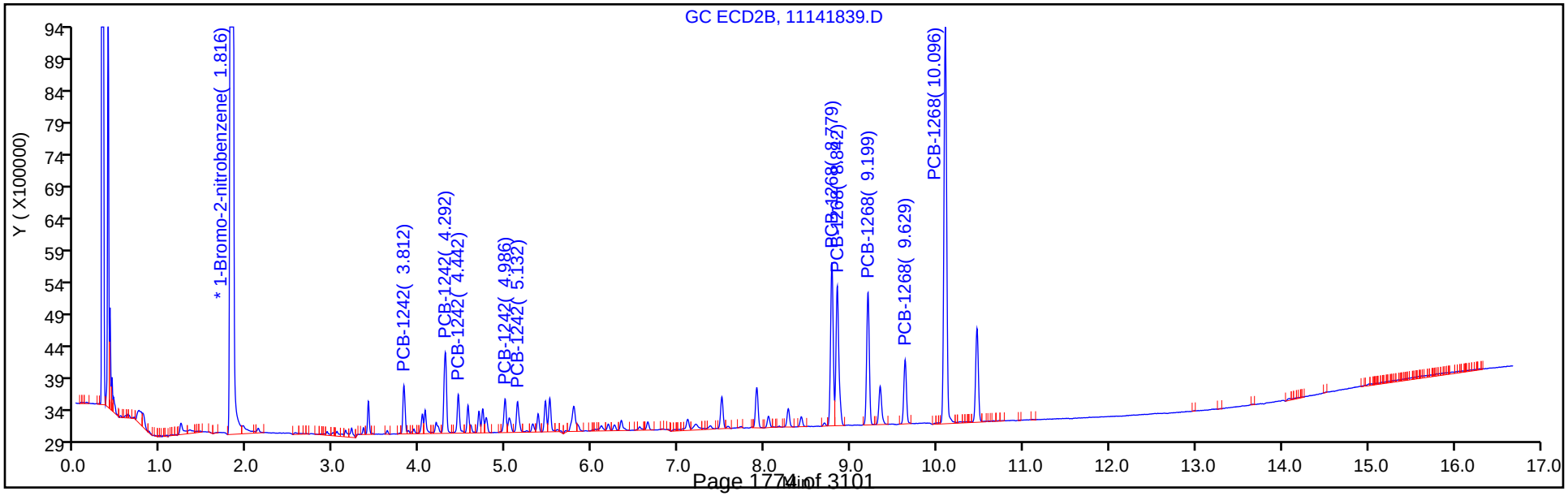
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Injection Date:	15-Nov-2018 01:07:13	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL14268			Worklist Smp#:	39
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	39
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 23:00 Calibration End Date: 11/15/2018 01:07 Calibration ID: 34327

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL14268 280-437583/39	11141839.D
Level 2	STDL24268 280-437583/38	11141838.D
Level 3	STDL34268 280-437583/37	11141837.D
Level 4	STDL44268 280-437583/36	11141836.D
Level 5	STDL54268 280-437583/35	11141835.D
Level 6	STDL64268 280-437583/34	11141834.D
Level 7	STDL74268 280-437583/33	11141833.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1242 Peak 1	0.4023 0.2836	0.3909 0.2817	0.3689	0.3316	0.3006	Lin1	4.6941	0.2845							0.9960		0.9900
PCB-1242 Peak 2	0.8034 0.5877	0.7709 0.5892	0.7370	0.6705	0.6156	Lin1	8.1447	0.5909							0.9980		0.9900
PCB-1242 Peak 3	0.3440 0.2380	0.3332 0.2400	0.3215	0.2753	0.2516	Lin1	4.1465	0.2398							0.9960		0.9900
PCB-1242 Peak 4	0.3037 0.1883	0.2703 0.1914	0.2530	0.2201	0.1959	Lin1	3.8430	0.1888							0.9970		0.9900
PCB-1242 Peak 5	0.3103 0.2248	0.2939 0.2290	0.2870	0.2576	0.2351	Lin1	3.1192	0.2276							0.9980		0.9900
PCB-1268 Peak 1	1.6305 1.1994	1.5578 1.2388	1.4628	1.3731	1.2502	Lin1	14.822	1.2216							0.9980		0.9900
PCB-1268 Peak 2	1.5309 1.1587	1.4774 1.1909	1.3914	1.3149	1.2215	Lin1	12.986	1.1812							0.9980		0.9900
PCB-1268 Peak 3	1.3178 0.9963	1.2599 1.0276	1.1968	1.1251	1.0411	Lin1	10.959	1.0152							0.9990		0.9900
PCB-1268 Peak 4	0.6355 0.4795	0.6133 0.4918	0.5839	0.5461	0.5023	Lin1	5.5879	0.4878							0.9980		0.9900
PCB-1268 Peak 5	4.1186 3.0316	3.8998 3.1329	3.7172	3.4476	3.1771	Lin1	36.854	3.0911							0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 437583

SDG No.:

Instrument ID: SGC_J GC Column: CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2018 23:00 Calibration End Date: 11/15/2018 01:07 Calibration ID: 34327

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STDL14268 280-437583/39	11141839.D
Level 2	STDL24268 280-437583/38	11141838.D
Level 3	STDL34268 280-437583/37	11141837.D
Level 4	STDL44268 280-437583/36	11141836.D
Level 5	STDL54268 280-437583/35	11141835.D
Level 6	STDL64268 280-437583/34	11141834.D
Level 7	STDL74268 280-437583/33	11141833.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1242 Peak 1	BNB	Lin1	1340249 28704314	2591113 36200040	4665611	10874446	19929233	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 2	BNB	Lin1	2676299 59487755	5110290 75724484	9322338	21990570	40817877	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 3	BNB	Lin1	1145737 24091683	2208768 30851888	4066841	9028914	16681904	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 4	BNB	Lin1	1011795 19060016	1791710 24596278	3200257	7218568	12988024	25.0 750	50.0 1000	100	250	500
PCB-1242 Peak 5	BNB	Lin1	1033605 22753308	1948277 29436631	3629646	8446752	15587434	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 1	BNB	Lin1	5431232 121417636	10326352 159212661	18501499	45030106	82891457	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 2	BNB	Lin1	5099654 117291287	9793544 153056704	17598588	43123915	80985943	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 3	BNB	Lin1	4389524 100858057	8351626 132069549	15137407	36899298	69026190	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 4	BNB	Lin1	2116874 48538063	4065705 63203133	7384722	17909746	33301974	25.0 750	50.0 1000	100	250	500
PCB-1268 Peak 5	BNB	Lin1	13719301 306882291	25851047 402661023	47016182	113064793	210642872	25.0 750	50.0 1000	100	250	500

Curve Type Legend:
Lin1 = Linear 1/conc ISTD

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141833.D
Lims ID: STDL74268
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 14-Nov-2018 23:00:21 ALS Bottle#: 33 Worklist Smp#: 33
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL74268
Misc. Info.: 280-0076197-033
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:14 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:48:39

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.047	2.046	0.001	20793516	1000.0	1000.0	
2	1.817	1.816	0.001	128525509	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.771	3.770	0.001	12977478	1000.0	982.1	
1	4.284	4.280	0.004	21551940	1000.0	1010.0	
1	4.434	4.434	0.000	9207623	1000.0	997.1	
1	5.441	5.440	0.001	6043210	1000.0	999.0	
1	5.467	5.467	0.000	7141477	1000.0	1040.5	
		Average of Peak Amounts =				1005.7	
2	3.811	3.807	0.004	36200040	1000.0	973.4	
2	4.291	4.287	0.004	75724484	1000.0	983.3	
2	4.441	4.437	0.004	30851888	1000.0	983.6	
2	4.984	4.984	0.000	24596278	1000.0	993.2	
2	5.127	5.127	0.000	29436631	1000.0	992.5	
		Average of Peak Amounts =				985.2	
						RPD = 2.06	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.634	8.634	0.000	38543872	1000.0	1003.7	
1	8.687	8.687	0.000	38824669	1000.0	1040.3	
1	8.964	8.964	0.000	31270480	1000.0	1021.4	
1	9.484	9.484	0.000	13088332	1000.0	1017.4	
1	9.901	9.900	0.001	93384758	1000.0	1020.0	
		Average of Peak Amounts =				1020.6	
2	8.771	8.770	0.001	159212661	1000.0	1001.9	
2	8.834	8.834	0.000	153056704	1000.0	997.2	
2	9.191	9.187	0.004	132069549	1000.0	1001.4	
2	9.621	9.620	0.001	63203133	1000.0	996.7	
2	10.087	10.087	0.000	402661023	1000.0	1001.6	
		Average of Peak Amounts =				999.8	
						RPD = 2.06	
S 8 Polychlorinated biphenyls, Total							
1						2026.3	
2						1984.9	
						RPD = 2.06	

Reagents:

AR_4268_L7_00016	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

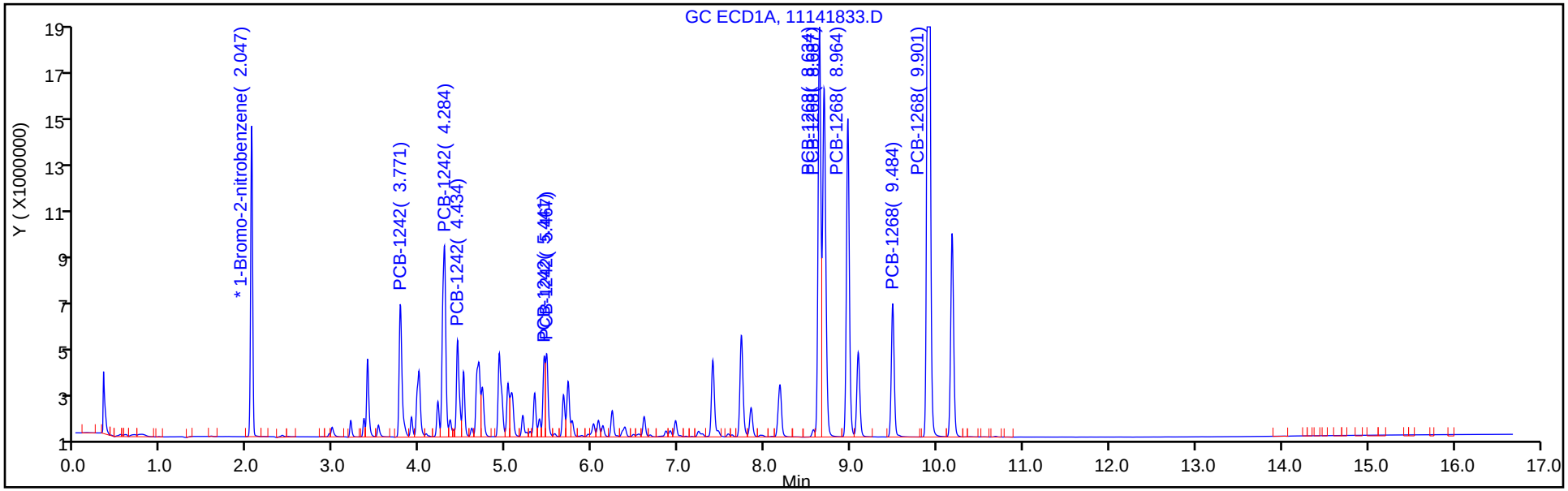
Report Date: 15-Nov-2018 16:09:15 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

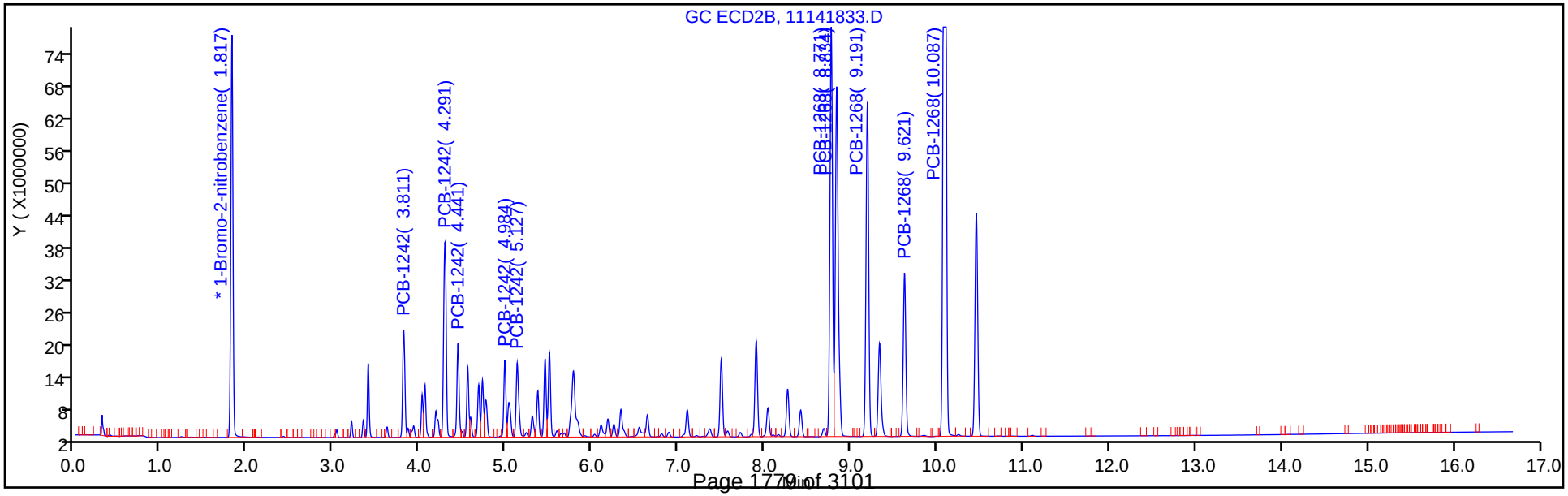
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141833.D

Injection Date:	14-Nov-2018 23:00:21	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL74268			Worklist Smp#:	33
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	33
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141834.D
Lims ID: STDL64268
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 14-Nov-2018 23:21:29 ALS Bottle#: 34 Worklist Smp#: 34
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL64268
Misc. Info.: 280-0076197-034
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:16 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:48:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.045	2.046	-0.001	22114339	1000.0	1000.0	
2	1.815	1.816	-0.001	134972624	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.771	3.770	0.001	10311732	750.0	729.5	
1	4.285	4.280	0.005	16564672	750.0	729.2	
1	4.435	4.434	0.001	7157226	750.0	727.1	
1	5.441	5.440	0.001	4589107	750.0	710.9	
1	5.468	5.467	0.001	5305239	750.0	726.1	
		Average of Peak Amounts =				724.6	
2	3.811	3.807	0.004	28704314	750.0	730.9	
2	4.291	4.287	0.004	59487755	750.0	732.1	
2	4.441	4.437	0.004	24091683	750.0	726.9	
2	4.985	4.984	0.001	19060016	750.0	727.6	
2	5.128	5.127	0.001	22753308	750.0	726.9	
		Average of Peak Amounts =				728.9	
						RPD = 0.60	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.635	8.634	0.001	30189190	750.0	737.7	
1	8.688	8.687	0.001	28136268	750.0	707.8	
1	8.965	8.964	0.001	23579129	750.0	722.5	
1	9.485	9.484	0.001	9904977	750.0	722.5	
1	9.901	9.900	0.001	70909791	750.0	727.2	
		Average of Peak Amounts =				723.5	
2	8.771	8.770	0.001	121417636	750.0	724.2	
2	8.835	8.834	0.001	117291287	750.0	724.7	
2	9.191	9.187	0.004	100858057	750.0	725.3	
2	9.621	9.620	0.001	48538063	750.0	725.8	
2	10.088	10.087	0.001	306882291	750.0	723.6	
		Average of Peak Amounts =				724.7	
						RPD = 0.16	
S 8 Polychlorinated biphenyls, Total							
1						1448.1	
2						1453.6	
						RPD = 0.38	

Reagents:

AR_4268_L6_00018	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

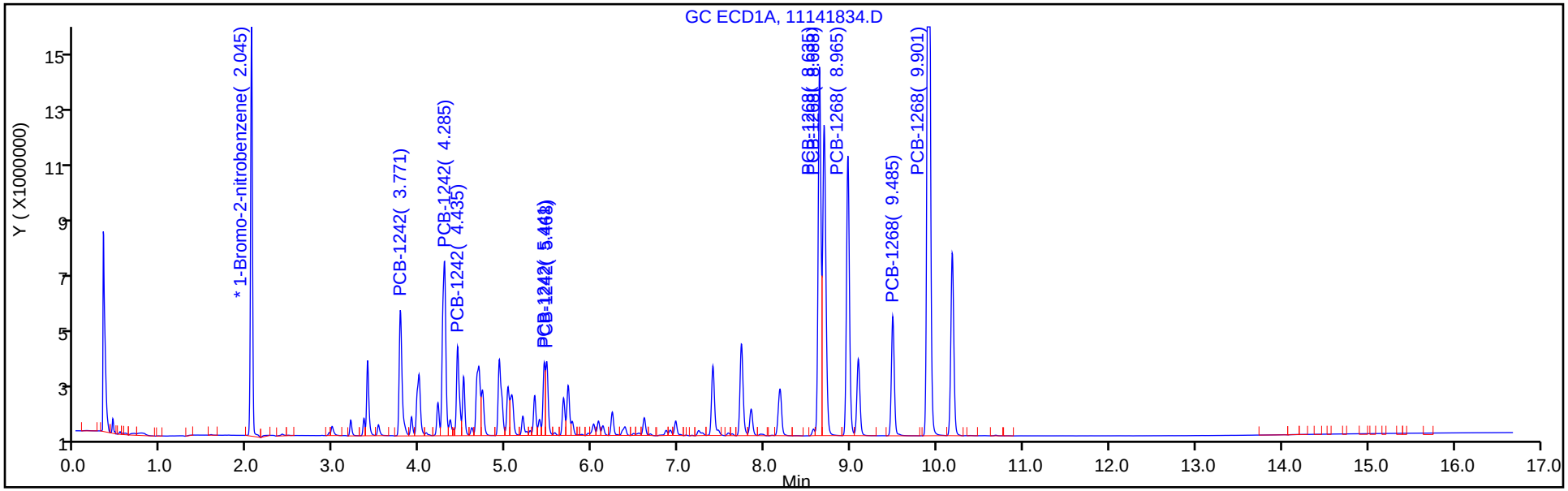
Report Date: 15-Nov-2018 16:09:18 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

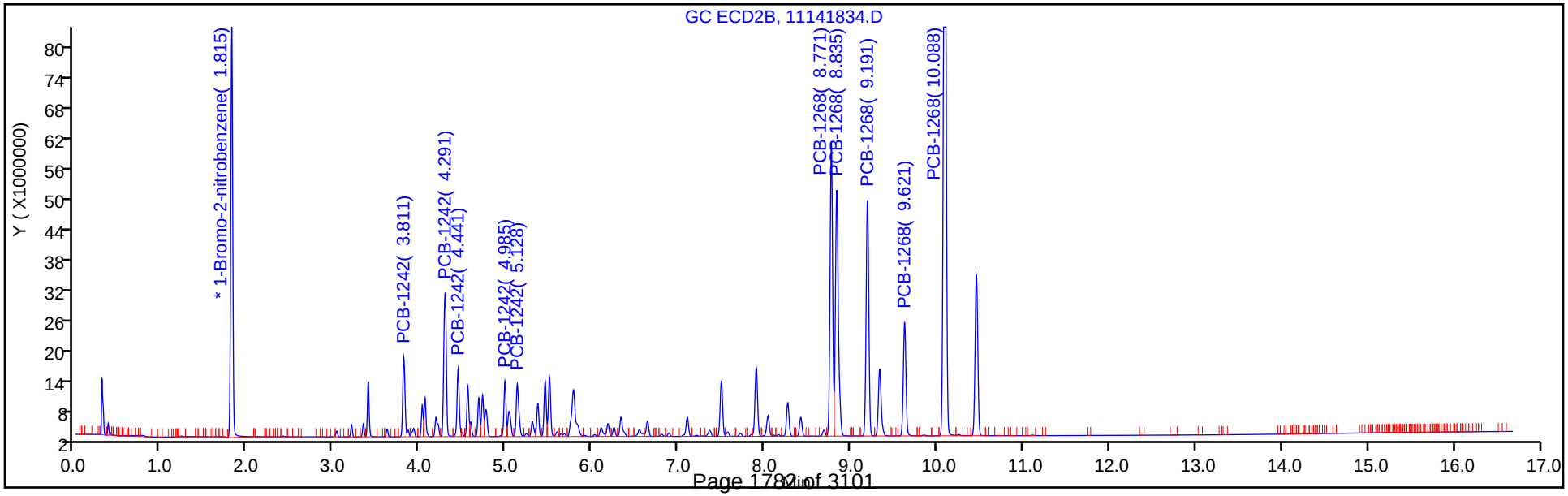
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141834.D

Injection Date:	14-Nov-2018 23:21:29	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL64268			Worklist Smp#:	34
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	34
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141835.D
Lims ID: STDL54268
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 14-Nov-2018 23:42:39 ALS Bottle#: 35 Worklist Smp#: 35
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL54268
Misc. Info.: 280-0076197-035
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:20 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:43:53

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.044	2.044	0.000	21587224	1000.0	1000.0	
2	1.814	1.814	0.000	132602008	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.770	3.770	0.000	7121305	500.0	511.2	
1	4.280	4.280	0.000	11081213	500.0	498.9	
1	4.434	4.434	0.000	4833834	500.0	501.1	
1	5.440	5.440	0.000	3255315	500.0	514.3	
1	5.467	5.467	0.000	3393898	500.0	475.1	
		Average of Peak Amounts =				500.1	
2	3.807	3.807	0.000	19929233	500.0	511.7	
2	4.287	4.287	0.000	40817877	500.0	507.1	
2	4.437	4.437	0.000	16681904	500.0	507.3	
2	4.984	4.984	0.000	12988024	500.0	498.4	
2	5.127	5.127	0.000	15587434	500.0	502.7	
		Average of Peak Amounts =				505.4	
						RPD = 1.06	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.634	8.634	0.000	19868613	500.0	495.4	
1	8.687	8.687	0.000	19287800	500.0	496.0	
1	8.964	8.964	0.000	15806312	500.0	494.4	
1	9.484	9.484	0.000	6678257	500.0	497.3	
1	9.900	9.900	0.000	47292708	500.0	495.7	
		Average of Peak Amounts =				495.8	
2	8.770	8.770	0.000	82891457	500.0	499.6	
2	8.834	8.834	0.000	80985943	500.0	506.1	
2	9.187	9.187	0.000	69026190	500.0	502.0	
2	9.620	9.620	0.000	33301974	500.0	503.4	
2	10.087	10.087	0.000	210642872	500.0	502.0	
		Average of Peak Amounts =				502.6	
						RPD = 1.37	

Reagents:

AR_4268_L5_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

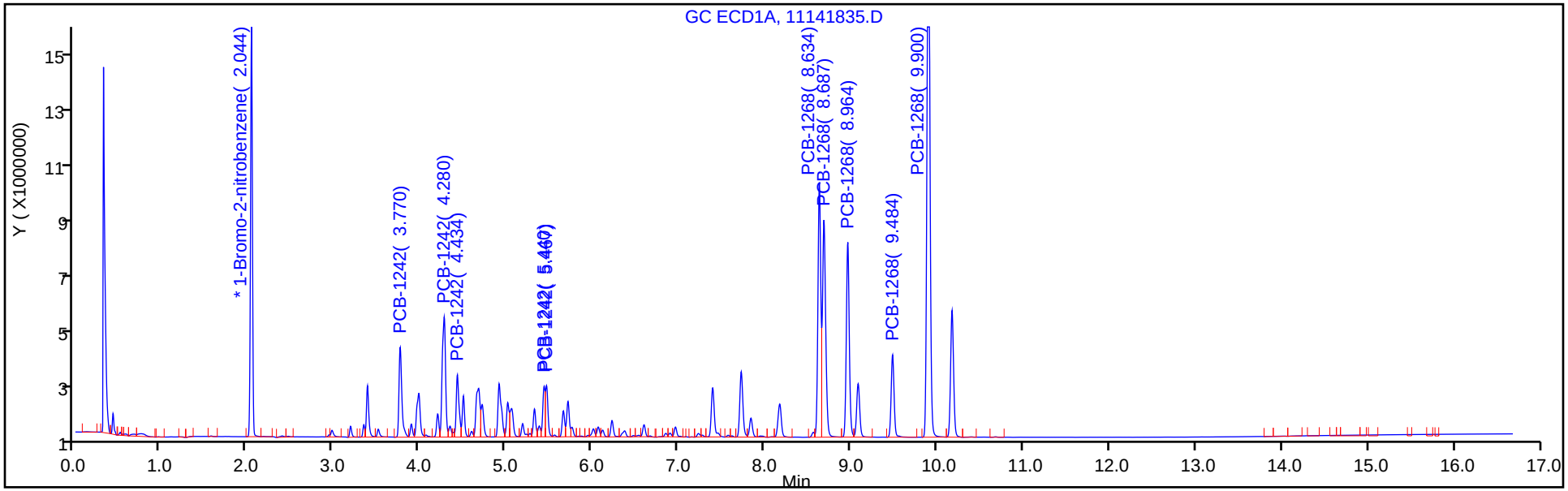
Report Date: 15-Nov-2018 16:09:21 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

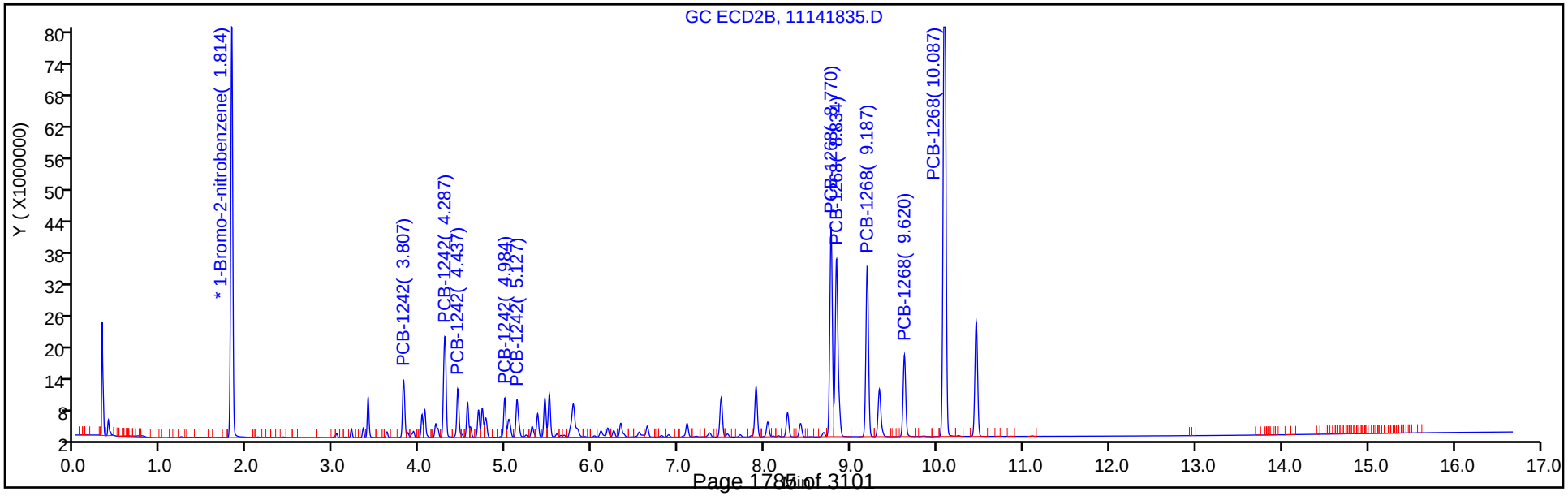
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141835.D

Injection Date:	14-Nov-2018 23:42:39	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL54268			Worklist Smp#:	35
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	35
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141836.D
Lims ID: STDL44268
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 15-Nov-2018 00:03:46 ALS Bottle#: 36 Worklist Smp#: 36
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL44268
Misc. Info.: 280-0076197-036
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:23 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:48:17

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.044	0.002	21493896	1000.0	1000.0	
2	1.817	1.814	0.003	131181708	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.773	3.770	0.003	3883549	250.0	272.3	
1	4.283	4.280	0.003	5708470	250.0	256.8	
1	4.436	4.434	0.002	2586366	250.0	266.4	
1	5.443	5.440	0.003	1705575	250.0	266.6	
1	5.470	5.467	0.003	1826114	250.0	255.7	
		Average of Peak Amounts =				263.6	
2	3.810	3.807	0.003	10874446	250.0	274.8	
2	4.290	4.287	0.003	21990570	250.0	269.9	
2	4.443	4.437	0.006	9028914	250.0	269.7	
2	4.987	4.984	0.003	7218568	250.0	271.1	
2	5.130	5.127	0.003	8446752	250.0	269.2	
		Average of Peak Amounts =				270.9	
						RPD = 2.76	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.636	8.634	0.002	10511109	250.0	260.5	
1	8.693	8.687	0.006	9776689	250.0	250.8	
1	8.966	8.964	0.002	8266955	250.0	257.1	
1	9.486	9.484	0.002	3507340	250.0	259.8	
1	9.903	9.900	0.003	24405781	250.0	255.2	
		Average of Peak Amounts =				256.7	
2	8.773	8.770	0.003	45030106	250.0	268.9	
2	8.837	8.834	0.003	43123915	250.0	267.3	
2	9.193	9.187	0.006	36899298	250.0	266.3	
2	9.623	9.620	0.003	17909746	250.0	268.4	
2	10.090	10.087	0.003	113064793	250.0	266.9	
		Average of Peak Amounts =				267.6	
						RPD = 4.15	
S 8 Polychlorinated biphenyls, Total							
1						520.2	
2						538.5	
						RPD = 3.45	

Reagents:

AR_4268_L4_00023	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

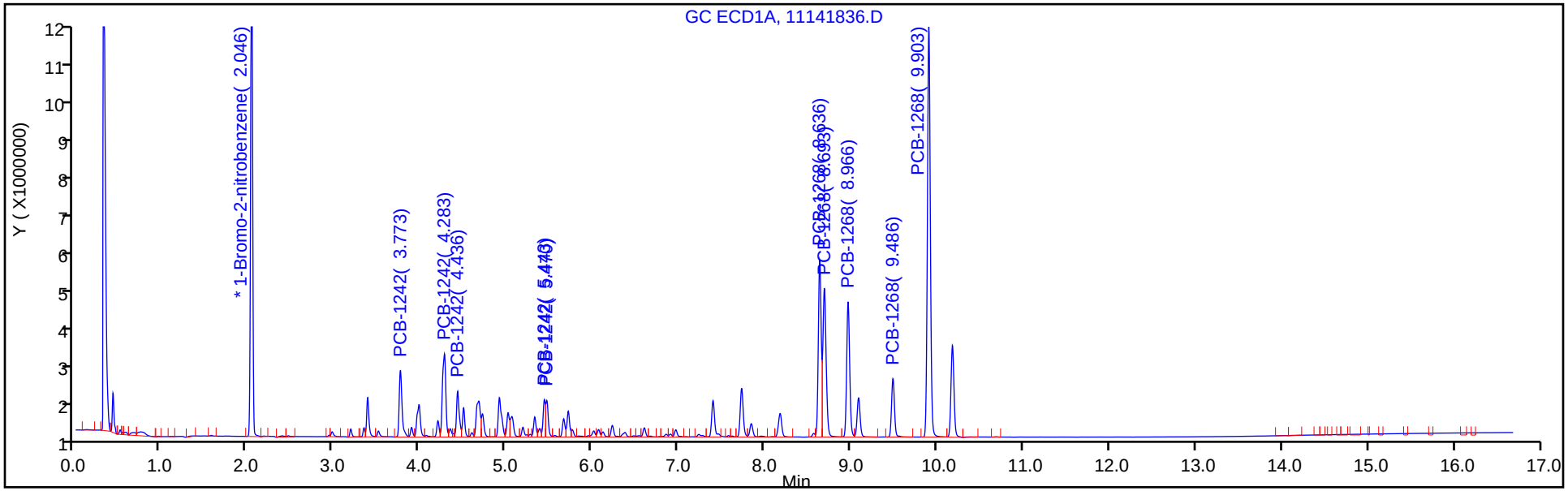
Report Date: 15-Nov-2018 16:09:25 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

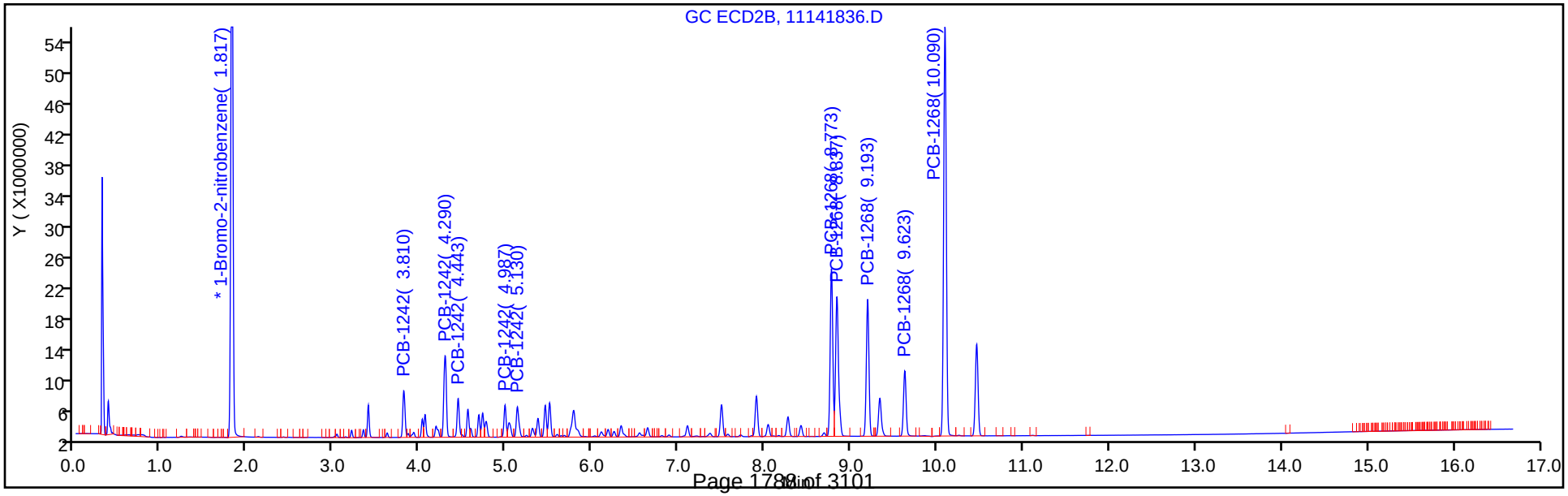
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141836.D

Injection Date:	15-Nov-2018 00:03:46	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL44268			Worklist Smp#:	36
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	36
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141837.D
Lims ID: STDL34268
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 15-Nov-2018 00:24:54 ALS Bottle#: 37 Worklist Smp#: 37
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL34268
Misc. Info.: 280-0076197-037
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:27 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:49:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.047	2.044	0.003	20577492	1000.0	1000.0	
2	1.817	1.814	0.003	126482389	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.774	3.770	0.004	1637974	100.0	110.6	
1	4.284	4.280	0.004	2311958	100.0	107.1	
1	4.437	4.434	0.003	1068567	100.0	111.4	
1	5.444	5.440	0.004	728085	100.0	114.2	
1	5.474	5.467	0.007	699801	100.0	101.0	
		Average of Peak Amounts =				108.8	
2	3.814	3.807	0.007	4665611	100.0	113.1	
2	4.294	4.287	0.007	9322338	100.0	110.9	
2	4.444	4.437	0.007	4066841	100.0	116.8	
2	4.987	4.984	0.003	3200257	100.0	113.7	
2	5.131	5.127	0.004	3629646	100.0	112.4	
		Average of Peak Amounts =				113.4	
						RPD = 4.08	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.641	8.634	0.007	4141067	100.0	103.7	
1	8.694	8.687	0.007	4002969	100.0	105.3	
1	8.971	8.964	0.007	3345422	100.0	105.5	
1	9.491	9.484	0.007	1391651	100.0	104.6	
1	9.907	9.900	0.007	9573778	100.0	102.4	
		Average of Peak Amounts =				104.3	
2	8.777	8.770	0.007	18501499	100.0	107.6	
2	8.841	8.834	0.007	17598588	100.0	106.8	
2	9.197	9.187	0.010	15137407	100.0	107.1	
2	9.627	9.620	0.007	7384722	100.0	108.2	
2	10.094	10.087	0.007	47016182	100.0	108.3	
		Average of Peak Amounts =				107.6	
						RPD = 3.14	
S 8 Polychlorinated biphenyls, Total							
1						213.1	
2						221.0	
						RPD = 3.62	

Reagents:

AR_4268_L3_00020	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

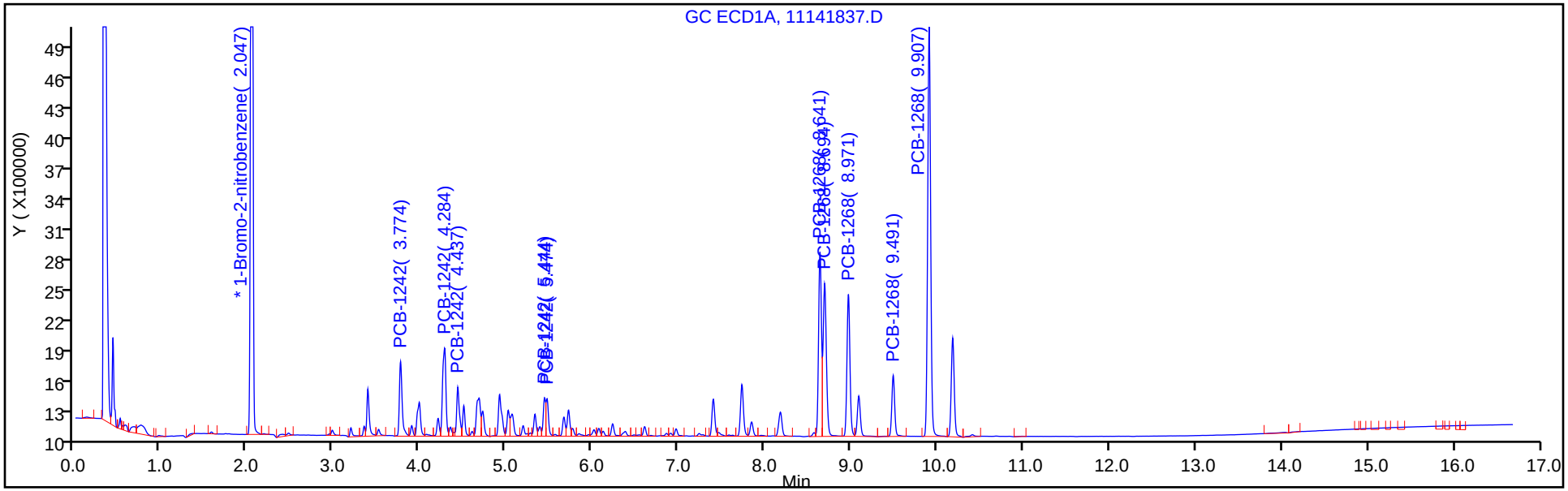
Report Date: 15-Nov-2018 16:09:28 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

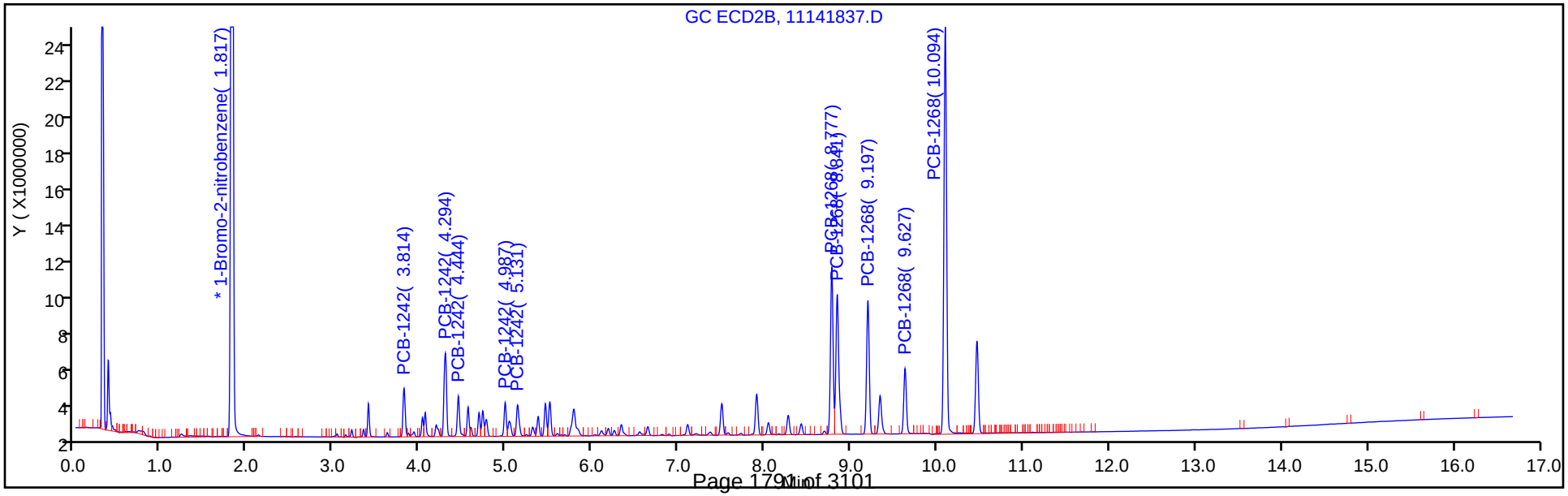
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141837.D

Injection Date:	15-Nov-2018 00:24:54	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL34268			Worklist Smp#:	37
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	37
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141838.D
Lims ID: STDL24268
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 15-Nov-2018 00:46:03 ALS Bottle#: 38 Worklist Smp#: 38
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL24268
Misc. Info.: 280-0076197-038
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:30 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:49:52

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.044	0.002	21962148	1000.0	1000.0	
2	1.816	1.814	0.002	132577610	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.773	3.770	0.003	880800	50.0	47.3	
1	4.286	4.280	0.006	1182139	50.0	49.9	
1	4.439	4.434	0.005	557626	50.0	51.2	
1	5.446	5.440	0.006	365913	50.0	49.3	
1	5.473	5.467	0.006	397810	50.0	52.8	
		Average of Peak Amounts =				50.1	
2	3.813	3.807	0.006	2591113	50.0	52.2	
2	4.293	4.287	0.006	5110290	50.0	51.4	
2	4.443	4.437	0.006	2208768	50.0	52.2	
2	4.990	4.984	0.006	1791710	50.0	51.2	
2	5.133	5.127	0.006	1948277	50.0	50.9	
		Average of Peak Amounts =				51.6	
						RPD = 2.89	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.643	8.634	0.009	2291252	50.0	50.9	
1	8.696	8.687	0.009	2146170	50.0	51.2	
1	8.973	8.964	0.009	1818512	50.0	51.0	
1	9.493	9.484	0.009	745186	50.0	49.8	
1	9.909	9.900	0.009	5208164	50.0	50.4	
		Average of Peak Amounts =				50.7	
2	8.780	8.770	0.010	10326352	50.0	51.6	
2	8.843	8.834	0.009	9793544	50.0	51.5	
2	9.200	9.187	0.013	8351626	50.0	51.3	
2	9.630	9.620	0.010	4065705	50.0	51.4	
2	10.096	10.087	0.009	25851047	50.0	51.2	
		Average of Peak Amounts =				51.4	
						RPD = 1.45	
S 8 Polychlorinated biphenyls, Total							
1						100.8	
2						103.0	
						RPD = 2.17	

Reagents:

AR_4268_L2_00020	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

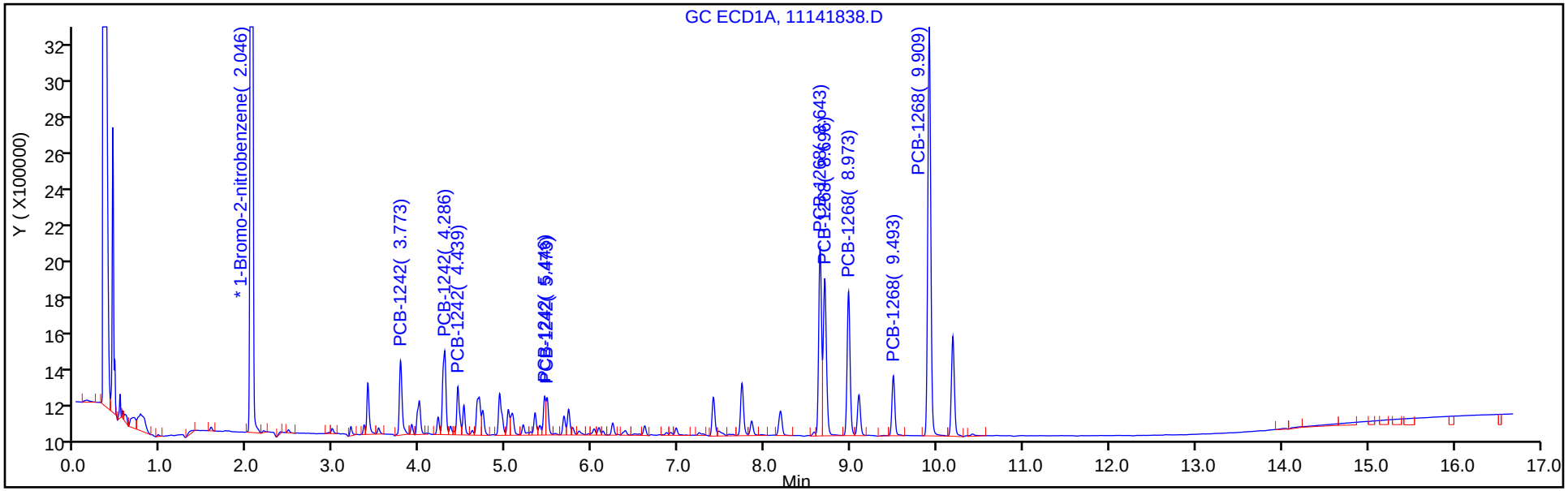
Report Date: 15-Nov-2018 16:09:31 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

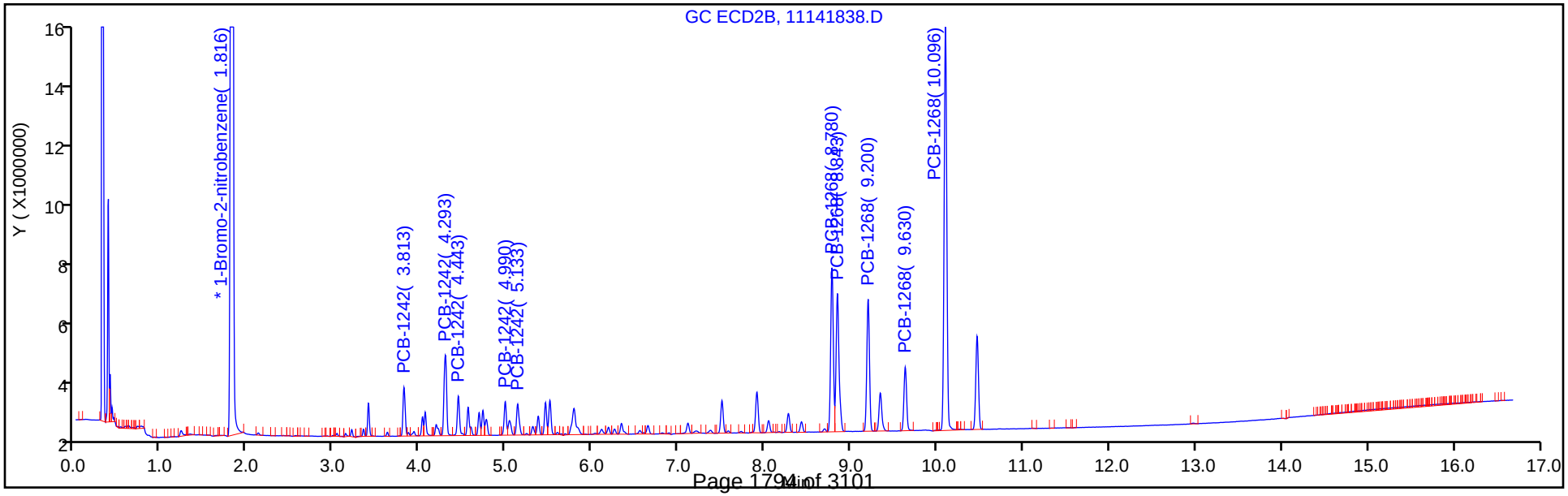
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141838.D

Injection Date:	15-Nov-2018 00:46:03	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL24268			Worklist Smp#:	38
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	38
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D
Lims ID: STDL14268
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 15-Nov-2018 01:07:13 ALS Bottle#: 39 Worklist Smp#: 39
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: STDL14268
Misc. Info.: 280-0076197-039
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub5

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:09:32 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:50:28

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.045	2.044	0.001	21996237	1000.0	1000.0	
2	1.816	1.814	0.002	133242889	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							
1	3.772	3.770	0.002	534244	25.0	22.0	
1	4.285	4.280	0.005	578706	25.0	23.1	
1	4.439	4.434	0.005	262157	25.0	20.7	
1	5.445	5.440	0.005	185770	25.0	20.8	
1	5.472	5.467	0.005	188595	25.0	23.8	
		Average of Peak Amounts =				22.1	
2	3.812	3.807	0.005	1340249	25.0	18.9	
2	4.292	4.287	0.005	2676299	25.0	20.2	
2	4.442	4.437	0.005	1145737	25.0	18.6	
2	4.986	4.984	0.002	1011795	25.0	19.9	
2	5.132	5.127	0.005	1033605	25.0	20.4	
		Average of Peak Amounts =				19.6	
						RPD = 12.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.642	8.634	0.008	1171912	25.0	23.1	
1	8.695	8.687	0.008	1065863	25.0	23.6	
1	8.969	8.964	0.005	921267	25.0	23.1	
1	9.489	9.484	0.005	391562	25.0	23.6	
1	9.905	9.900	0.005	2685063	25.0	24.2	
		Average of Peak Amounts =				23.5	
2	8.779	8.770	0.009	5431232	25.0	21.2	
2	8.842	8.834	0.008	5099654	25.0	21.4	
2	9.199	9.187	0.012	4389524	25.0	21.7	
2	9.629	9.620	0.009	2116874	25.0	21.1	
2	10.096	10.087	0.009	13719301	25.0	21.4	
		Average of Peak Amounts =				21.4	
						RPD = 9.59	
S 8 Polychlorinated biphenyls, Total							
1						45.6	
2						40.9	
						RPD = 10.76	

Reagents:

AR_4268_L1_00021	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

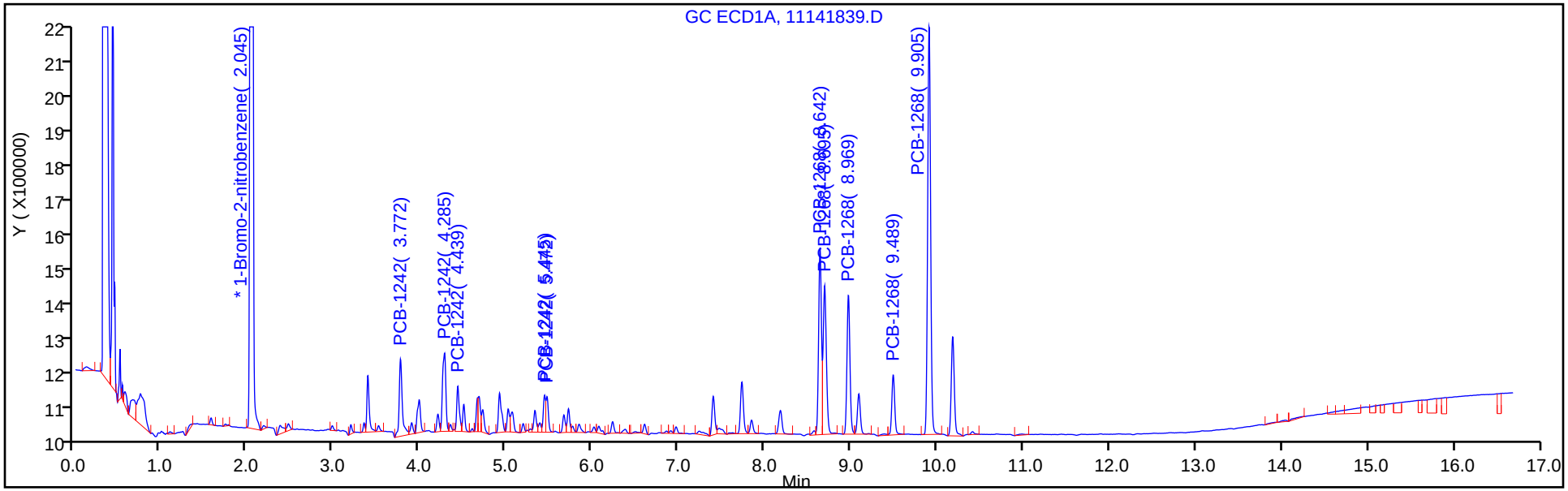
Report Date: 15-Nov-2018 16:09:34 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

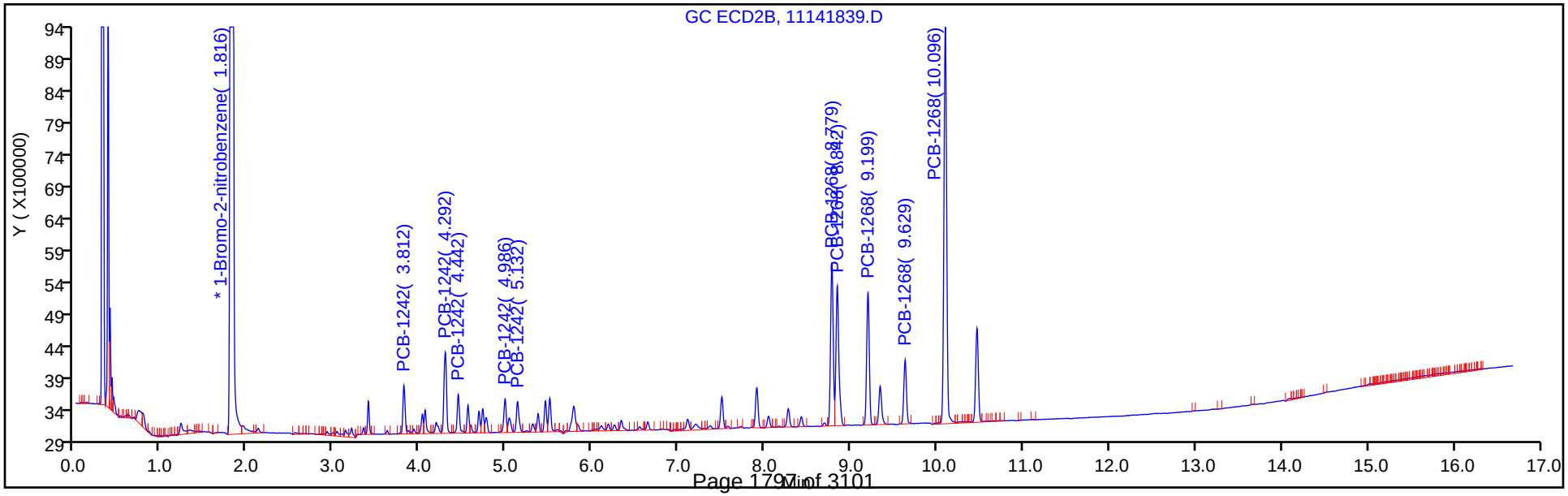
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Injection Date:	15-Nov-2018 01:07:13	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	STDL14268			Worklist Smp#:	39
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	39
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/40 Calibration Date: 11/15/2018 01:28

Instrument ID: SGC_J Calib Start Date: 11/14/2018 13:07

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/14/2018 15:14

Lab File ID: 11141840.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1248 Peak 1	Lin1		0.3402		218	250	-13.0	20.0
PCB-1248 Peak 2	Lin1		0.7215		258	250	3.3	20.0
PCB-1248 Peak 3	Lin1		0.7211		241	250	-3.7	20.0
PCB-1248 Peak 4	Lin1		0.4616		241	250	-3.7	20.0
PCB-1248 Peak 5	Lin1		0.2842		220	250	-11.8	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/40 Calibration Date: 11/15/2018 01:28

Instrument ID: SGC_J Calib Start Date: 11/14/2018 13:07

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/14/2018 15:14

Lab File ID: 11141840.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1248 Peak 1	3.77	3.52	4.02
PCB-1248 Peak 2	4.28	4.03	4.53
PCB-1248 Peak 3	4.92	4.67	5.17
PCB-1248 Peak 4	5.72	5.47	5.97
PCB-1248 Peak 5	6.24	5.98	6.48

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141840.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 15-Nov-2018 01:28:21 ALS Bottle#: 40 Worklist Smp#: 40
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076197-040
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:05:08 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:52:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.044	2.044	0.000	21220748	1000.0	1000.0	
2	1.814	1.814	0.000	128643593	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.774	3.767	0.007	1804534	250.0	217.5	
1	4.284	4.277	0.007	3827893	250.0	258.4	
1	4.924	4.917	0.007	3825622	250.0	240.7	
1	5.724	5.717	0.007	2448833	250.0	240.6	
1	6.237	6.227	0.010	1507791	250.0	220.5	
		Average of Peak Amounts =				235.5	
2	4.291	4.287	0.004	15244587	250.0	288.8	
2	4.684	4.681	0.003	7700179	250.0	261.3	
2	4.988	4.984	0.004	10225493	250.0	257.4	
2	5.131	5.127	0.004	11965696	250.0	277.9	
2	6.338	6.331	0.007	7052314	250.0	252.4	
		Average of Peak Amounts =				267.6	
						RPD = 12.73	

Reagents:

AR_1248_ICV_00013 Amount Added: 1.00 Units: mL
BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

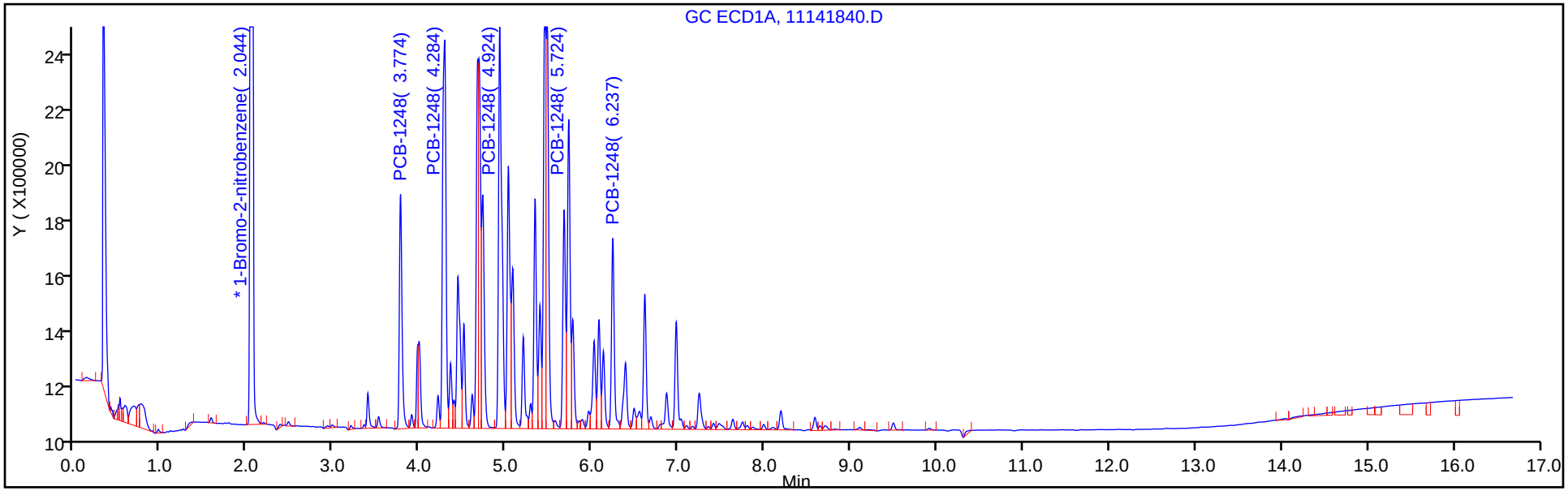
Report Date: 15-Nov-2018 16:05:11 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

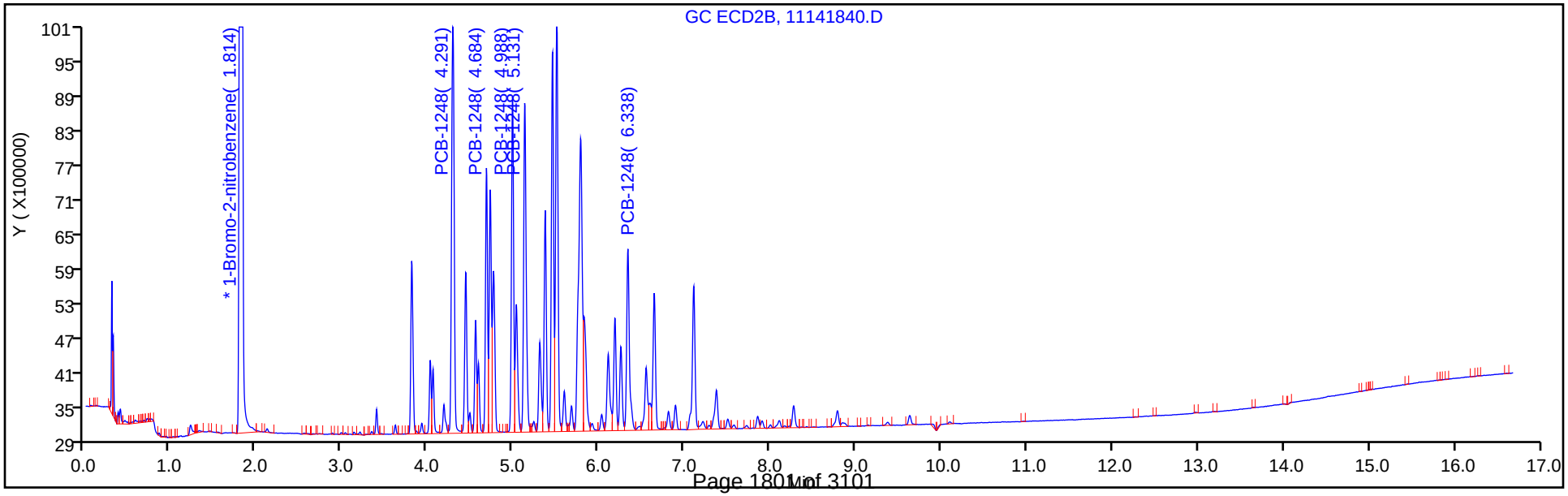
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141840.D

Injection Date:	15-Nov-2018 01:28:21	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	40
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	40
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/40 Calibration Date: 11/15/2018 01:28

Instrument ID: SGC_J Calib Start Date: 11/14/2018 13:07

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/14/2018 15:14

Lab File ID: 11141840.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1248 Peak 1	Lin1		0.4740		289	250	15.5	20.0
PCB-1248 Peak 2	Lin1		0.2394		261	250	4.5	20.0
PCB-1248 Peak 3	Lin1		0.3180		257	250	3.0	20.0
PCB-1248 Peak 4	Lin1		0.3721		278	250	11.2	20.0
PCB-1248 Peak 5	Lin1		0.2193		252	250	0.9	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/40 Calibration Date: 11/15/2018 01:28

Instrument ID: SGC_J Calib Start Date: 11/14/2018 13:07

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/14/2018 15:14

Lab File ID: 11141840.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1248 Peak 1	4.29	4.04	4.54
PCB-1248 Peak 2	4.68	4.43	4.93
PCB-1248 Peak 3	4.99	4.73	5.23
PCB-1248 Peak 4	5.13	4.88	5.38
PCB-1248 Peak 5	6.34	6.08	6.58

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141840.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 15-Nov-2018 01:28:21 ALS Bottle#: 40 Worklist Smp#: 40
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076197-040
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:05:08 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:52:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.044	2.044	0.000	21220748	1000.0	1000.0	
2	1.814	1.814	0.000	128643593	1000.0	1000.0	
						RPD = 0.00	
4 PCB-1248							
1	3.774	3.767	0.007	1804534	250.0	217.5	
1	4.284	4.277	0.007	3827893	250.0	258.4	
1	4.924	4.917	0.007	3825622	250.0	240.7	
1	5.724	5.717	0.007	2448833	250.0	240.6	
1	6.237	6.227	0.010	1507791	250.0	220.5	
		Average of Peak Amounts =				235.5	
2	4.291	4.287	0.004	15244587	250.0	288.8	
2	4.684	4.681	0.003	7700179	250.0	261.3	
2	4.988	4.984	0.004	10225493	250.0	257.4	
2	5.131	5.127	0.004	11965696	250.0	277.9	
2	6.338	6.331	0.007	7052314	250.0	252.4	
		Average of Peak Amounts =				267.6	
						RPD = 12.73	

Reagents:

AR_1248_ICV_00013 Amount Added: 1.00 Units: mL
BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

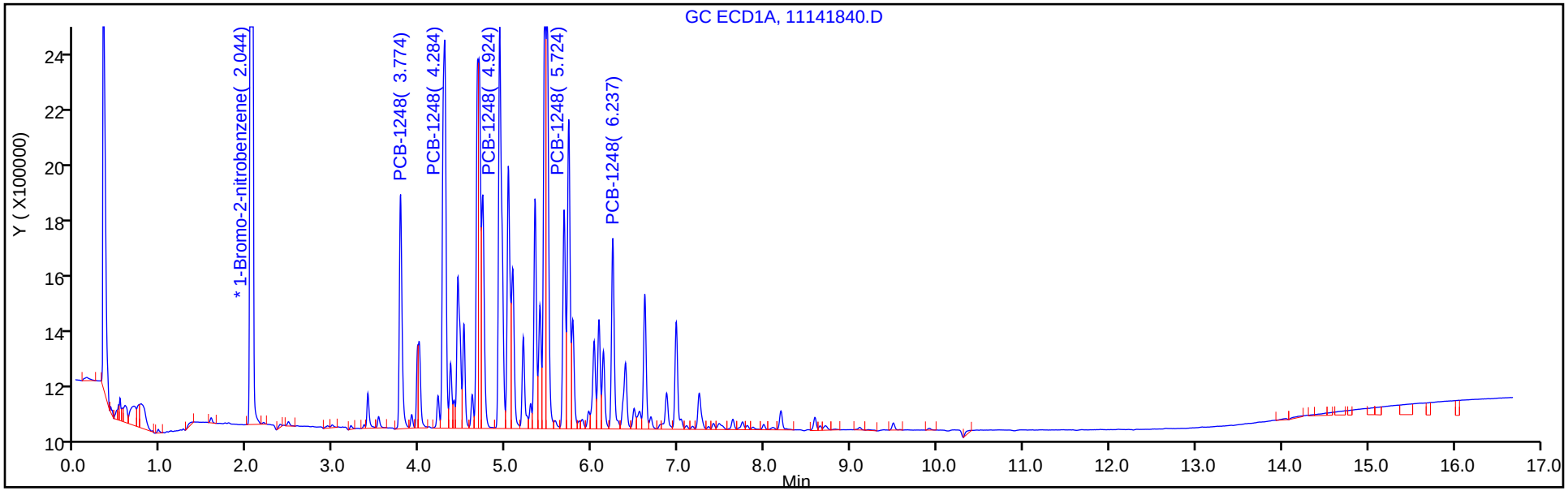
Report Date: 15-Nov-2018 16:05:12 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

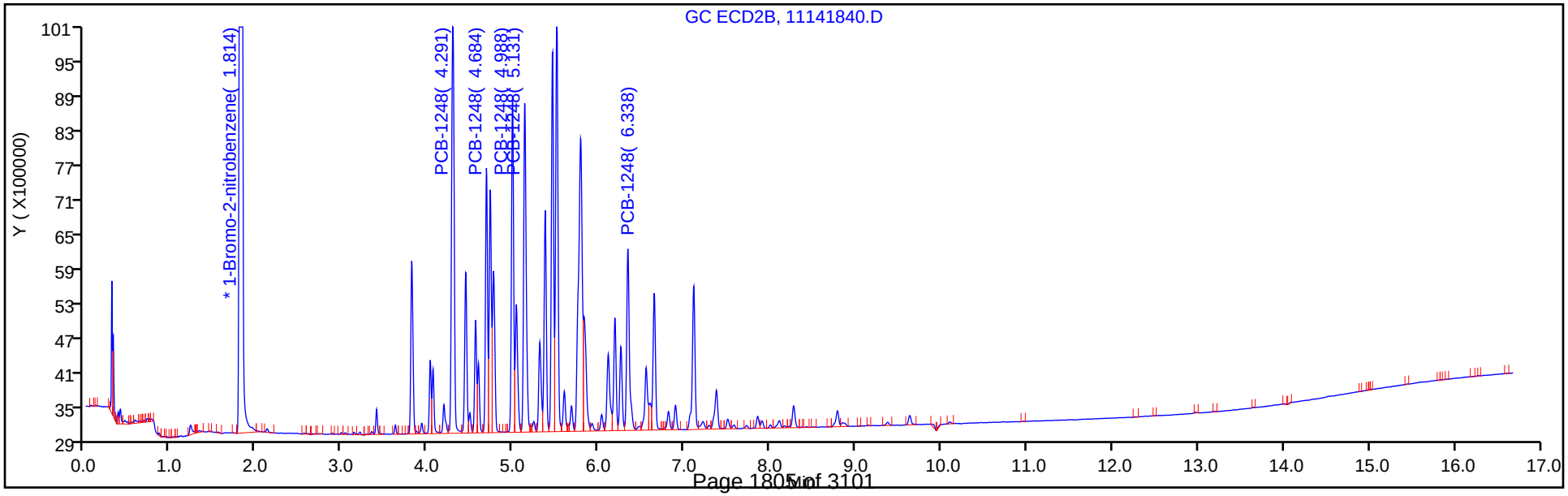
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141840.D

Injection Date:	15-Nov-2018 01:28:21	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	40
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	40
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/41 Calibration Date: 11/15/2018 01:49

Instrument ID: SGC_J Calib Start Date: 11/14/2018 15:35

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/14/2018 17:42

Lab File ID: 11141841.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1221 Peak 1	Lin1		0.2145		225	250	-10.0	20.0
PCB-1221 Peak 2	Lin1		0.1380		225	250	-10.1	20.0
PCB-1221 Peak 3	Lin1		0.5317		229	250	-8.5	20.0
PCB-1254 Peak 1	Lin1		0.5362		216	250	-13.8	20.0
PCB-1254 Peak 2	Lin1		0.7269		221	250	-11.8	20.0
PCB-1254 Peak 3	Lin1		0.4990		211	250	-15.6	20.0
PCB-1254 Peak 4	Lin1		0.7007		235	250	-6.0	20.0
PCB-1254 Peak 5	Lin1		0.9138		231	250	-7.6	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/41 Calibration Date: 11/15/2018 01:49

Instrument ID: SGC_J Calib Start Date: 11/14/2018 15:35

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/14/2018 17:42

Lab File ID: 11141841.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1221 Peak 1	3.20	2.95	3.45
PCB-1221 Peak 2	3.35	3.11	3.61
PCB-1221 Peak 3	3.39	3.15	3.65
PCB-1254 Peak 1	5.39	5.14	5.64
PCB-1254 Peak 2	5.73	5.48	5.98
PCB-1254 Peak 3	6.08	5.83	6.33
PCB-1254 Peak 4	6.86	6.61	7.11
PCB-1254 Peak 5	7.24	6.99	7.49

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141841.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 15-Nov-2018 01:49:30 ALS Bottle#: 41 Worklist Smp#: 41
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076197-041
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:05:08 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:52:59

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.044	0.002	22661076	1000.0	1000.0	
2	1.816	1.814	0.002	136994076	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.196	3.202	-0.006	1215410	250.0	225.0	
1	3.353	3.356	-0.003	781642	250.0	224.8	
1	3.393	3.396	-0.003	3012261	250.0	228.8	
		Average of Peak Amounts =				226.2	
2	3.206	3.209	-0.003	4404442	250.0	247.9	
2	3.343	3.346	-0.003	2894027	250.0	247.7	
2	3.403	3.406	-0.003	9761165	250.0	239.3	
		Average of Peak Amounts =				245.0	
						RPD = 7.98	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.393	5.392	0.001	3037588	250.0	215.5	
1	5.726	5.729	-0.003	4118047	250.0	220.6	
1	6.076	6.076	0.000	2827193	250.0	211.0	
1	6.863	6.862	0.001	3969875	250.0	235.0	
1	7.243	7.239	0.004	5177076	250.0	230.9	
		Average of Peak Amounts =				222.6	
2	5.753	5.752	0.001	13992413	250.0	232.6	
2	6.186	6.186	0.000	10747976	250.0	232.2	
2	6.646	6.646	0.000	14562139	250.0	232.4	
2	6.893	6.892	0.001	9205938	250.0	249.9	
2	7.373	7.372	0.001	22836654	250.0	252.8	
		Average of Peak Amounts =				240.0	
						RPD = 7.50	

Reagents:

AR_2154_ICV_00013	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

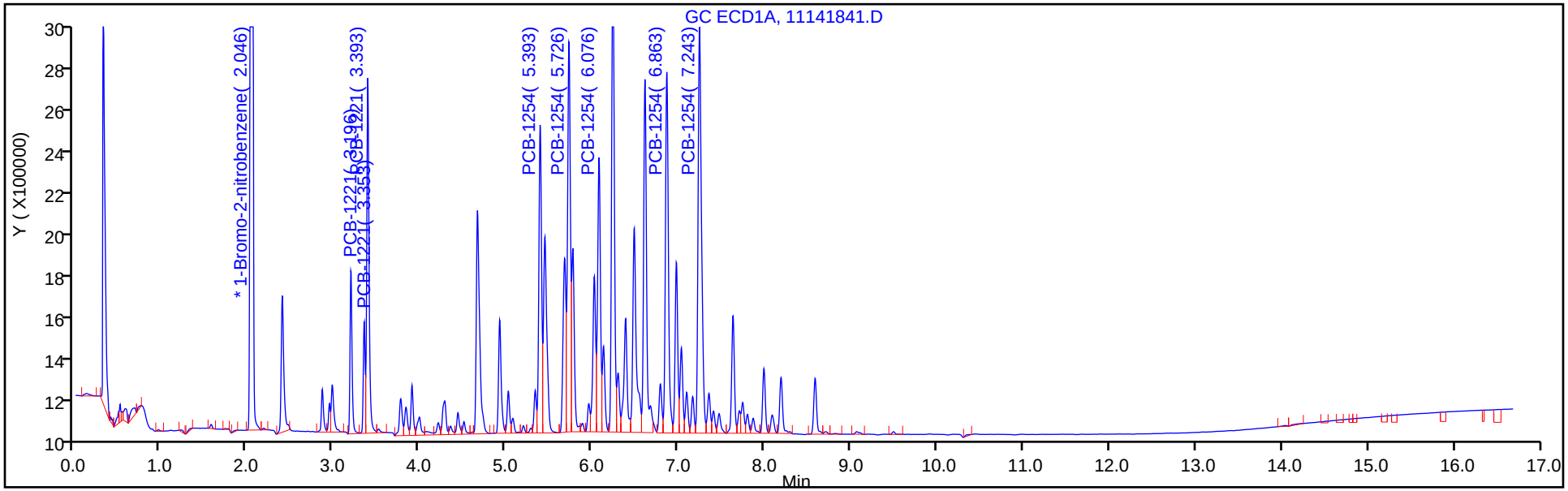
Report Date: 15-Nov-2018 16:05:14 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

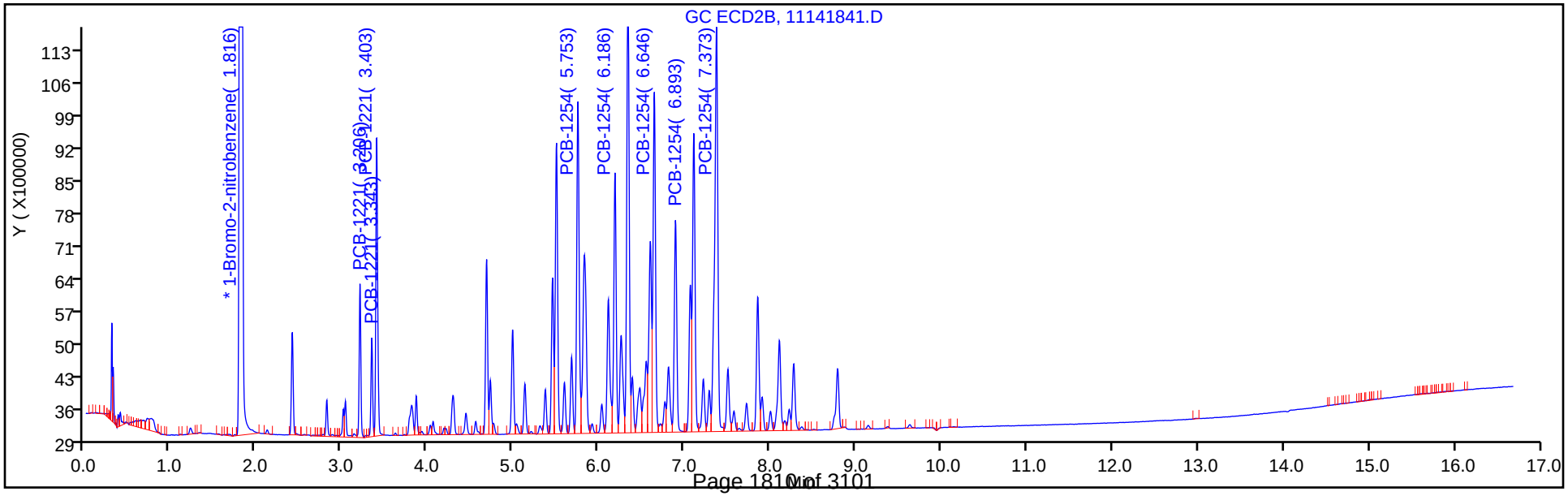
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141841.D

Injection Date:	15-Nov-2018 01:49:30	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	41
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	41
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/41 Calibration Date: 11/15/2018 01:49

Instrument ID: SGC_J Calib Start Date: 11/14/2018 15:35

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/14/2018 17:42

Lab File ID: 11141841.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1221 Peak 1	Lin1		0.1286		248	250	-0.8	20.0
PCB-1221 Peak 2	Lin1		0.0845		248	250	-0.9	20.0
PCB-1221 Peak 3	Lin1		0.2850		239	250	-4.3	20.0
PCB-1254 Peak 1	Lin1		0.4086		233	250	-7.0	20.0
PCB-1254 Peak 2	Lin1		0.3138		232	250	-7.1	20.0
PCB-1254 Peak 3	Lin1		0.4252		232	250	-7.1	20.0
PCB-1254 Peak 4	Lin1		0.2688		250	250	-0.0	20.0
PCB-1254 Peak 5	Lin1		0.6668		253	250	1.1	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/41 Calibration Date: 11/15/2018 01:49

Instrument ID: SGC_J Calib Start Date: 11/14/2018 15:35

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/14/2018 17:42

Lab File ID: 11141841.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1221 Peak 1	3.21	2.96	3.46
PCB-1221 Peak 2	3.34	3.10	3.60
PCB-1221 Peak 3	3.40	3.16	3.66
PCB-1254 Peak 1	5.75	5.50	6.00
PCB-1254 Peak 2	6.19	5.94	6.44
PCB-1254 Peak 3	6.65	6.40	6.90
PCB-1254 Peak 4	6.89	6.64	7.14
PCB-1254 Peak 5	7.37	7.12	7.62

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141841.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 15-Nov-2018 01:49:30 ALS Bottle#: 41 Worklist Smp#: 41
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076197-041
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:05:08 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:52:59

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.044	0.002	22661076	1000.0	1000.0	
2	1.816	1.814	0.002	136994076	1000.0	1000.0	
						RPD = 0.00	
3 PCB-1221							
1	3.196	3.202	-0.006	1215410	250.0	225.0	
1	3.353	3.356	-0.003	781642	250.0	224.8	
1	3.393	3.396	-0.003	3012261	250.0	228.8	
		Average of Peak Amounts =				226.2	
2	3.206	3.209	-0.003	4404442	250.0	247.9	
2	3.343	3.346	-0.003	2894027	250.0	247.7	
2	3.403	3.406	-0.003	9761165	250.0	239.3	
		Average of Peak Amounts =				245.0	
						RPD = 7.98	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
9 PCB-1254							
1	5.393	5.392	0.001	3037588	250.0	215.5	
1	5.726	5.729	-0.003	4118047	250.0	220.6	
1	6.076	6.076	0.000	2827193	250.0	211.0	
1	6.863	6.862	0.001	3969875	250.0	235.0	
1	7.243	7.239	0.004	5177076	250.0	230.9	
		Average of Peak Amounts =				222.6	
2	5.753	5.752	0.001	13992413	250.0	232.6	
2	6.186	6.186	0.000	10747976	250.0	232.2	
2	6.646	6.646	0.000	14562139	250.0	232.4	
2	6.893	6.892	0.001	9205938	250.0	249.9	
2	7.373	7.372	0.001	22836654	250.0	252.8	
		Average of Peak Amounts =				240.0	
						RPD = 7.50	

Reagents:

AR_2154_ICV_00013	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

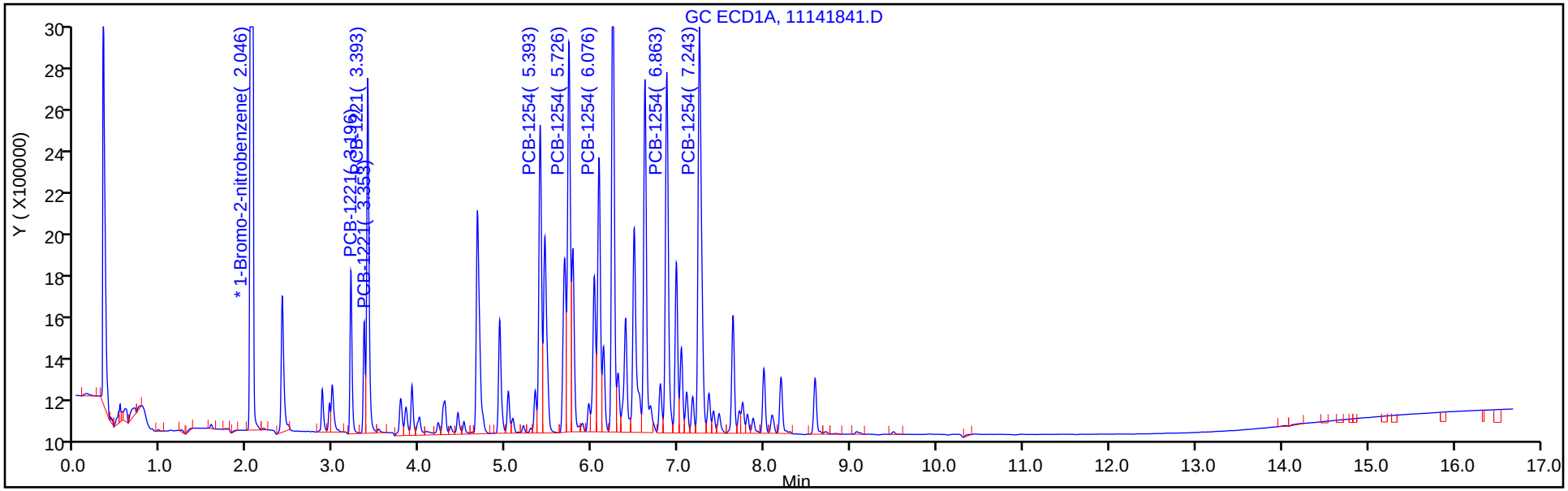
Report Date: 15-Nov-2018 16:05:15 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

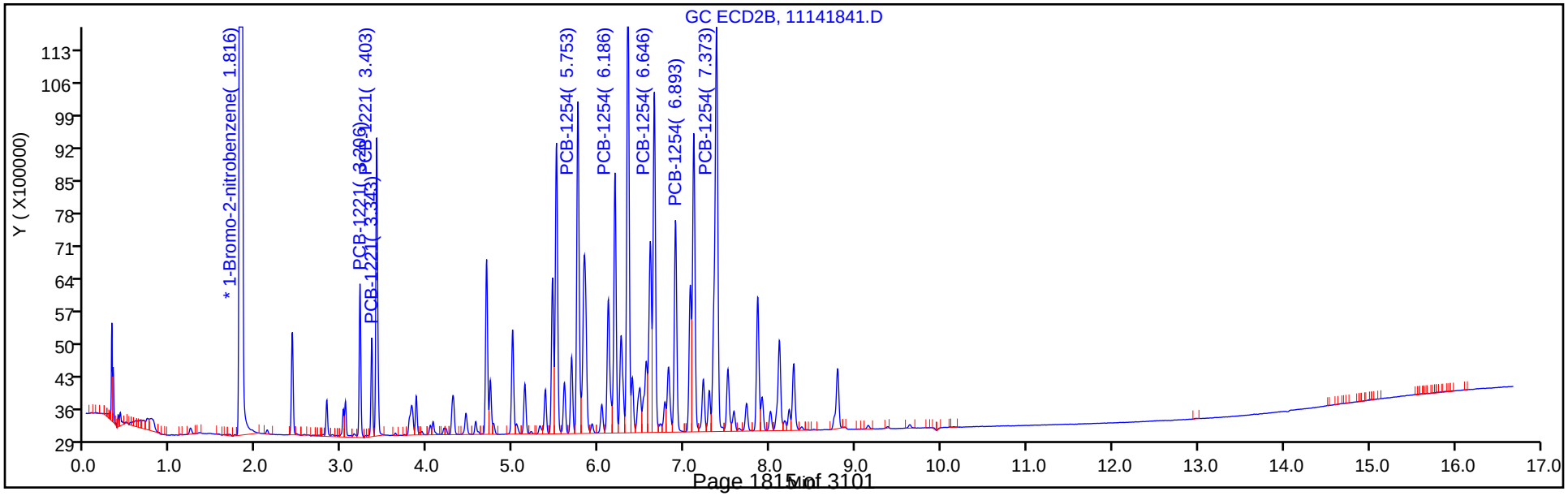
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141841.D

Injection Date:	15-Nov-2018 01:49:30	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	41
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	41
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/42 Calibration Date: 11/15/2018 02:10

Instrument ID: SGC_J Calib Start Date: 11/14/2018 18:04

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/14/2018 20:11

Lab File ID: 11141842.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.3796		236	250	-5.6	20.0
PCB-1016 Peak 2	Lin1		0.8447		239	250	-4.5	20.0
PCB-1016 Peak 3	Lin1		1.204		213	250	-15.0	20.0
PCB-1016 Peak 4	Lin1		0.5494		227	250	-9.4	20.0
PCB-1016 Peak 5	Lin1		0.5417		218	250	-12.8	20.0
PCB-1260 Peak 1	Lin1		0.7486		237	250	-5.1	20.0
PCB-1260 Peak 2	Lin1		1.028		221	250	-11.6	20.0
PCB-1260 Peak 3	Lin1		0.6630		231	250	-7.7	20.0
PCB-1260 Peak 4	Lin1		1.303		211	250	-15.6	20.0
PCB-1260 Peak 5	Lin1		0.6624		222	250	-11.1	20.0
Tetrachloro-m-xylene	Lin1		19.55		10.5	12.5	-16.3	20.0
DCB Decachlorobiphenyl	Lin1		13.23		11.2	12.5	-10.8	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/42 Calibration Date: 11/15/2018 02:10

Instrument ID: SGC_J Calib Start Date: 11/14/2018 18:04

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/14/2018 20:11

Lab File ID: 11141842.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.39	3.15	3.65
PCB-1016 Peak 2	3.78	3.53	4.03
PCB-1016 Peak 3	4.29	4.04	4.54
PCB-1016 Peak 4	4.44	4.19	4.69
PCB-1016 Peak 5	4.93	4.68	5.18
PCB-1260 Peak 1	6.49	6.24	6.74
PCB-1260 Peak 2	7.24	6.99	7.49
PCB-1260 Peak 3	7.75	7.50	8.00
PCB-1260 Peak 4	8.19	7.94	8.44
PCB-1260 Peak 5	8.59	8.34	8.84
Tetrachloro-m-xylene	2.99	2.74	3.24
DCB Decachlorobiphenyl	10.19	9.94	10.44

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141842.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 15-Nov-2018 02:10:40 ALS Bottle#: 42 Worklist Smp#: 42
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076197-042
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:05:08 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:53:50

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.045	2.044	0.001	22553037	1000.0	1000.0	
2	1.815	1.814	0.001	134930138	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.985	2.989	-0.004	5512739	12.5	10.5	
2	2.885	2.886	-0.001	18865372	12.5	11.7	
						RPD = 11.54	
1 PCB-1016							
1	3.392	3.396	-0.004	2140325	250.0	236.1	
1	3.775	3.776	-0.001	4762842	250.0	238.8	
1	4.285	4.289	-0.004	6790613	250.0	212.6	
1	4.438	4.443	-0.005	3097481	250.0	226.5	
1	4.925	4.926	-0.001	3054084	250.0	217.9	
		Average of Peak Amounts =				226.4	
2	3.402	3.403	-0.001	6560966	250.0	244.4	
2	3.812	3.816	-0.004	12692098	250.0	237.0	
2	4.295	4.296	-0.001	25726766	250.0	229.8	
2	4.445	4.450	-0.005	10442037	250.0	228.7	
2	4.685	4.690	-0.005	5423290	250.0	216.9	
		Average of Peak Amounts =				231.4	
						RPD = 2.18	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.485	6.486	-0.001	4220514	250.0	237.4	
1	7.242	7.243	-0.001	5797913	250.0	220.9	
1	7.745	7.746	-0.001	3737920	250.0	230.8	
1	8.188	8.193	-0.005	7348717	250.0	211.0	
1	8.585	8.586	-0.001	3734473	250.0	222.3	
		Average of Peak Amounts =				224.5	
2	6.892	6.896	-0.004	17257111	250.0	239.5	
2	7.368	7.373	-0.005	24546037	250.0	229.1	
2	7.905	7.910	-0.005	15397683	250.0	238.9	
2	8.275	8.276	-0.001	34211757	250.0	236.7	
2	8.785	8.786	-0.001	25046456	250.0	229.3	
		Average of Peak Amounts =				234.7	
						RPD = 4.46	
$ 15 DCB Decachlorobiphenyl							
1	10.185	10.186	-0.001	3730120	12.5	11.2	
2	10.465	10.466	-0.001	17122941	12.5	11.8	
						RPD = 5.73	

Reagents:

AR_1660_ICV_00013	Amount Added: 1.00	Units: mL	
BNB IS_00012	Amount Added: 1.00	Units: mL	Run Reagent

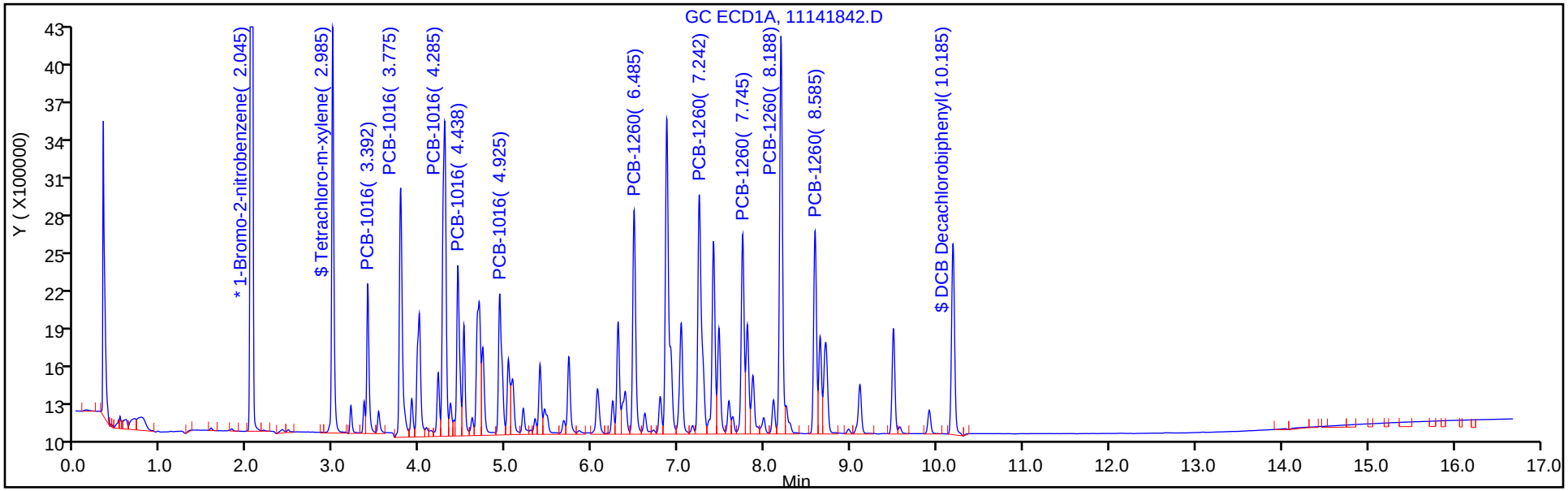
Report Date: 15-Nov-2018 16:05:17 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

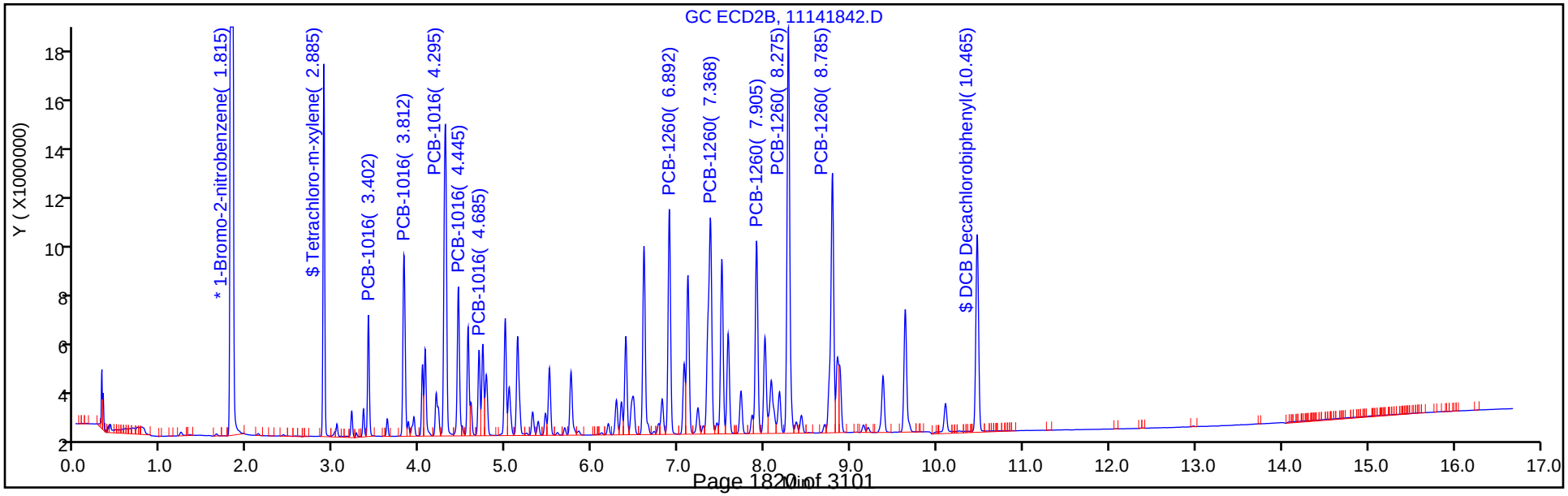
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141842.D

Injection Date:	15-Nov-2018 02:10:40	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	42
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	42
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/42 Calibration Date: 11/15/2018 02:10

Instrument ID: SGC_J Calib Start Date: 11/14/2018 18:04

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/14/2018 20:11

Lab File ID: 11141842.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.1945		244	250	-2.2	20.0
PCB-1016 Peak 2	Lin1		0.3763		237	250	-5.2	20.0
PCB-1016 Peak 3	Lin1		0.7627		230	250	-8.1	20.0
PCB-1016 Peak 4	Lin1		0.3096		229	250	-8.5	20.0
PCB-1016 Peak 5	Lin1		0.1608		217	250	-13.2	20.0
PCB-1260 Peak 1	Lin1		0.5116		239	250	-4.2	20.0
PCB-1260 Peak 2	Lin1		0.7277		229	250	-8.4	20.0
PCB-1260 Peak 3	Lin1		0.4565		239	250	-4.5	20.0
PCB-1260 Peak 4	Lin1		1.014		237	250	-5.3	20.0
PCB-1260 Peak 5	Lin1		0.7425		229	250	-8.3	20.0
Tetrachloro-m-xylene	Lin1		11.19		11.7	12.5	-6.0	20.0
DCB Decachlorobiphenyl	Lin1		10.15		11.8	12.5	-5.5	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/42 Calibration Date: 11/15/2018 02:10

Instrument ID: SGC_J Calib Start Date: 11/14/2018 18:04

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/14/2018 20:11

Lab File ID: 11141842.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.40	3.15	3.65
PCB-1016 Peak 2	3.81	3.57	4.07
PCB-1016 Peak 3	4.30	4.05	4.55
PCB-1016 Peak 4	4.45	4.20	4.70
PCB-1016 Peak 5	4.69	4.44	4.94
PCB-1260 Peak 1	6.89	6.65	7.15
PCB-1260 Peak 2	7.37	7.12	7.62
PCB-1260 Peak 3	7.91	7.66	8.16
PCB-1260 Peak 4	8.28	8.03	8.53
PCB-1260 Peak 5	8.79	8.54	9.04
Tetrachloro-m-xylene	2.89	2.64	3.14
DCB Decachlorobiphenyl	10.47	10.22	10.72

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141842.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 15-Nov-2018 02:10:40 ALS Bottle#: 42 Worklist Smp#: 42
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076197-042
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:05:08 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:53:50

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.045	2.044	0.001	22553037	1000.0	1000.0	
2	1.815	1.814	0.001	134930138	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.985	2.989	-0.004	5512739	12.5	10.5	
2	2.885	2.886	-0.001	18865372	12.5	11.7	
						RPD = 11.54	
1 PCB-1016							
1	3.392	3.396	-0.004	2140325	250.0	236.1	
1	3.775	3.776	-0.001	4762842	250.0	238.8	
1	4.285	4.289	-0.004	6790613	250.0	212.6	
1	4.438	4.443	-0.005	3097481	250.0	226.5	
1	4.925	4.926	-0.001	3054084	250.0	217.9	
		Average of Peak Amounts =				226.4	
2	3.402	3.403	-0.001	6560966	250.0	244.4	
2	3.812	3.816	-0.004	12692098	250.0	237.0	
2	4.295	4.296	-0.001	25726766	250.0	229.8	
2	4.445	4.450	-0.005	10442037	250.0	228.7	
2	4.685	4.690	-0.005	5423290	250.0	216.9	
		Average of Peak Amounts =				231.4	
						RPD = 2.18	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							
1	6.485	6.486	-0.001	4220514	250.0	237.4	
1	7.242	7.243	-0.001	5797913	250.0	220.9	
1	7.745	7.746	-0.001	3737920	250.0	230.8	
1	8.188	8.193	-0.005	7348717	250.0	211.0	
1	8.585	8.586	-0.001	3734473	250.0	222.3	
		Average of Peak Amounts =				224.5	
2	6.892	6.896	-0.004	17257111	250.0	239.5	
2	7.368	7.373	-0.005	24546037	250.0	229.1	
2	7.905	7.910	-0.005	15397683	250.0	238.9	
2	8.275	8.276	-0.001	34211757	250.0	236.7	
2	8.785	8.786	-0.001	25046456	250.0	229.3	
		Average of Peak Amounts =				234.7	
						RPD = 4.46	
$ 15 DCB Decachlorobiphenyl							
1	10.185	10.186	-0.001	3730120	12.5	11.2	
2	10.465	10.466	-0.001	17122941	12.5	11.8	
						RPD = 5.73	

Reagents:

AR_1660_ICV_00013	Amount Added: 1.00	Units: mL	
BNB IS_00012	Amount Added: 1.00	Units: mL	Run Reagent

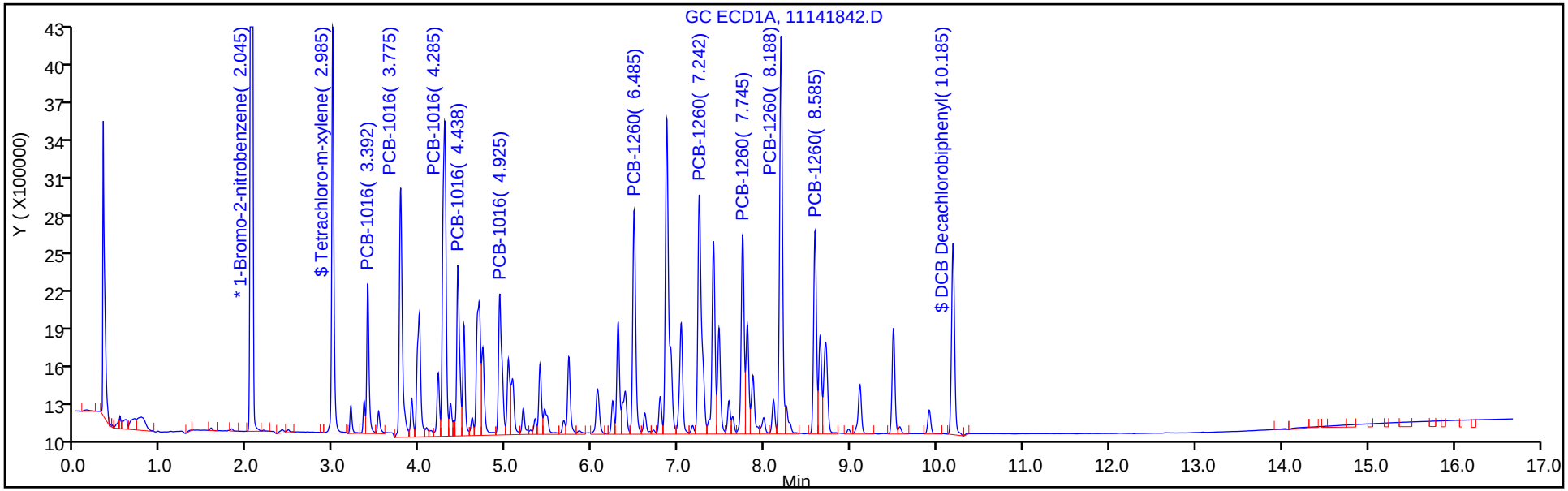
Report Date: 15-Nov-2018 16:05:18 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

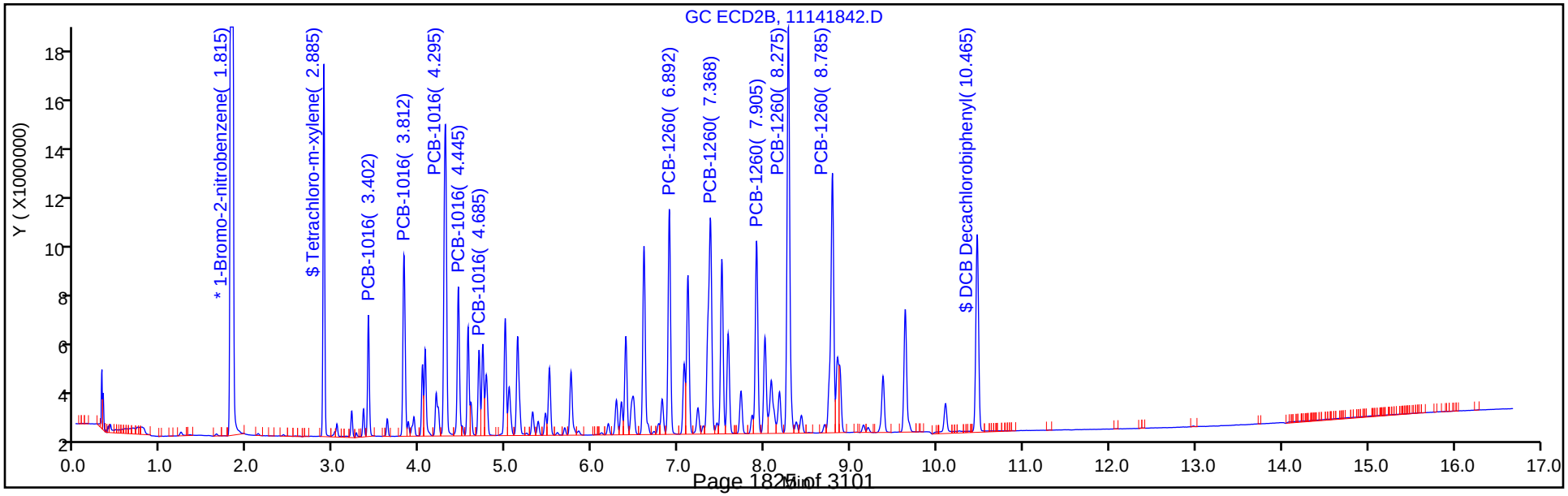
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141842.D

Injection Date:	15-Nov-2018 02:10:40	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	42
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	42
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/43 Calibration Date: 11/15/2018 02:31

Instrument ID: SGC_J Calib Start Date: 11/14/2018 20:32

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/14/2018 22:39

Lab File ID: 11141843.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1232 Peak 1	Lin1		0.1441		249	250	-0.3	20.0
PCB-1232 Peak 2	Lin1		0.4376		248	250	-0.8	20.0
PCB-1232 Peak 3	Lin1		0.5546		247	250	-1.2	20.0
PCB-1232 Peak 4	Lin1		0.2466		250	250	-0.0	20.0
PCB-1232 Peak 5	Lin1		0.2456		259	250	3.5	20.0
PCB-1262 Peak 1	Lin1		0.6243		258	250	3.1	20.0
PCB-1262 Peak 2	Lin1		0.9082		240	250	-4.0	20.0
PCB-1262 Peak 3	Lin1		0.7998		239	250	-4.4	20.0
PCB-1262 Peak 4	Lin1		1.665		251	250	0.3	20.0
PCB-1262 Peak 5	Lin1		0.5865		274	250	9.5	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/43 Calibration Date: 11/15/2018 02:31

Instrument ID: SGC_J Calib Start Date: 11/14/2018 20:32

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/14/2018 22:39

Lab File ID: 11141843.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1232 Peak 1	3.20	2.95	3.45
PCB-1232 Peak 2	3.39	3.15	3.65
PCB-1232 Peak 3	4.29	4.04	4.54
PCB-1232 Peak 4	4.44	4.19	4.69
PCB-1232 Peak 5	4.93	4.68	5.18
PCB-1262 Peak 1	6.49	6.24	6.74
PCB-1262 Peak 2	7.41	7.16	7.66
PCB-1262 Peak 3	7.74	7.50	8.00
PCB-1262 Peak 4	8.19	7.94	8.44
PCB-1262 Peak 5	8.58	8.33	8.83

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141843.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 15-Nov-2018 02:31:47 ALS Bottle#: 43 Worklist Smp#: 43
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076197-043
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:05:08 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:54:49

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.044	0.002	22734063	1000.0	1000.0	
2	1.816	1.814	0.002	136792833	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.199	3.199	0.000	818685	250.0	249.2	
1	3.393	3.396	-0.003	2486945	250.0	248.1	
1	4.286	4.289	-0.003	3152258	250.0	247.0	
1	4.439	4.439	0.000	1401418	250.0	249.9	
1	4.926	4.926	0.000	1396071	250.0	258.8	
		Average of Peak Amounts =				250.6	
2	3.403	3.403	0.000	7843088	250.0	255.6	
2	3.813	3.816	-0.003	6836581	250.0	272.0	
2	4.293	4.296	-0.003	12763136	250.0	265.3	
2	4.443	4.446	-0.003	5358511	250.0	261.9	
2	5.133	5.136	-0.003	4706597	250.0	290.3	
		Average of Peak Amounts =				269.0	
						RPD = 7.08	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.486	6.486	0.000	3547925	250.0	257.7	
1	7.406	7.406	0.000	5161669	250.0	240.1	
1	7.743	7.746	-0.003	4545620	250.0	239.1	
1	8.189	8.189	0.000	9460964	250.0	250.9	
1	8.583	8.583	0.000	3333368	250.0	273.7	
		Average of Peak Amounts =				252.3	
2	6.893	6.896	-0.003	15075776	250.0	279.1	
2	7.503	7.503	0.000	19508399	250.0	251.2	
2	7.906	7.906	0.000	19178066	250.0	252.9	
2	8.276	8.276	0.000	40790974	250.0	271.9	
2	8.783	8.783	0.000	30788349	250.0	274.7	
		Average of Peak Amounts =				265.9	
						RPD = 5.27	

Reagents:

AR_3262_ICV_00013	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

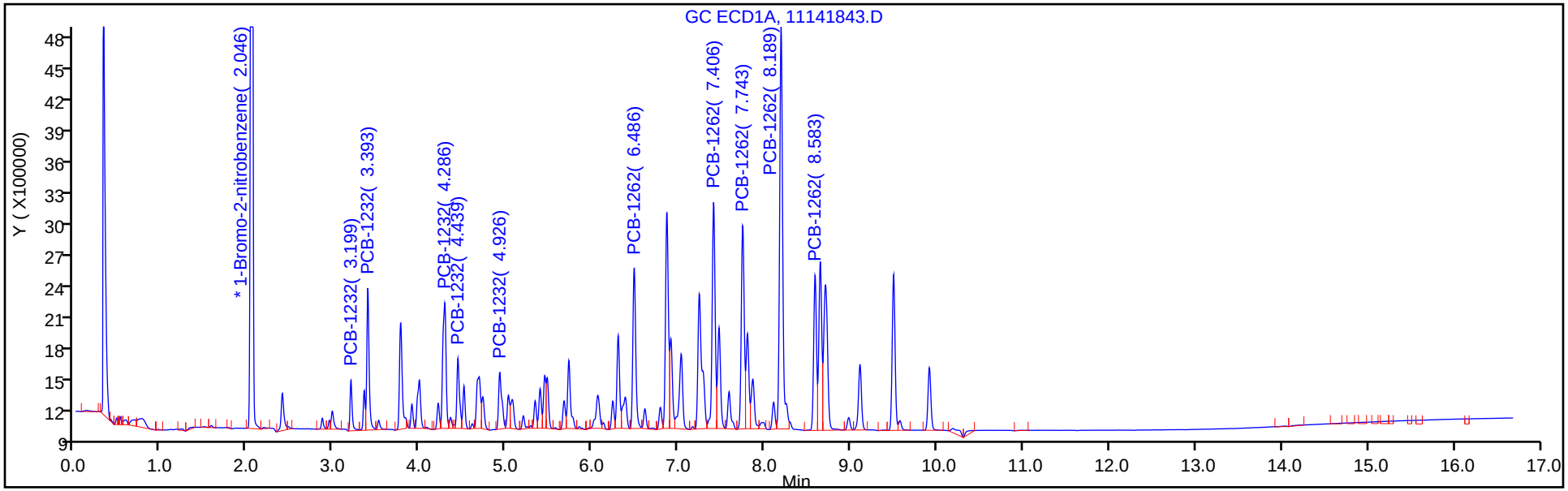
Report Date: 15-Nov-2018 16:05:20 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

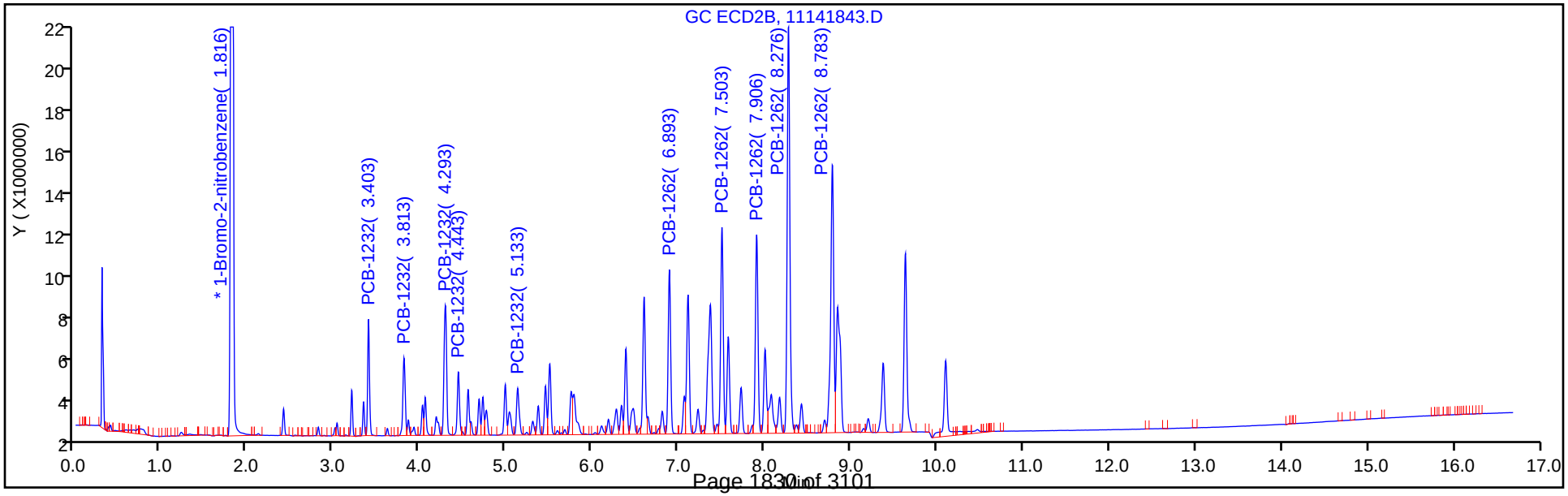
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141843.D

Injection Date:	15-Nov-2018 02:31:47	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	43
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	43
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/43 Calibration Date: 11/15/2018 02:31

Instrument ID: SGC_J Calib Start Date: 11/14/2018 20:32

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/14/2018 22:39

Lab File ID: 11141843.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1232 Peak 1	Lin1		0.2293		256	250	2.2	20.0
PCB-1232 Peak 2	Lin1		0.1999		272	250	8.8	20.0
PCB-1232 Peak 3	Lin1		0.3732		265	250	6.1	20.0
PCB-1232 Peak 4	Lin1		0.1567		262	250	4.7	20.0
PCB-1232 Peak 5	Lin1		0.1376		290	250	16.1	20.0
PCB-1262 Peak 1	Lin1		0.4408		279	250	11.6	20.0
PCB-1262 Peak 2	Lin1		0.5705		251	250	0.5	20.0
PCB-1262 Peak 3	Lin1		0.5608		253	250	1.1	20.0
PCB-1262 Peak 4	Lin1		1.193		272	250	8.8	20.0
PCB-1262 Peak 5	Lin1		0.9003		275	250	9.9	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/43 Calibration Date: 11/15/2018 02:31

Instrument ID: SGC_J Calib Start Date: 11/14/2018 20:32

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/14/2018 22:39

Lab File ID: 11141843.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1232 Peak 1	3.40	3.15	3.65
PCB-1232 Peak 2	3.81	3.57	4.07
PCB-1232 Peak 3	4.29	4.05	4.55
PCB-1232 Peak 4	4.44	4.20	4.70
PCB-1232 Peak 5	5.13	4.89	5.39
PCB-1262 Peak 1	6.89	6.65	7.15
PCB-1262 Peak 2	7.50	7.25	7.75
PCB-1262 Peak 3	7.91	7.66	8.16
PCB-1262 Peak 4	8.28	8.03	8.53
PCB-1262 Peak 5	8.78	8.53	9.03

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141843.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 15-Nov-2018 02:31:47 ALS Bottle#: 43 Worklist Smp#: 43
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076197-043
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:05:08 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 09:54:49

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.046	2.044	0.002	22734063	1000.0	1000.0	
2	1.816	1.814	0.002	136792833	1000.0	1000.0	
						RPD = 0.00	
7 PCB-1232							
1	3.199	3.199	0.000	818685	250.0	249.2	
1	3.393	3.396	-0.003	2486945	250.0	248.1	
1	4.286	4.289	-0.003	3152258	250.0	247.0	
1	4.439	4.439	0.000	1401418	250.0	249.9	
1	4.926	4.926	0.000	1396071	250.0	258.8	
		Average of Peak Amounts =				250.6	
2	3.403	3.403	0.000	7843088	250.0	255.6	
2	3.813	3.816	-0.003	6836581	250.0	272.0	
2	4.293	4.296	-0.003	12763136	250.0	265.3	
2	4.443	4.446	-0.003	5358511	250.0	261.9	
2	5.133	5.136	-0.003	4706597	250.0	290.3	
		Average of Peak Amounts =				269.0	
						RPD = 7.08	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1	6.486	6.486	0.000	3547925	250.0	257.7	
1	7.406	7.406	0.000	5161669	250.0	240.1	
1	7.743	7.746	-0.003	4545620	250.0	239.1	
1	8.189	8.189	0.000	9460964	250.0	250.9	
1	8.583	8.583	0.000	3333368	250.0	273.7	
		Average of Peak Amounts =				252.3	
2	6.893	6.896	-0.003	15075776	250.0	279.1	
2	7.503	7.503	0.000	19508399	250.0	251.2	
2	7.906	7.906	0.000	19178066	250.0	252.9	
2	8.276	8.276	0.000	40790974	250.0	271.9	
2	8.783	8.783	0.000	30788349	250.0	274.7	
		Average of Peak Amounts =				265.9	
						RPD = 5.27	

Reagents:

AR_3262_ICV_00013	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

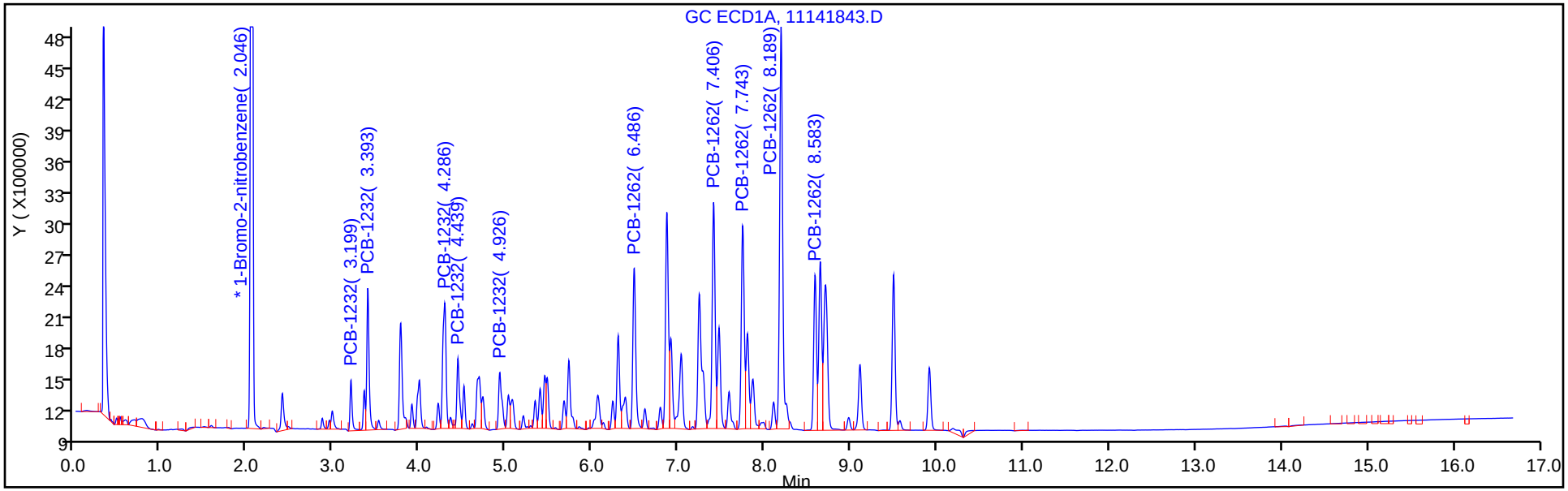
Report Date: 15-Nov-2018 16:05:21 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

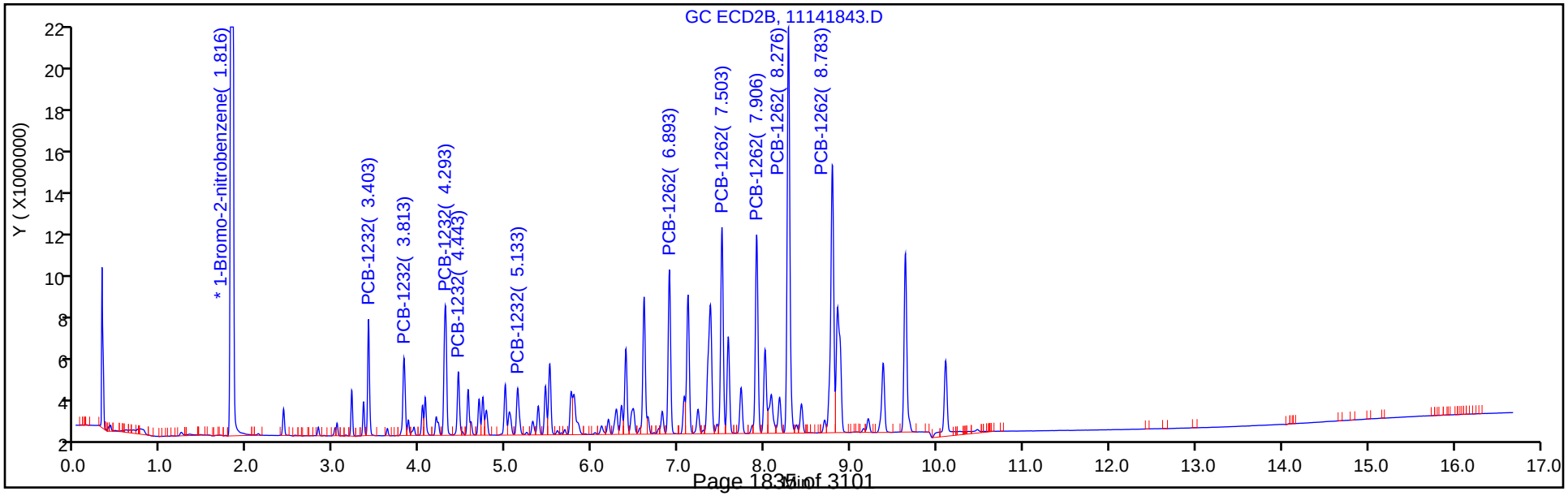
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141843.D

Injection Date:	15-Nov-2018 02:31:47	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	43
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	43
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/44 Calibration Date: 11/15/2018 02:52

Instrument ID: SGC_J Calib Start Date: 11/14/2018 23:00

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/15/2018 01:07

Lab File ID: 11141844.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1242 Peak 1	Lin1		0.6547		245	250	-1.9	20.0
PCB-1242 Peak 2	Lin1		0.9424		228	250	-9.0	20.0
PCB-1242 Peak 3	Lin1		0.4314		238	250	-4.8	20.0
PCB-1242 Peak 4	Lin1		0.2876		241	250	-3.7	20.0
PCB-1242 Peak 5	Lin1		0.2769		208	250	-16.8	20.0
PCB-1268 Peak 1	Lin1		1.902		253	250	1.2	20.0
PCB-1268 Peak 2	Lin1		1.756		242	250	-3.2	20.0
PCB-1268 Peak 3	Lin1		1.629		273	250	9.0	20.0
PCB-1268 Peak 4	Lin1		0.4490		177	250	-29.2*	20.0
PCB-1268 Peak 5	Lin1		3.985		223	250	-10.6	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/44 Calibration Date: 11/15/2018 02:52

Instrument ID: SGC_J Calib Start Date: 11/14/2018 23:00

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/15/2018 01:07

Lab File ID: 11141844.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1242 Peak 1	3.78	3.52	4.02
PCB-1242 Peak 2	4.29	4.03	4.53
PCB-1242 Peak 3	4.44	4.18	4.68
PCB-1242 Peak 4	5.45	5.19	5.69
PCB-1242 Peak 5	5.48	5.22	5.72
PCB-1268 Peak 1	8.64	8.38	8.88
PCB-1268 Peak 2	8.70	8.44	8.94
PCB-1268 Peak 3	8.97	8.71	9.21
PCB-1268 Peak 4	9.49	9.23	9.73
PCB-1268 Peak 5	9.91	9.65	10.15

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141844.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 15-Nov-2018 02:52:54 ALS Bottle#: 44 Worklist Smp#: 44
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076197-044
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:05:08 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 10:01:07

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.045	2.044	0.001	22376022	1000.0	1000.0	
2	1.818	1.814	0.004	134460546	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							Ma
1	3.775	3.770	0.005	3662624	250.0	245.1	
1	4.285	4.280	0.005	5271640	250.0	227.5	
1	4.438	4.434	0.004	2413284	250.0	238.1	
1	5.445	5.440	0.005	1609049	250.0	240.8	M
1	5.475	5.467	0.008	1548678	250.0	207.9	M
		Average of Peak Amounts =				231.9	
2	3.812	3.807	0.005	10316995	250.0	253.2	M
2	4.292	4.287	0.005	20520802	250.0	244.5	M
2	4.445	4.437	0.008	8451944	250.0	244.8	M
2	4.988	4.984	0.004	6807823	250.0	247.8	M
2	5.132	5.127	0.005	7836570	250.0	242.4	M
		Average of Peak Amounts =				246.5	
						RPD = 6.12	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.641	8.634	0.007	10637132	250.0	253.0	
1	8.698	8.687	0.011	9825804	250.0	242.0	
1	8.971	8.964	0.007	9114330	250.0	272.6	
1	9.491	9.484	0.007	2511510	250.0	177.0	
1	9.908	9.900	0.008	22291654	250.0	223.4	
		Average of Peak Amounts =				233.6	
2	8.778	8.770	0.008	45001695	250.0	261.8	
2	8.842	8.834	0.008	42982834	250.0	259.6	
2	9.198	9.187	0.011	40468304	250.0	285.7	
2	9.632	9.620	0.012	12908321	250.0	185.3	
2	10.095	10.087	0.008	103104860	250.0	236.1	
		Average of Peak Amounts =				245.7	
						RPD = 5.05	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

AR_4268_ICV_00013	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

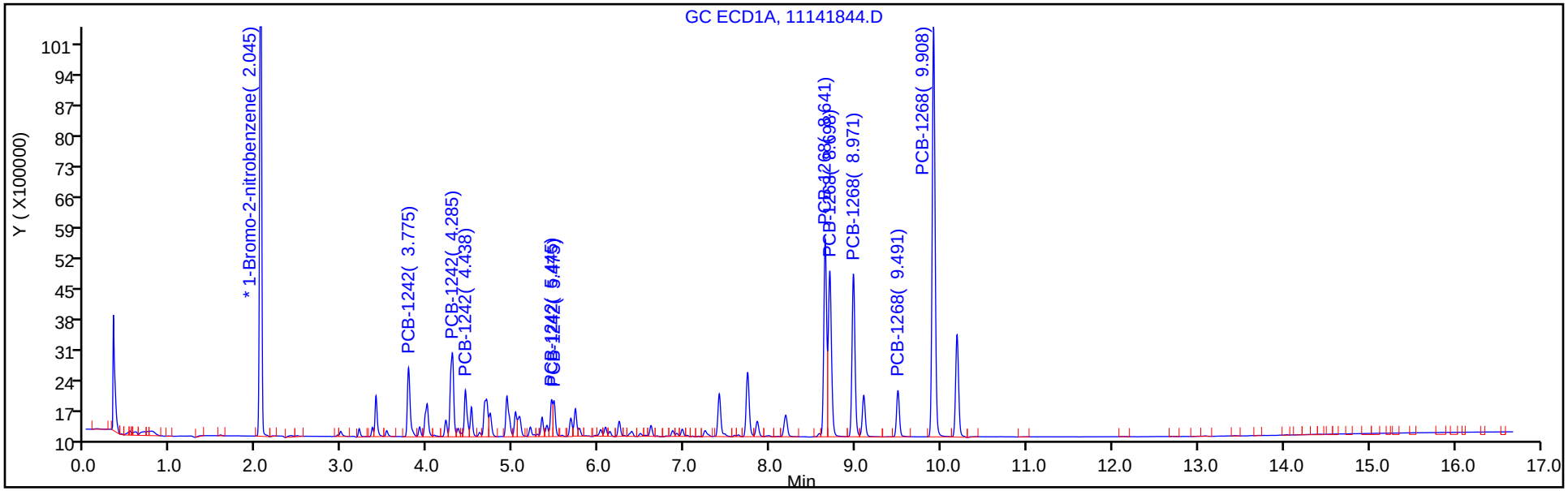
Report Date: 15-Nov-2018 16:05:23 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

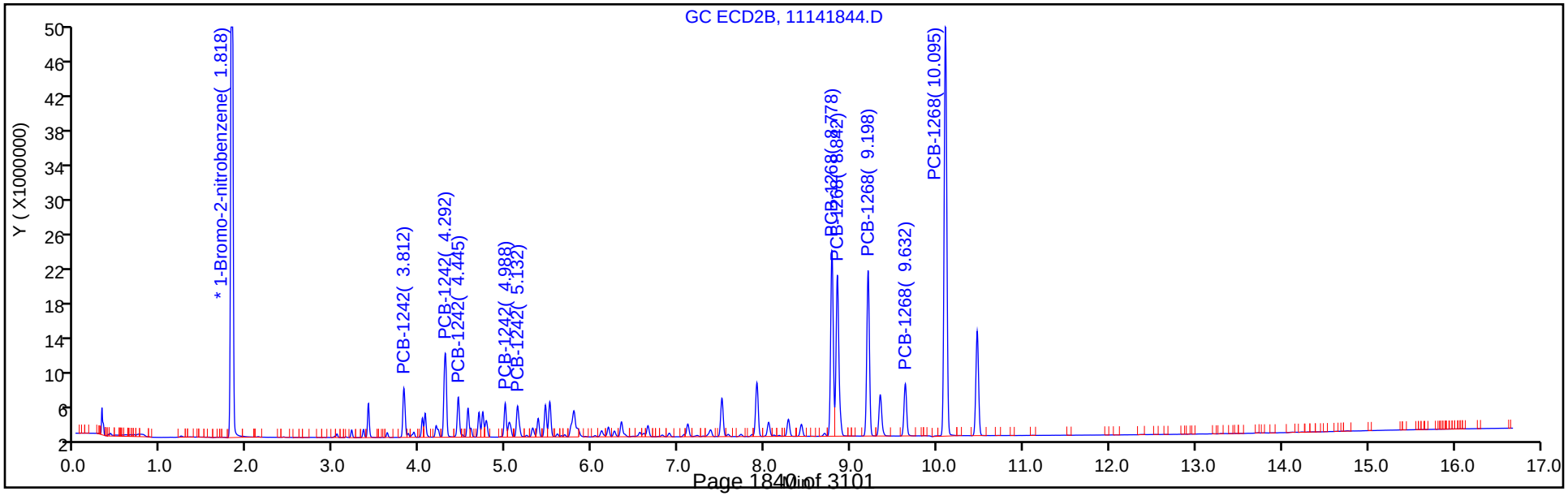
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141844.D

Injection Date:	15-Nov-2018 02:52:54	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	44
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	44
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 15-Nov-2018 16:05:23 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141844.D

Injection Date: 15-Nov-2018 02:52:54 Instrument ID: SGC_J

Lims ID: ICV

Client ID:

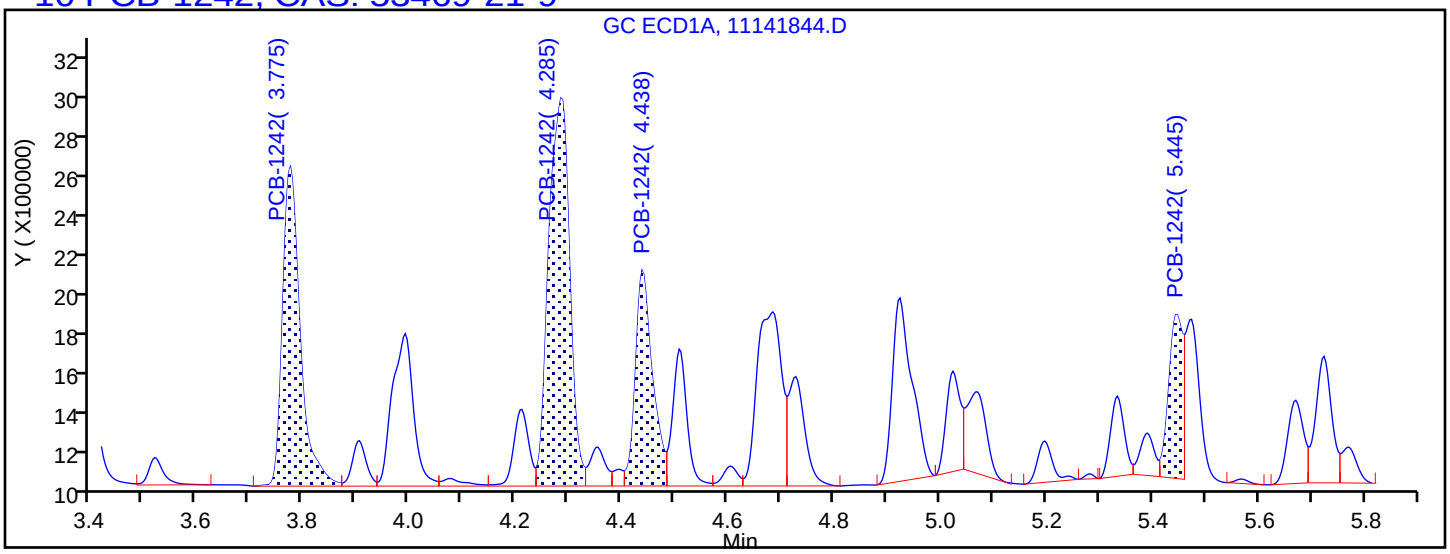
Operator ID: ALS ALS Bottle#: 44 Worklist Smp#: 44

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

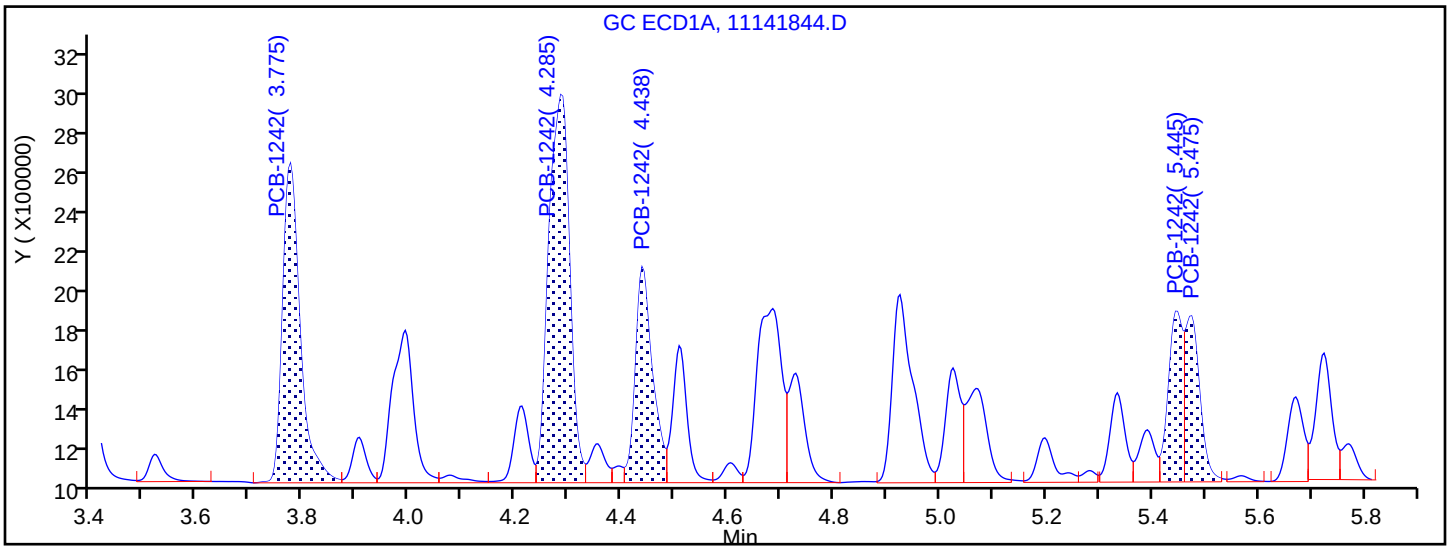
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

10 PCB-1242, CAS: 53469-21-9



Processing Integration Results

3.775	Response = 3662624
4.285	Response = 5271640
4.438	Response = 2413284
5.445	Response = 1507752
5.467	Response = 0



Manual Integration Results

3.775	Response = 3662624	
4.285	Response = 5271640	
4.438	Response = 2413284	
5.445	Response = 1609049	M
5.475	Response = 1548678	M

Reviewer: patadiab, 15-Nov-2018 10:20:42

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/44 Calibration Date: 11/15/2018 02:52

Instrument ID: SGC_J Calib Start Date: 11/14/2018 23:00

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/15/2018 01:07

Lab File ID: 11141844.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1242 Peak 1	Lin1		0.3069		253	250	1.3	20.0
PCB-1242 Peak 2	Lin1		0.6105		244	250	-2.2	20.0
PCB-1242 Peak 3	Lin1		0.2514		245	250	-2.1	20.0
PCB-1242 Peak 4	Lin1		0.2025		248	250	-0.9	20.0
PCB-1242 Peak 5	Lin1		0.2331		242	250	-3.1	20.0
PCB-1268 Peak 1	Lin1		1.339		262	250	4.7	20.0
PCB-1268 Peak 2	Lin1		1.279		260	250	3.9	20.0
PCB-1268 Peak 3	Lin1		1.204		286	250	14.3	20.0
PCB-1268 Peak 4	Lin1		0.3840		185	250	-25.9*	20.0
PCB-1268 Peak 5	Lin1		3.067		236	250	-5.5	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-437583/44 Calibration Date: 11/15/2018 02:52

Instrument ID: SGC_J Calib Start Date: 11/14/2018 23:00

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/15/2018 01:07

Lab File ID: 11141844.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1242 Peak 1	3.81	3.56	4.06
PCB-1242 Peak 2	4.29	4.04	4.54
PCB-1242 Peak 3	4.45	4.19	4.69
PCB-1242 Peak 4	4.99	4.73	5.23
PCB-1242 Peak 5	5.13	4.88	5.38
PCB-1268 Peak 1	8.78	8.52	9.02
PCB-1268 Peak 2	8.84	8.58	9.08
PCB-1268 Peak 3	9.20	8.94	9.44
PCB-1268 Peak 4	9.63	9.37	9.87
PCB-1268 Peak 5	10.10	9.84	10.34

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141844.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 15-Nov-2018 02:52:54 ALS Bottle#: 44 Worklist Smp#: 44
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 280-0076197-044
Operator ID: ALS Instrument ID: SGC_J
Sublist:

Method: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 15-Nov-2018 16:05:08 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0323

First Level Reviewer: patadiab Date: 15-Nov-2018 10:01:07

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.045	2.044	0.001	22376022	1000.0	1000.0	
2	1.818	1.814	0.004	134460546	1000.0	1000.0	
						RPD = 0.00	
10 PCB-1242							Ma
1	3.775	3.770	0.005	3662624	250.0	245.1	
1	4.285	4.280	0.005	5271640	250.0	227.5	
1	4.438	4.434	0.004	2413284	250.0	238.1	
1	5.445	5.440	0.005	1609049	250.0	240.8	M
1	5.475	5.467	0.008	1548678	250.0	207.9	M
		Average of Peak Amounts =				231.9	
2	3.812	3.807	0.005	10316995	250.0	253.2	M
2	4.292	4.287	0.005	20520802	250.0	244.5	M
2	4.445	4.437	0.008	8451944	250.0	244.8	M
2	4.988	4.984	0.004	6807823	250.0	247.8	M
2	5.132	5.127	0.005	7836570	250.0	242.4	M
		Average of Peak Amounts =				246.5	
						RPD = 6.12	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
13 PCB-1268							
1	8.641	8.634	0.007	10637132	250.0	253.0	
1	8.698	8.687	0.011	9825804	250.0	242.0	
1	8.971	8.964	0.007	9114330	250.0	272.6	
1	9.491	9.484	0.007	2511510	250.0	177.0	
1	9.908	9.900	0.008	22291654	250.0	223.4	
		Average of Peak Amounts =				233.6	
2	8.778	8.770	0.008	45001695	250.0	261.8	
2	8.842	8.834	0.008	42982834	250.0	259.6	
2	9.198	9.187	0.011	40468304	250.0	285.7	
2	9.632	9.620	0.012	12908321	250.0	185.3	
2	10.095	10.087	0.008	103104860	250.0	236.1	
		Average of Peak Amounts =				245.7	
						RPD = 5.05	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

AR_4268_ICV_00013	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

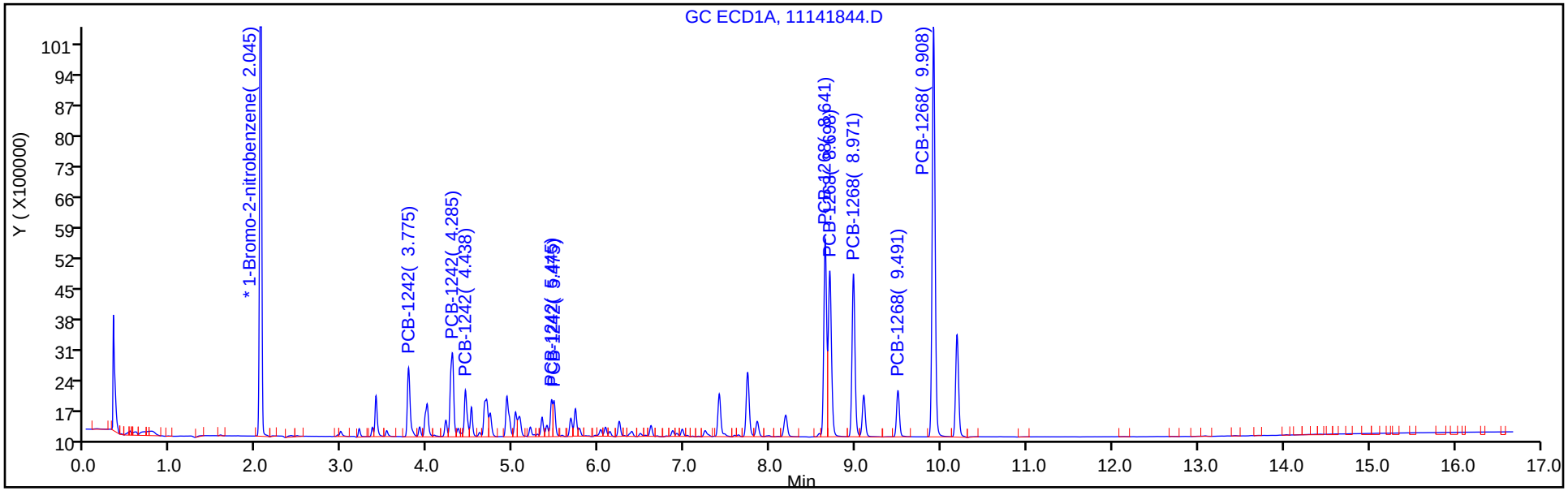
Report Date: 15-Nov-2018 16:05:24 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

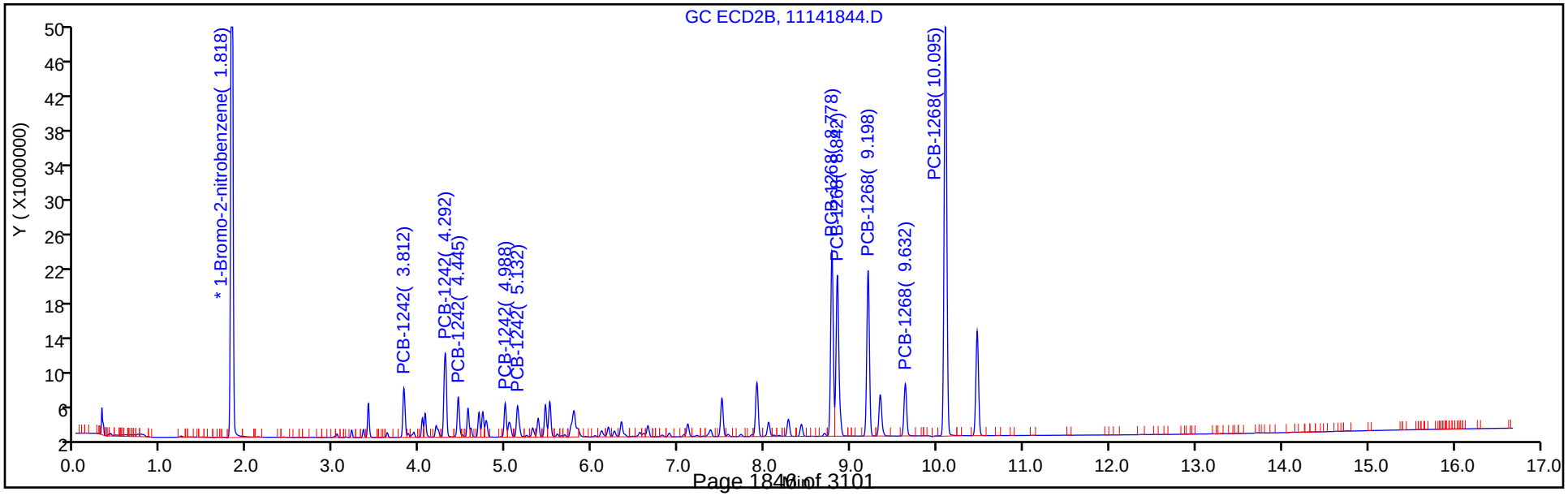
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141844.D

Injection Date:	15-Nov-2018 02:52:54	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	ICV			Worklist Smp#:	44
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	44
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 15-Nov-2018 16:05:24 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141844.D

Injection Date: 15-Nov-2018 02:52:54 Instrument ID: SGC_J

Lims ID: ICV

Client ID:

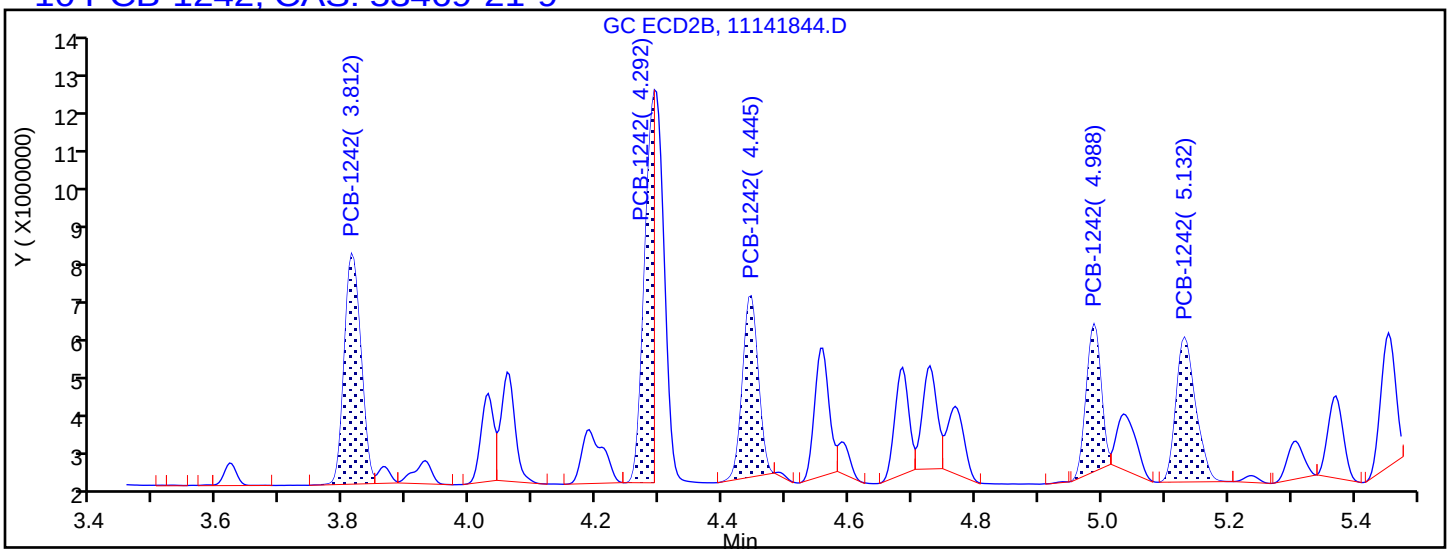
Operator ID: ALS ALS Bottle#: 44 Worklist Smp#: 44

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

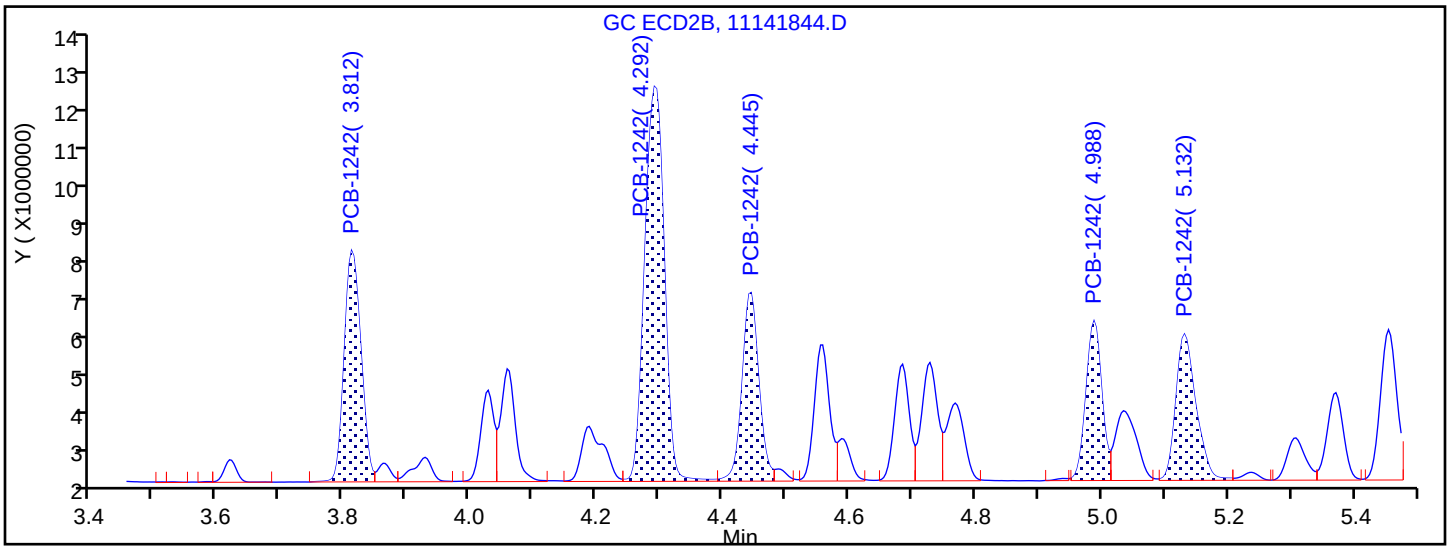
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

10 PCB-1242, CAS: 53469-21-9



Processing Integration Results

3.812	Response = 10201070
4.292	Response = 9847946
4.445	Response = 7593287
4.988	Response = 5812082
5.132	Response = 7538345



Manual Integration Results

3.812	Response = 10316995	M
4.292	Response = 20520802	M
4.445	Response = 8451944	M
4.988	Response = 6807823	M
5.132	Response = 7836570	M

Reviewer: patadiab, 15-Nov-2018 10:21:00

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCVIS 280-437748/4 Calibration Date: 11/15/2018 12:38

Instrument ID: SGC_J Calib Start Date: 11/14/2018 18:04

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/14/2018 20:11

Lab File ID: 11151804.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.4053		529	500	5.7	20.0
PCB-1016 Peak 2	Lin1		0.9047		526	500	5.1	20.0
PCB-1016 Peak 3	Lin1		1.471		521	500	4.1	20.0
PCB-1016 Peak 4	Lin1		0.6293		526	500	5.2	20.0
PCB-1016 Peak 5	Lin1		0.6393		521	500	4.2	20.0
PCB-1260 Peak 1	Lin1		0.7642		493	500	-1.3	20.0
PCB-1260 Peak 2	Lin1		1.130		490	500	-2.0	20.0
PCB-1260 Peak 3	Lin1		0.6843		483	500	-3.5	20.0
PCB-1260 Peak 4	Lin1		1.509		492	500	-1.6	20.0
PCB-1260 Peak 5	Lin1		0.7170		485	500	-3.1	20.0
Tetrachloro-m-xylene	Lin1		23.01		24.4	25.0	-2.6	20.0
DCB Decachlorobiphenyl	Lin1		14.38		24.9	25.0	-0.5	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCVIS 280-437748/4 Calibration Date: 11/15/2018 12:38

Instrument ID: SGC_J Calib Start Date: 11/14/2018 18:04

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/14/2018 20:11

Lab File ID: 11151804.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.40	3.15	3.65
PCB-1016 Peak 2	3.78	3.53	4.03
PCB-1016 Peak 3	4.29	4.04	4.54
PCB-1016 Peak 4	4.45	4.20	4.70
PCB-1016 Peak 5	4.93	4.68	5.18
PCB-1260 Peak 1	6.49	6.24	6.74
PCB-1260 Peak 2	7.25	7.00	7.50
PCB-1260 Peak 3	7.75	7.50	8.00
PCB-1260 Peak 4	8.20	7.95	8.45
PCB-1260 Peak 5	8.59	8.34	8.84
Tetrachloro-m-xylene	2.99	2.74	3.24
DCB Decachlorobiphenyl	10.19	9.94	10.44

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151804.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 15-Nov-2018 12:38:44 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS
Misc. Info.: 280-0076236-004
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 19-Nov-2018 11:14:35 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0332

First Level Reviewer: patadiab Date: 15-Nov-2018 13:18:46

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.053	2.053	0.000	20318614	1000.0	1000.0	
2	1.823	1.823	0.000	122699372	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.993	2.993	0.000	11688484	25.0	24.4	
2	2.890	2.890	0.000	37187456	25.0	26.0	
						RPD = 6.65	
1 PCB-1016							Ma
1	3.399	3.399	0.000	4117869	500.0	528.7	
1	3.779	3.779	0.000	9190797	500.0	525.7	
1	4.293	4.293	0.000	14947564	500.0	520.7	
1	4.446	4.446	0.000	6393443	500.0	526.2	
1	4.933	4.933	0.000	6494333	500.0	521.2	
		Average of Peak Amounts =				524.5	
2	3.406	3.406	0.000	12708757	500.0	534.2	
2	3.820	3.820	0.000	25600070	500.0	542.4	M
2	4.300	4.300	0.000	52867216	500.0	533.0	M
2	4.450	4.450	0.000	21981753	500.0	547.8	M
2	4.690	4.690	0.000	12073163	500.0	548.8	M
		Average of Peak Amounts =				541.3	
						RPD = 3.14	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							M
1	6.493	6.493	0.000	7763909	500.0	493.4	
1	7.249	7.249	0.000	11484392	500.0	489.9	
1	7.753	7.753	0.000	6951559	500.0	482.5	
1	8.196	8.196	0.000	15329101	500.0	491.9	
1	8.593	8.593	0.000	7284623	500.0	484.5	
		Average of Peak Amounts =				488.4	
2	6.900	6.900	0.000	31859608	500.0	496.2	M
2	7.376	7.376	0.000	47785261	500.0	501.2	M
2	7.913	7.913	0.000	29057544	500.0	506.2	M
2	8.280	8.280	0.000	65678581	500.0	509.4	M
2	8.793	8.793	0.000	48628417	500.0	500.2	M
		Average of Peak Amounts =				502.7	
						RPD = 2.87	
$ 15 DCB Decachlorobiphenyl							
1	10.193	10.193	0.000	7303268	25.0	24.9	
2	10.473	10.473	0.000	32803567	25.0	25.6	
						RPD = 2.71	
19 1260 Res 1							
1	8.593	8.593	0.000	7284623	NR	NR	
16 1260 Res 2							
1	8.653	8.653	0.000	3789174	NR	NR	
18 1260 Res 3							
1	8.713	8.713	0.000	4890872	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

AR_1660_L5_00066	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

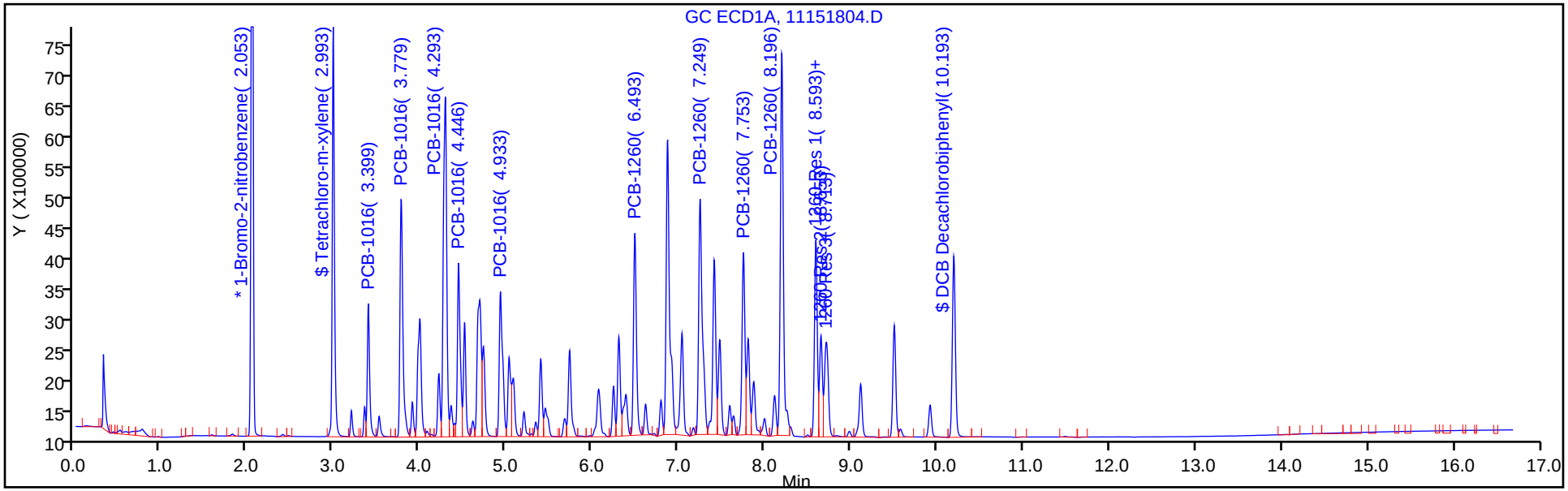
Report Date: 19-Nov-2018 11:14:35 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

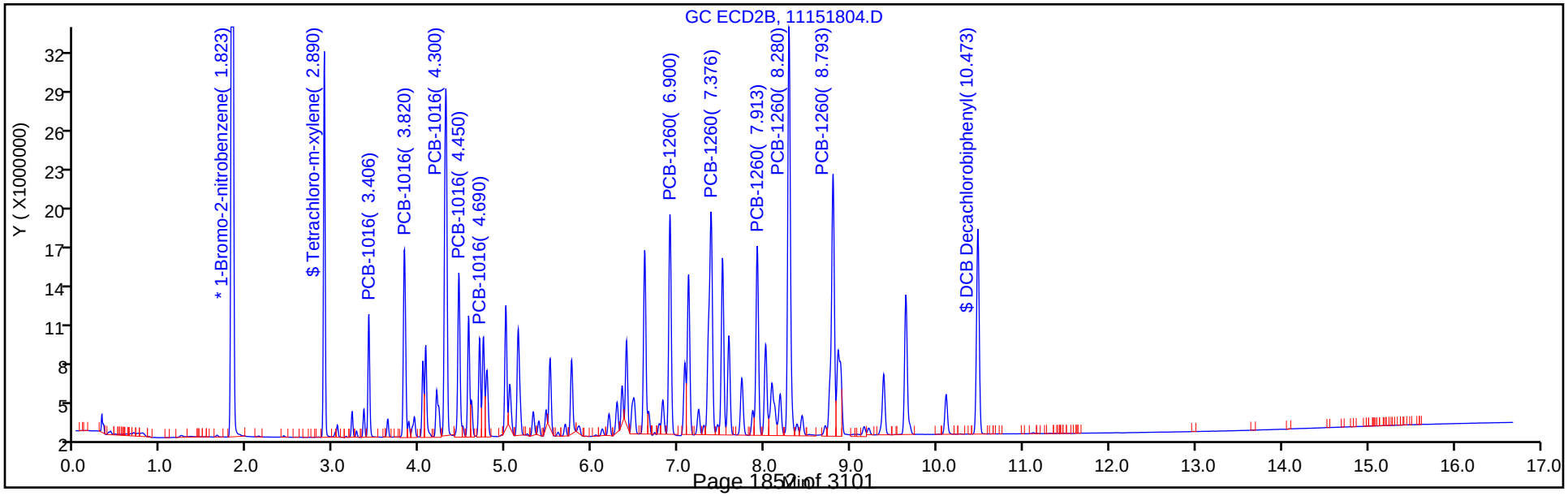
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151804.D

Injection Date:	15-Nov-2018 12:38:44	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	CCVIS			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCVIS 280-437748/4 Calibration Date: 11/15/2018 12:38

Instrument ID: SGC_J Calib Start Date: 11/14/2018 18:04

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/14/2018 20:11

Lab File ID: 11151804.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.2072		534	500	6.8	20.0
PCB-1016 Peak 2	Lin1		0.4173		542	500	8.5	20.0
PCB-1016 Peak 3	Lin1		0.8617		533	500	6.6	20.0
PCB-1016 Peak 4	Lin1		0.3583		548	500	9.6	20.0
PCB-1016 Peak 5	Lin1		0.1968		549	500	9.8	20.0
PCB-1260 Peak 1	Lin1		0.5193		496	500	-0.8	20.0
PCB-1260 Peak 2	Lin1		0.7789		501	500	0.2	20.0
PCB-1260 Peak 3	Lin1		0.4736		506	500	1.2	20.0
PCB-1260 Peak 4	Lin1		1.071		509	500	1.9	20.0
PCB-1260 Peak 5	Lin1		0.7926		500	500	0.0	20.0
Tetrachloro-m-xylene	Lin1		12.12		26.0	25.0	4.1	20.0
DCB Decachlorobiphenyl	Lin1		10.69		25.6	25.0	2.3	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCVIS 280-437748/4 Calibration Date: 11/15/2018 12:38

Instrument ID: SGC_J Calib Start Date: 11/14/2018 18:04

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/14/2018 20:11

Lab File ID: 11151804.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.41	3.16	3.66
PCB-1016 Peak 2	3.82	3.57	4.07
PCB-1016 Peak 3	4.30	4.05	4.55
PCB-1016 Peak 4	4.45	4.20	4.70
PCB-1016 Peak 5	4.69	4.44	4.94
PCB-1260 Peak 1	6.90	6.65	7.15
PCB-1260 Peak 2	7.38	7.13	7.63
PCB-1260 Peak 3	7.91	7.66	8.16
PCB-1260 Peak 4	8.28	8.03	8.53
PCB-1260 Peak 5	8.79	8.54	9.04
Tetrachloro-m-xylene	2.89	2.64	3.14
DCB Decachlorobiphenyl	10.47	10.22	10.72

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151804.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 15-Nov-2018 12:38:44 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS
Misc. Info.: 280-0076236-004
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 19-Nov-2018 11:14:35 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0332

First Level Reviewer: patadiab Date: 15-Nov-2018 13:18:46

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.053	2.053	0.000	20318614	1000.0	1000.0	
2	1.823	1.823	0.000	122699372	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	2.993	2.993	0.000	11688484	25.0	24.4	
2	2.890	2.890	0.000	37187456	25.0	26.0	
						RPD = 6.65	
1 PCB-1016							Ma
1	3.399	3.399	0.000	4117869	500.0	528.7	
1	3.779	3.779	0.000	9190797	500.0	525.7	
1	4.293	4.293	0.000	14947564	500.0	520.7	
1	4.446	4.446	0.000	6393443	500.0	526.2	
1	4.933	4.933	0.000	6494333	500.0	521.2	
		Average of Peak Amounts =				524.5	
2	3.406	3.406	0.000	12708757	500.0	534.2	
2	3.820	3.820	0.000	25600070	500.0	542.4	M
2	4.300	4.300	0.000	52867216	500.0	533.0	M
2	4.450	4.450	0.000	21981753	500.0	547.8	M
2	4.690	4.690	0.000	12073163	500.0	548.8	M
		Average of Peak Amounts =				541.3	
						RPD = 3.14	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							M
1	6.493	6.493	0.000	7763909	500.0	493.4	
1	7.249	7.249	0.000	11484392	500.0	489.9	
1	7.753	7.753	0.000	6951559	500.0	482.5	
1	8.196	8.196	0.000	15329101	500.0	491.9	
1	8.593	8.593	0.000	7284623	500.0	484.5	
		Average of Peak Amounts =				488.4	
2	6.900	6.900	0.000	31859608	500.0	496.2	M
2	7.376	7.376	0.000	47785261	500.0	501.2	M
2	7.913	7.913	0.000	29057544	500.0	506.2	M
2	8.280	8.280	0.000	65678581	500.0	509.4	M
2	8.793	8.793	0.000	48628417	500.0	500.2	M
		Average of Peak Amounts =				502.7	
						RPD = 2.87	
$ 15 DCB Decachlorobiphenyl							
1	10.193	10.193	0.000	7303268	25.0	24.9	
2	10.473	10.473	0.000	32803567	25.0	25.6	
						RPD = 2.71	
19 1260 Res 1							
1	8.593	8.593	0.000	7284623	NR	NR	
16 1260 Res 2							
1	8.653	8.653	0.000	3789174	NR	NR	
18 1260 Res 3							
1	8.713	8.713	0.000	4890872	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

AR_1660_L5_00066	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

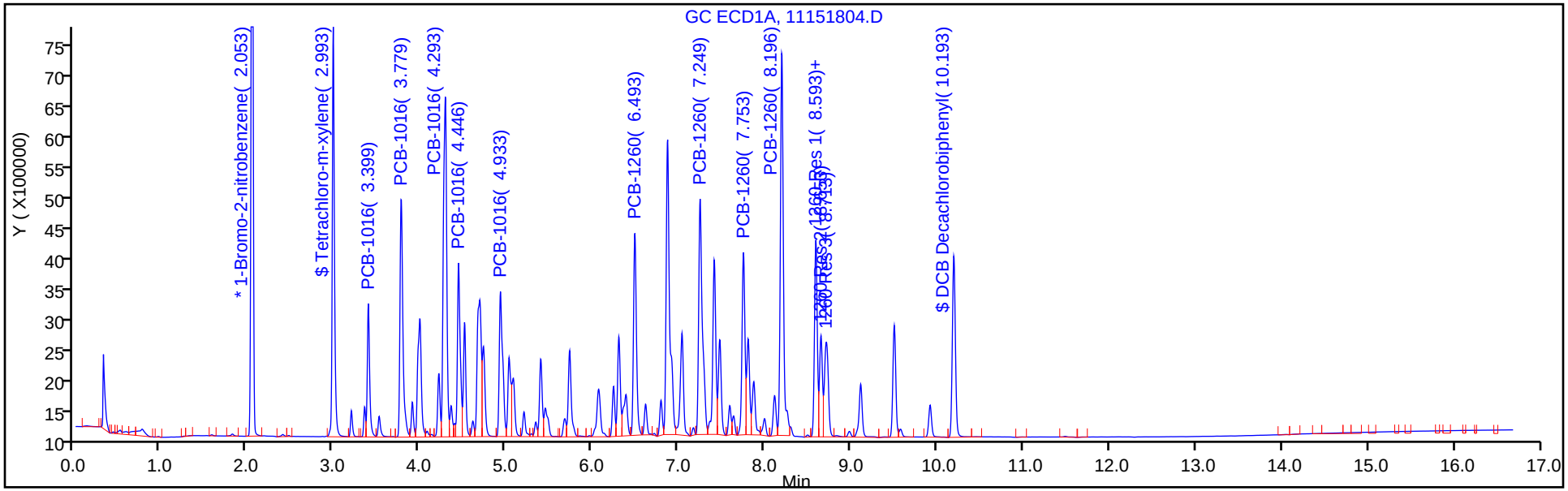
Report Date: 19-Nov-2018 11:14:36 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

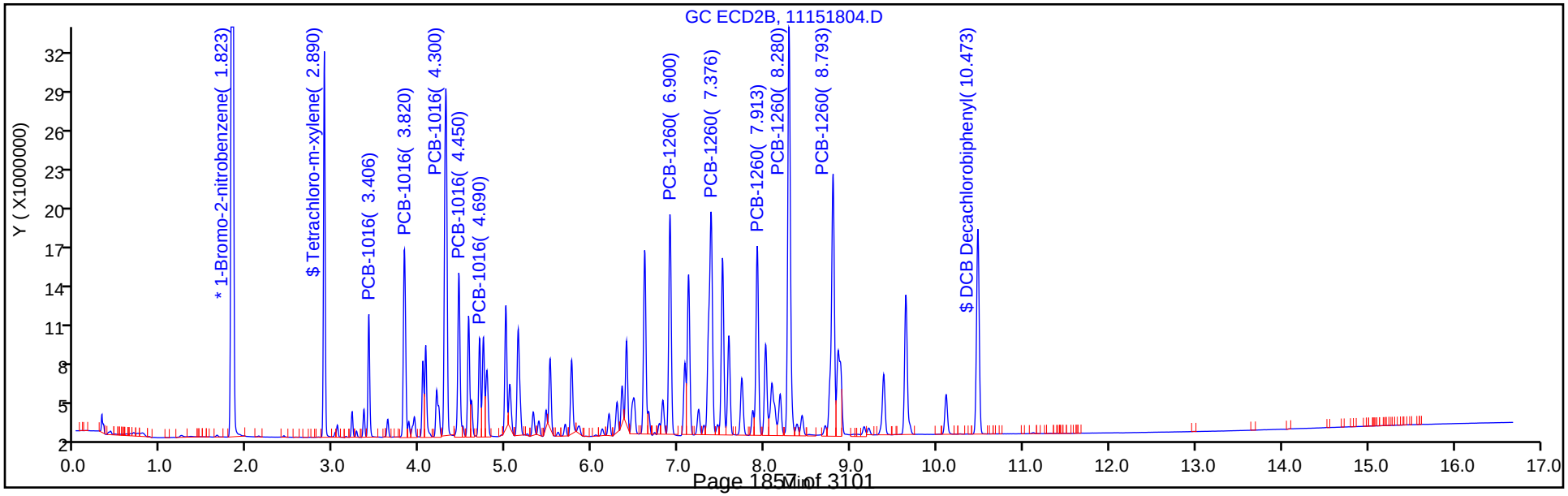
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151804.D

Injection Date:	15-Nov-2018 12:38:44	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	CCVIS			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 19-Nov-2018 11:14:36 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151804.D

Injection Date: 15-Nov-2018 12:38:44 Instrument ID: SGC_J

Lims ID: CCVIS

Client ID:

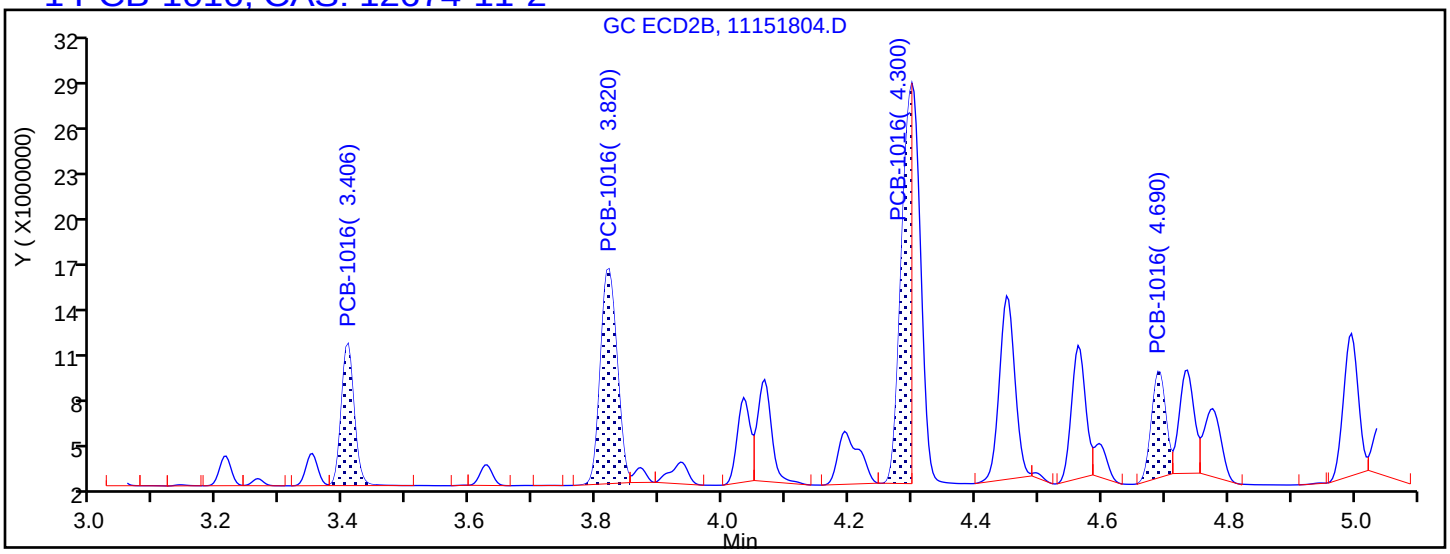
Operator ID: ALS ALS Bottle#: 4 Worklist Smp#: 4

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

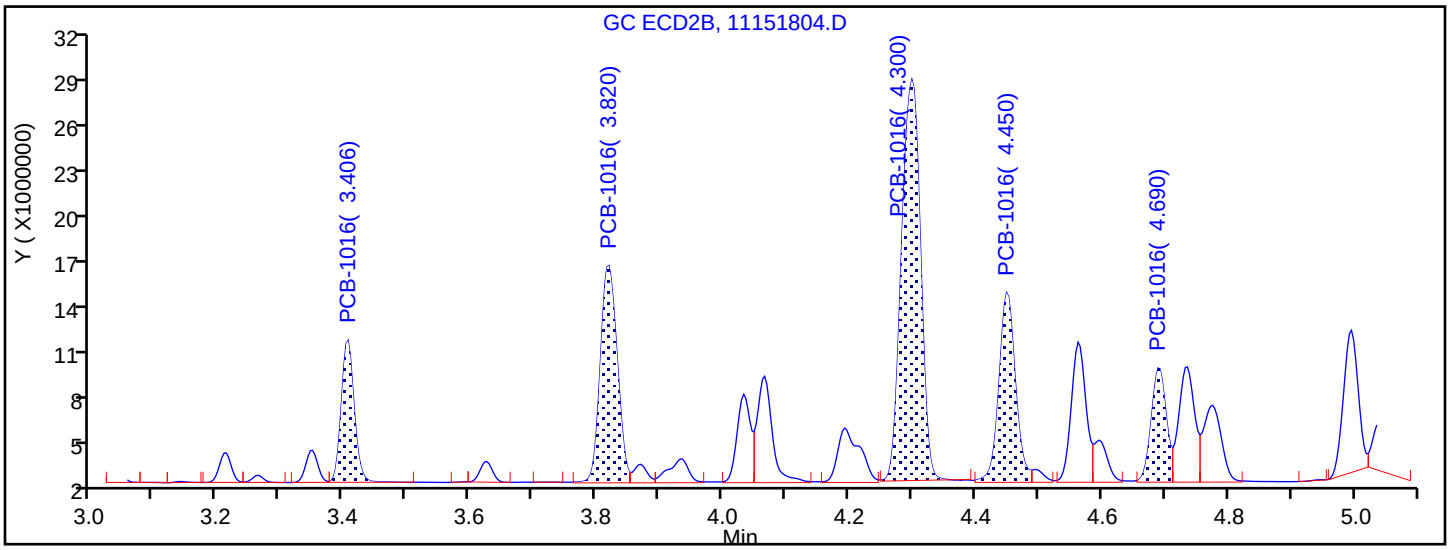
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

1 PCB-1016, CAS: 12674-11-2



Processing Integration Results

3.406	Response = 12708757
3.820	Response = 24894390
4.300	Response = 28164475
4.450	Response = 0
4.690	Response = 10670364



Manual Integration Results

3.406	Response = 12708757	
3.820	Response = 25600070	M
4.300	Response = 52867216	M
4.450	Response = 21981753	M
4.690	Response = 12073163	M

Reviewer: patadiab, 16-Nov-2018 07:49:15

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Report Date: 19-Nov-2018 11:14:36 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151804.D

Injection Date: 15-Nov-2018 12:38:44 Instrument ID: SGC_J

Lims ID: CCVIS

Client ID:

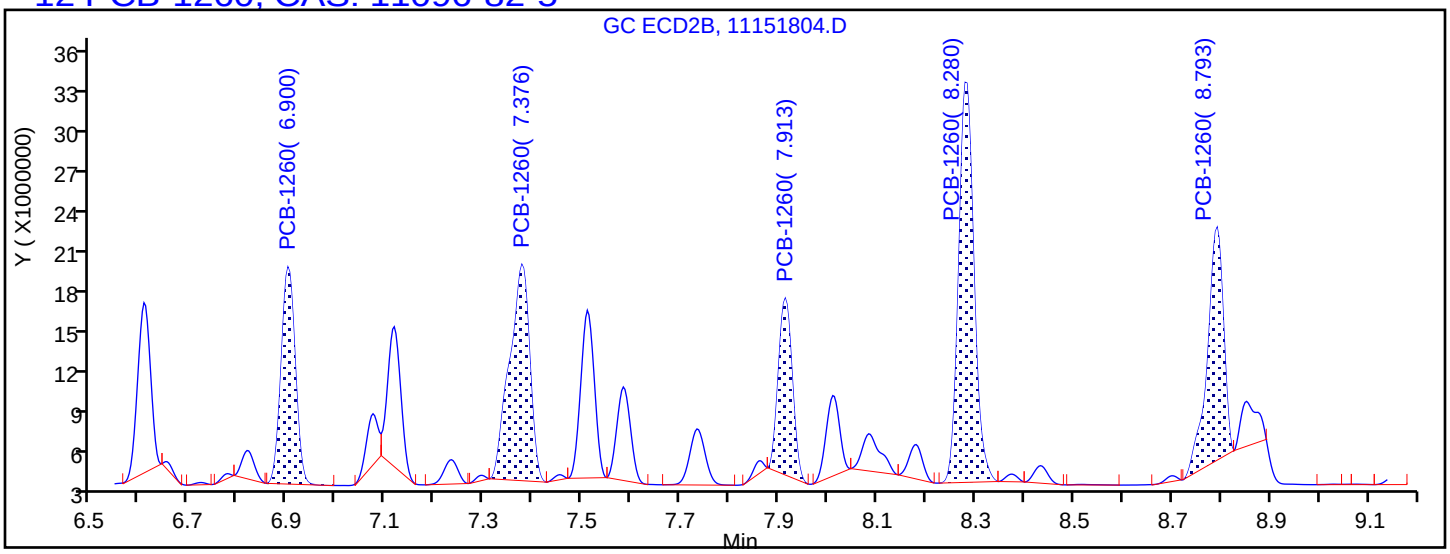
Operator ID: ALS ALS Bottle#: 4 Worklist Smp#: 4

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

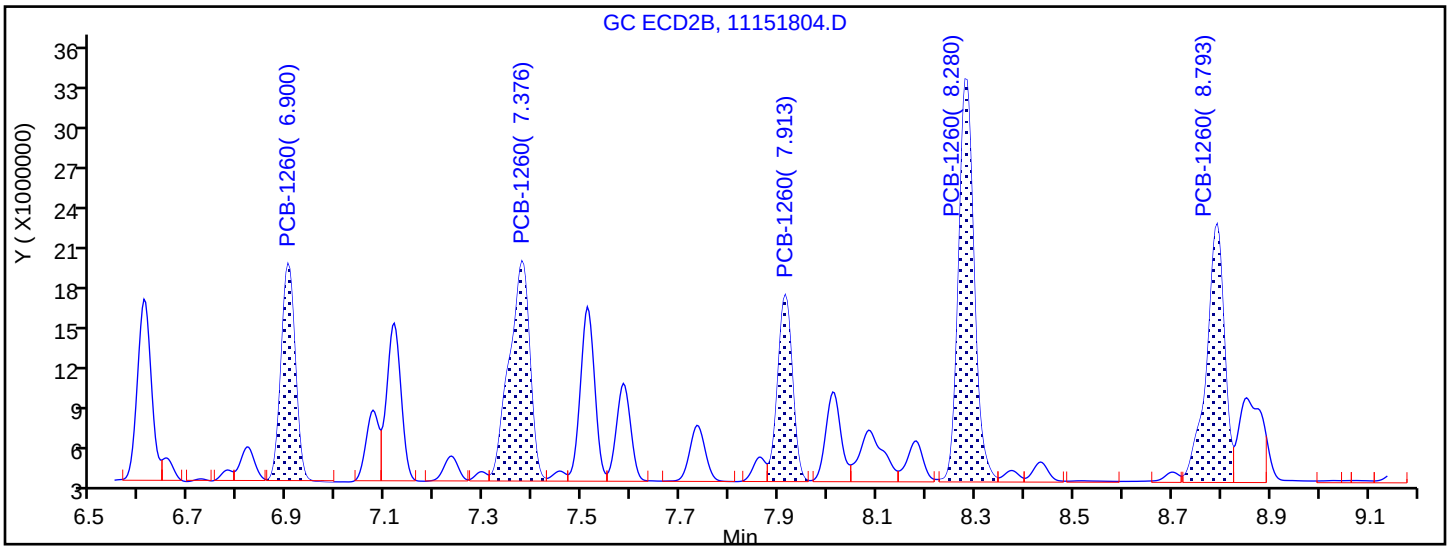
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

12 PCB-1260, CAS: 11096-82-5



Processing Integration Results

6.900	Response = 31998807
7.376	Response = 45583117
7.913	Response = 25622984
8.280	Response = 63918674
8.793	Response = 39069973



Manual Integration Results

6.900	Response = 31859608	M
7.376	Response = 47785261	M
7.913	Response = 29057544	M
8.280	Response = 65678581	M
8.793	Response = 48628417	M

Reviewer: patadiab, 16-Nov-2018 07:50:11

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-437748/40 Calibration Date: 11/16/2018 01:21

Instrument ID: SGC_J Calib Start Date: 11/14/2018 18:04

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/14/2018 20:11

Lab File ID: 11151840.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.3874		504	500	0.9	20.0
PCB-1016 Peak 2	Lin1		0.8487		492	500	-1.5	20.0
PCB-1016 Peak 3	Lin1		1.364		483	500	-3.5	20.0
PCB-1016 Peak 4	Lin1		0.5879		491	500	-1.8	20.0
PCB-1016 Peak 5	Lin1		0.5916		482	500	-3.6	20.0
PCB-1260 Peak 1	Lin1		0.7600		491	500	-1.9	20.0
PCB-1260 Peak 2	Lin1		1.130		490	500	-2.0	20.0
PCB-1260 Peak 3	Lin1		0.6898		486	500	-2.7	20.0
PCB-1260 Peak 4	Lin1		1.523		496	500	-0.7	20.0
PCB-1260 Peak 5	Lin1		0.7010		474	500	-5.3	20.0
Tetrachloro-m-xylene	Lin1		21.74		23.0	25.0	-7.9	20.0
DCB Decachlorobiphenyl	Lin1		13.87		24.0	25.0	-4.0	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-437748/40 Calibration Date: 11/16/2018 01:21

Instrument ID: SGC_J Calib Start Date: 11/14/2018 18:04

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/14/2018 20:11

Lab File ID: 11151840.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.42	3.15	3.65
PCB-1016 Peak 2	3.80	3.53	4.03
PCB-1016 Peak 3	4.32	4.04	4.54
PCB-1016 Peak 4	4.47	4.20	4.70
PCB-1016 Peak 5	4.96	4.68	5.18
PCB-1260 Peak 1	6.52	6.24	6.74
PCB-1260 Peak 2	7.28	7.00	7.50
PCB-1260 Peak 3	7.79	7.50	8.00
PCB-1260 Peak 4	8.23	7.95	8.45
PCB-1260 Peak 5	8.63	8.34	8.84
Tetrachloro-m-xylene	3.01	2.74	3.24
DCB Decachlorobiphenyl	10.23	9.94	10.44

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151840.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 16-Nov-2018 01:21:24 ALS Bottle#: 40 Worklist Smp#: 40
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0076236-040
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 19-Nov-2018 11:13:15 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0332

First Level Reviewer: patadiab Date: 19-Nov-2018 10:54:33

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.065	2.053	0.012	20029391	1000.0	1000.0	
2	1.832	1.823	0.009	116381949	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	3.008	2.993	0.015	10888263	25.0	23.0	
2	2.902	2.890	0.012	35141606	25.0	25.9	
						RPD = 11.87	
1 PCB-1016							a
1	3.418	3.399	0.019	3879358	500.0	504.3	
1	3.801	3.779	0.022	8499252	500.0	492.4	
1	4.318	4.293	0.025	13661496	500.0	482.7	
1	4.471	4.446	0.025	5887975	500.0	491.2	a
1	4.958	4.933	0.025	5924609	500.0	482.0	
		Average of Peak Amounts =				490.5	
2	3.422	3.406	0.016	11941192	500.0	529.1	
2	3.838	3.820	0.018	23352814	500.0	521.1	
2	4.322	4.300	0.022	48926793	500.0	519.8	
2	4.472	4.450	0.022	19701034	500.0	516.9	
2	4.715	4.690	0.025	10807562	500.0	517.3	
		Average of Peak Amounts =				520.8	
						RPD = 5.99	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							Ma
1	6.521	6.493	0.028	7610742	500.0	490.6	
1	7.281	7.249	0.032	11321403	500.0	489.9	
1	7.785	7.753	0.032	6907702	500.0	486.5	
1	8.231	8.196	0.035	15251421	500.0	496.4	
1	8.628	8.593	0.035	7020109	500.0	473.6	a
		Average of Peak Amounts =				487.4	
2	6.928	6.900	0.028	30818173	500.0	506.3	
2	7.408	7.376	0.032	45734958	500.0	505.8	
2	7.945	7.913	0.032	27480582	500.0	504.7	a
2	8.312	8.280	0.032	61992245	500.0	506.9	
2	8.822	8.793	0.029	45838647	500.0	497.0	M
		Average of Peak Amounts =				504.1	
						RPD = 3.38	
$ 15 DCB Decachlorobiphenyl							
1	10.228	10.193	0.035	6946892	25.0	24.0	
2	10.505	10.473	0.032	31118075	25.0	25.6	
						RPD = 6.37	
S 8 Polychlorinated biphenyls, Total							
1						978.0	
2						1025.0	
						RPD = 4.70	
19 1260 Res 1							a
1	8.628	8.593	0.035	7020109	NR	NR	a
16 1260 Res 2							a
1	8.685	8.653	0.032	3635066	NR	NR	a
18 1260 Res 3							a
1	8.748	8.713	0.035	4706974	NR	NR	a

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

AR_1660_L5_00066	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

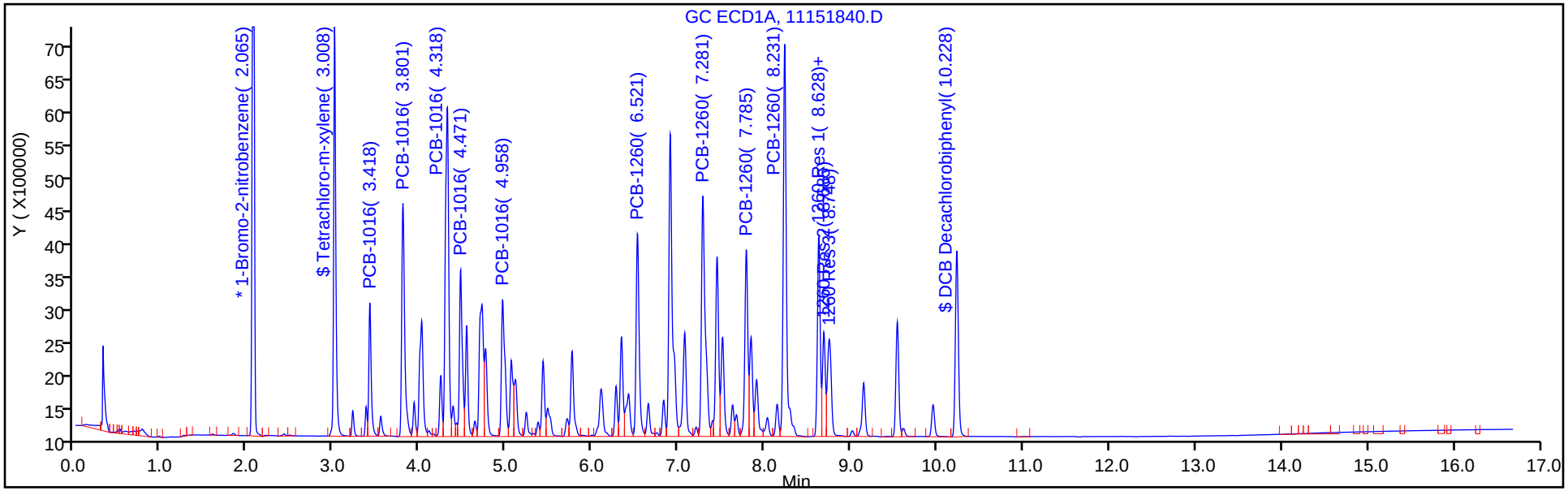
Report Date: 19-Nov-2018 11:13:16 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

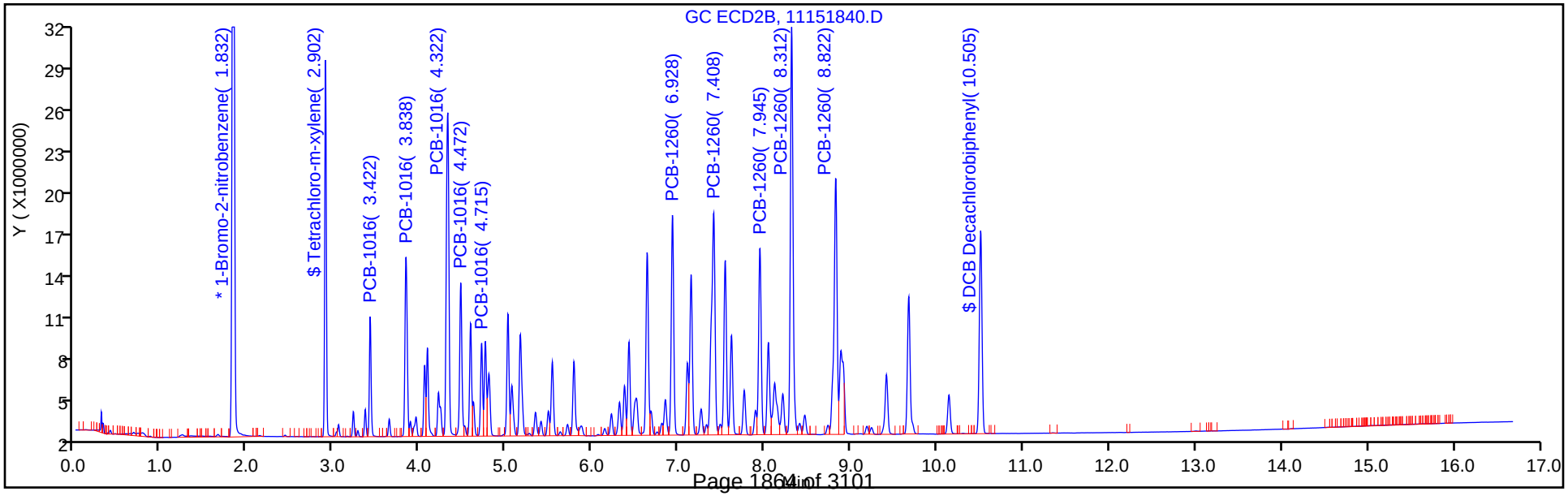
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151840.D

Injection Date:	16-Nov-2018 01:21:24	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	CCV			Worklist Smp#:	40
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	40
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 19-Nov-2018 11:13:16 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151840.D

Injection Date: 16-Nov-2018 01:21:24 Instrument ID: SGC_J

Lims ID: CCV

Client ID:

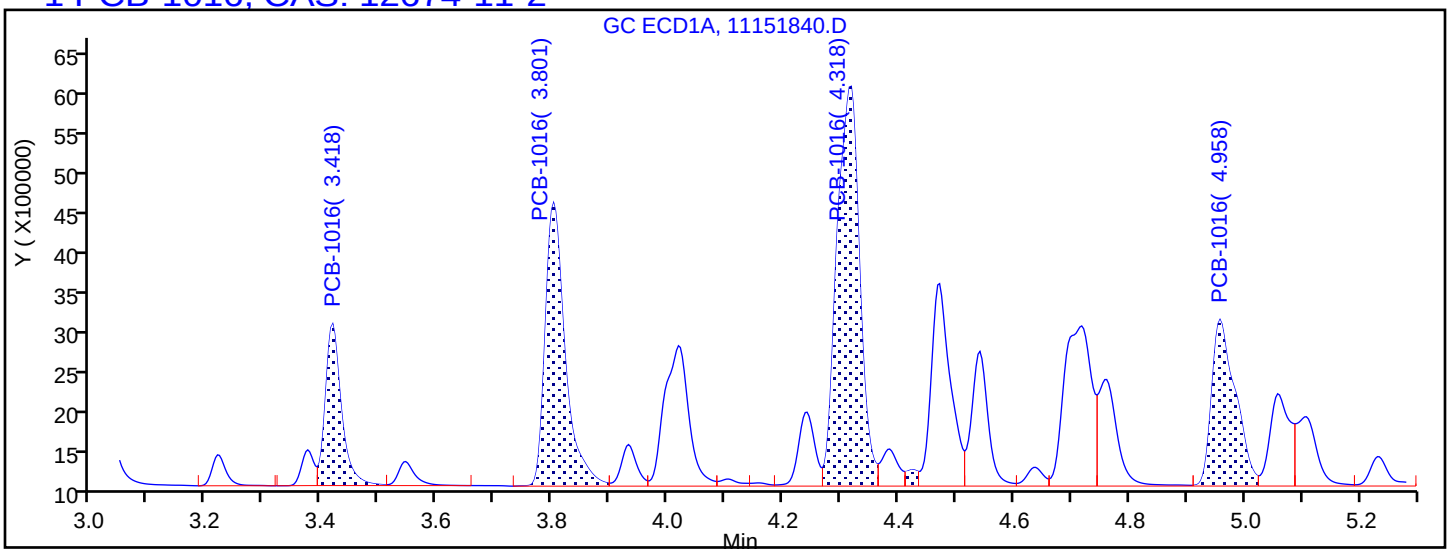
Operator ID: ALS ALS Bottle#: 40 Worklist Smp#: 40

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

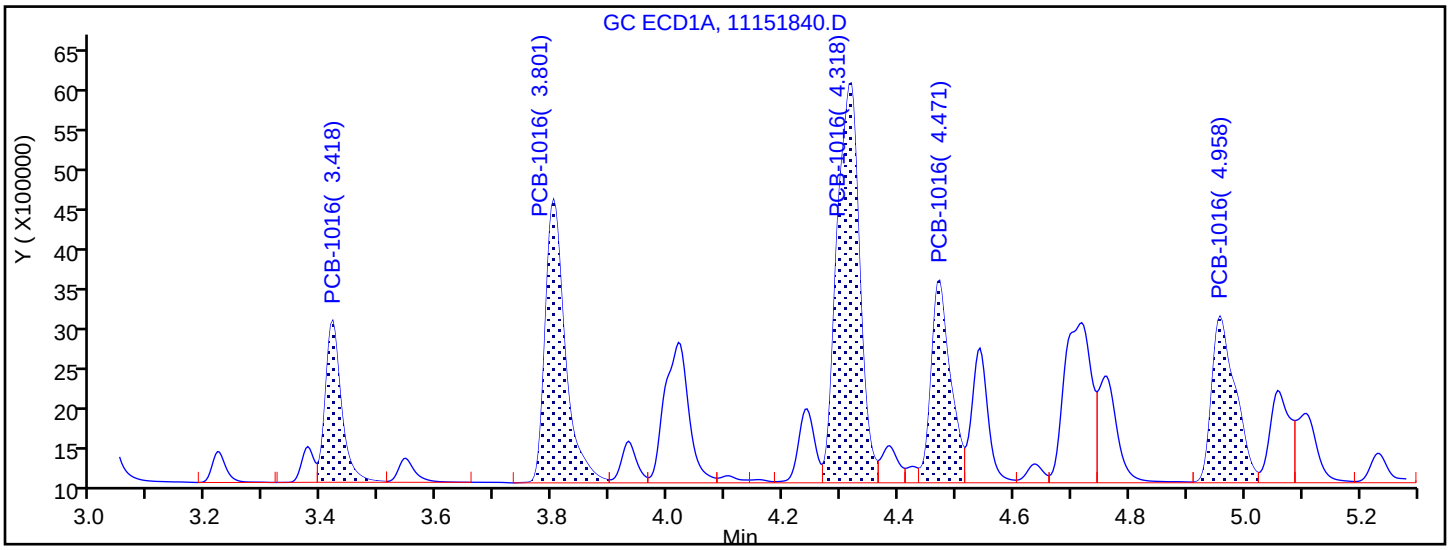
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

1 PCB-1016, CAS: 12674-11-2



Processing Integration Results

3.418	Response = 3879358
3.801	Response = 8499252
4.318	Response = 13661496
4.425	Response = 270808
4.958	Response = 5924609



Manual Integration Results

3.418	Response = 3879358	
3.801	Response = 8499252	
4.318	Response = 13661496	
4.471	Response = 5887975	M
4.958	Response = 5924609	

Reviewer: patadiab, 19-Nov-2018 10:52:40

Audit Action: Assigned Compound ID Audit Reason:

Report Date: 19-Nov-2018 11:13:17 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151840.D

Injection Date: 16-Nov-2018 01:21:24 Instrument ID: SGC_J

Lims ID: CCV

Client ID:

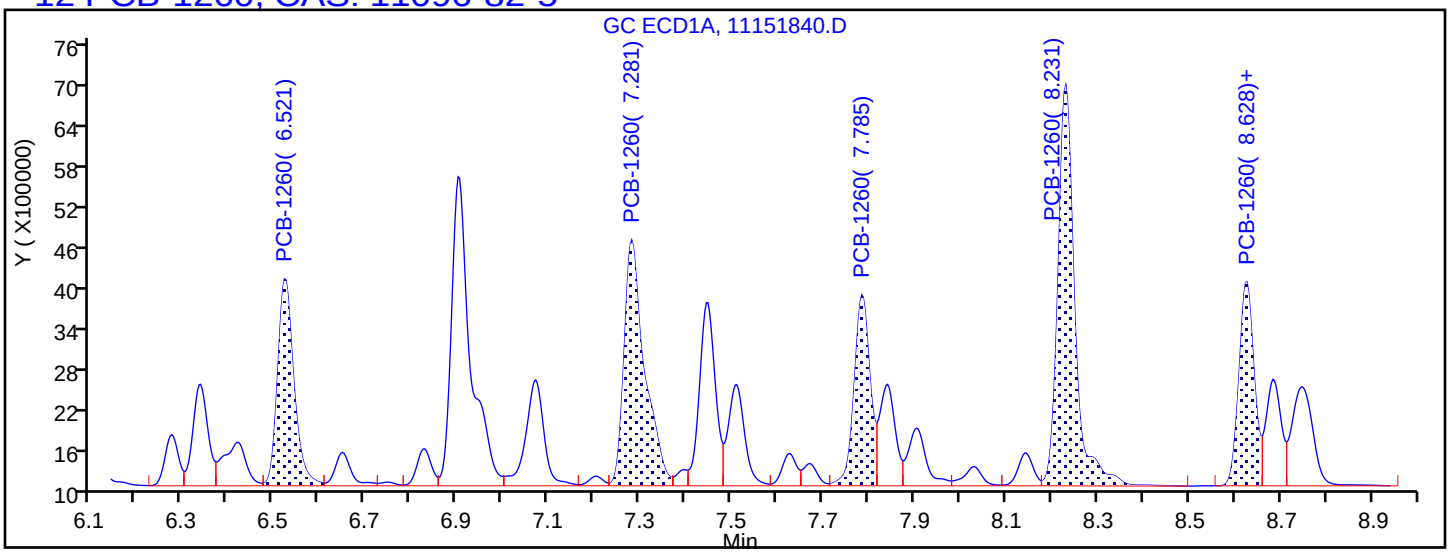
Operator ID: ALS ALS Bottle#: 40 Worklist Smp#: 40

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

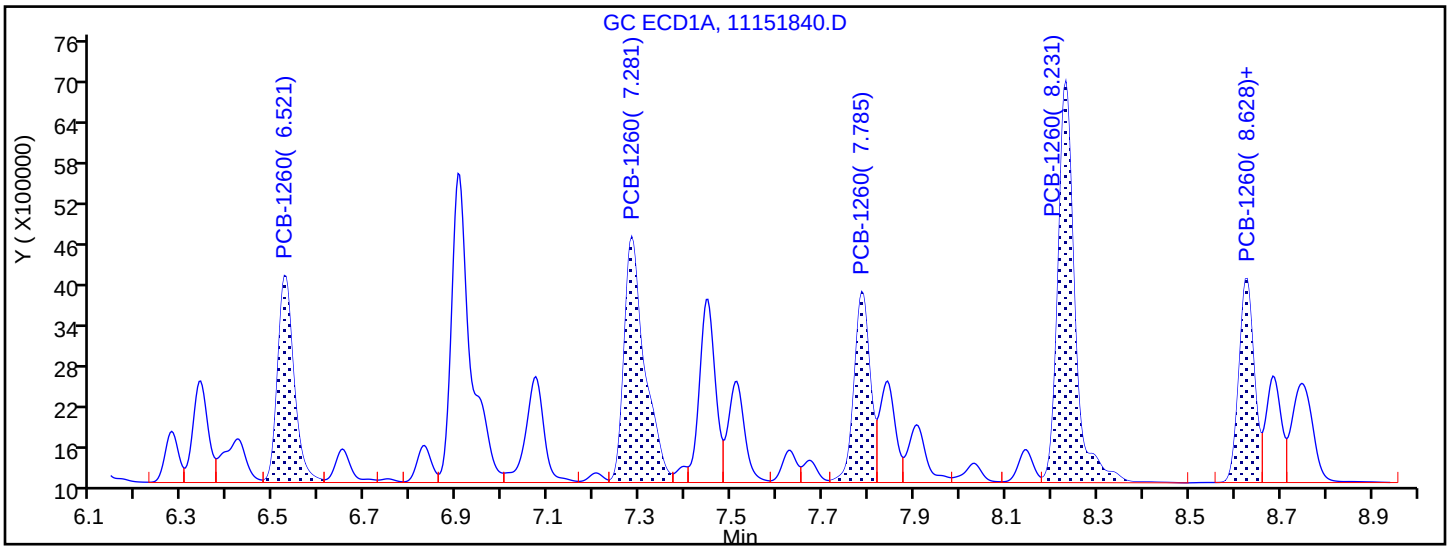
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

12 PCB-1260, CAS: 11096-82-5



Processing Integration Results

6.521	Response = 7610742
7.281	Response = 11321403
7.785	Response = 6907702
8.231	Response = 15251421
8.628	Response = 7020109



Manual Integration Results

6.521	Response = 7610742	
7.281	Response = 11321403	
7.785	Response = 6907702	
8.231	Response = 15251421	
8.628	Response = 7020109	M

Reviewer: patadiab, 19-Nov-2018 10:53:51

Audit Action: Assigned Compound ID Audit Reason: Baseline Smoothing

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-437748/40 Calibration Date: 11/16/2018 01:21

Instrument ID: SGC_J Calib Start Date: 11/14/2018 18:04

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/14/2018 20:11

Lab File ID: 11151840.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.2052		529	500	5.8	20.0
PCB-1016 Peak 2	Lin1		0.4013		521	500	4.2	20.0
PCB-1016 Peak 3	Lin1		0.8408		520	500	4.0	20.0
PCB-1016 Peak 4	Lin1		0.3386		517	500	3.4	20.0
PCB-1016 Peak 5	Lin1		0.1857		517	500	3.5	20.0
PCB-1260 Peak 1	Lin1		0.5296		506	500	1.3	20.0
PCB-1260 Peak 2	Lin1		0.7860		506	500	1.2	20.0
PCB-1260 Peak 3	Lin1		0.4723		505	500	0.9	20.0
PCB-1260 Peak 4	Lin1		1.065		507	500	1.4	20.0
PCB-1260 Peak 5	Lin1		0.7877		497	500	-0.6	20.0
Tetrachloro-m-xylene	Lin1		12.08		25.9	25.0	3.7	20.0
DCB Decachlorobiphenyl	Lin1		10.70		25.6	25.0	2.3	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-437748/40 Calibration Date: 11/16/2018 01:21

Instrument ID: SGC_J Calib Start Date: 11/14/2018 18:04

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/14/2018 20:11

Lab File ID: 11151840.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.42	3.16	3.66
PCB-1016 Peak 2	3.84	3.57	4.07
PCB-1016 Peak 3	4.32	4.05	4.55
PCB-1016 Peak 4	4.47	4.20	4.70
PCB-1016 Peak 5	4.72	4.44	4.94
PCB-1260 Peak 1	6.93	6.65	7.15
PCB-1260 Peak 2	7.41	7.13	7.63
PCB-1260 Peak 3	7.95	7.66	8.16
PCB-1260 Peak 4	8.31	8.03	8.53
PCB-1260 Peak 5	8.82	8.54	9.04
Tetrachloro-m-xylene	2.90	2.64	3.14
DCB Decachlorobiphenyl	10.51	10.22	10.72

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151840.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 16-Nov-2018 01:21:24 ALS Bottle#: 40 Worklist Smp#: 40
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0076236-040
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 19-Nov-2018 11:13:15 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0332

First Level Reviewer: patadiab Date: 19-Nov-2018 10:54:33

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.065	2.053	0.012	20029391	1000.0	1000.0	
2	1.832	1.823	0.009	116381949	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	3.008	2.993	0.015	10888263	25.0	23.0	
2	2.902	2.890	0.012	35141606	25.0	25.9	
						RPD = 11.87	
1 PCB-1016							a
1	3.418	3.399	0.019	3879358	500.0	504.3	
1	3.801	3.779	0.022	8499252	500.0	492.4	
1	4.318	4.293	0.025	13661496	500.0	482.7	
1	4.471	4.446	0.025	5887975	500.0	491.2	a
1	4.958	4.933	0.025	5924609	500.0	482.0	
		Average of Peak Amounts =				490.5	
2	3.422	3.406	0.016	11941192	500.0	529.1	
2	3.838	3.820	0.018	23352814	500.0	521.1	
2	4.322	4.300	0.022	48926793	500.0	519.8	
2	4.472	4.450	0.022	19701034	500.0	516.9	
2	4.715	4.690	0.025	10807562	500.0	517.3	
		Average of Peak Amounts =				520.8	
						RPD = 5.99	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							Ma
1	6.521	6.493	0.028	7610742	500.0	490.6	
1	7.281	7.249	0.032	11321403	500.0	489.9	
1	7.785	7.753	0.032	6907702	500.0	486.5	
1	8.231	8.196	0.035	15251421	500.0	496.4	
1	8.628	8.593	0.035	7020109	500.0	473.6	a
		Average of Peak Amounts =				487.4	
2	6.928	6.900	0.028	30818173	500.0	506.3	
2	7.408	7.376	0.032	45734958	500.0	505.8	
2	7.945	7.913	0.032	27480582	500.0	504.7	a
2	8.312	8.280	0.032	61992245	500.0	506.9	
2	8.822	8.793	0.029	45838647	500.0	497.0	M
		Average of Peak Amounts =				504.1	
						RPD = 3.38	
$ 15 DCB Decachlorobiphenyl							
1	10.228	10.193	0.035	6946892	25.0	24.0	
2	10.505	10.473	0.032	31118075	25.0	25.6	
						RPD = 6.37	
S 8 Polychlorinated biphenyls, Total							
1						978.0	
2						1025.0	
						RPD = 4.70	
19 1260 Res 1							a
1	8.628	8.593	0.035	7020109	NR	NR	a
16 1260 Res 2							a
1	8.685	8.653	0.032	3635066	NR	NR	a
18 1260 Res 3							a
1	8.748	8.713	0.035	4706974	NR	NR	a

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

AR_1660_L5_00066	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

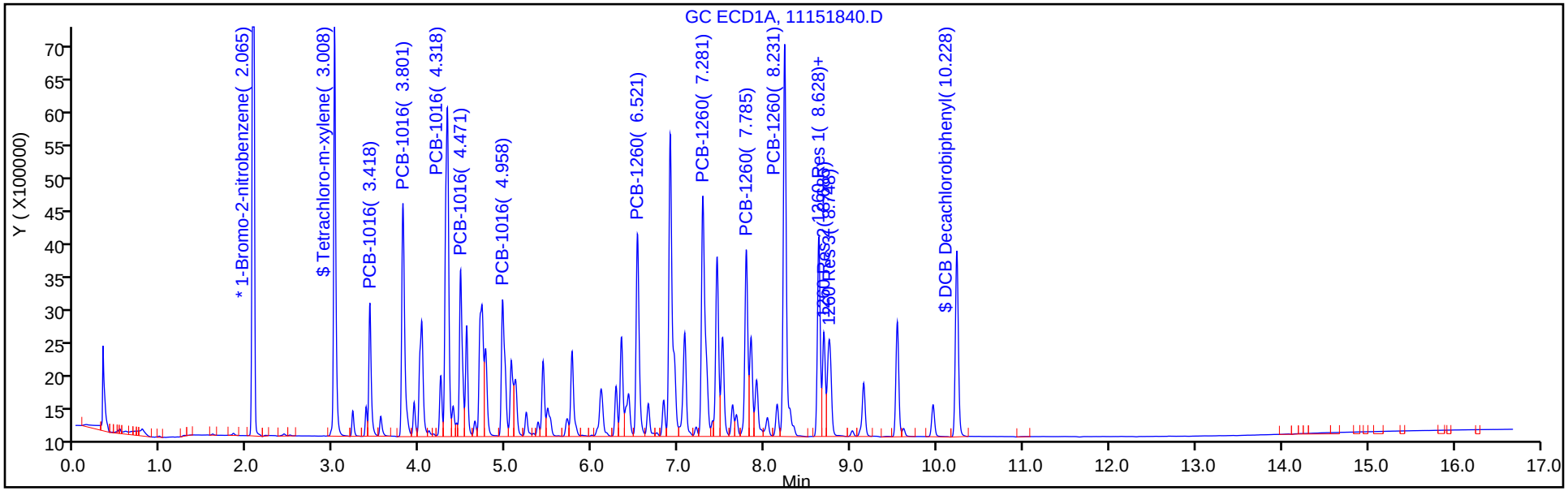
Report Date: 19-Nov-2018 11:13:17 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

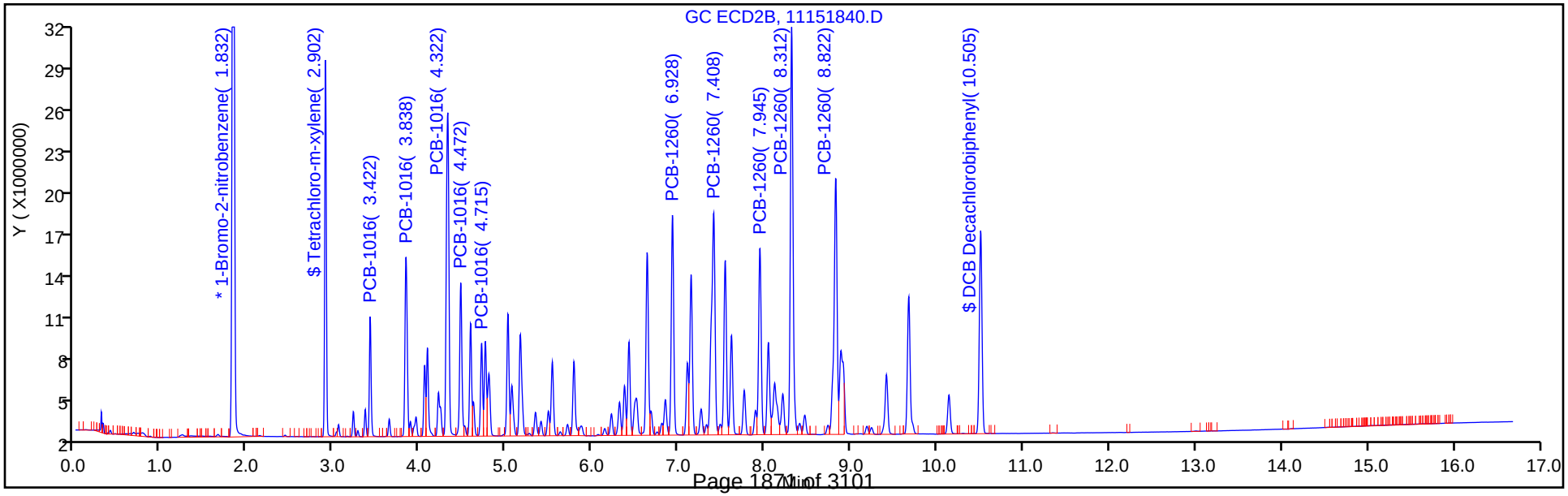
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151840.D

Injection Date:	16-Nov-2018 01:21:24	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	CCV			Worklist Smp#:	40
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	40
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 19-Nov-2018 11:13:17 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151840.D

Injection Date: 16-Nov-2018 01:21:24 Instrument ID: SGC_J

Lims ID: CCV

Client ID:

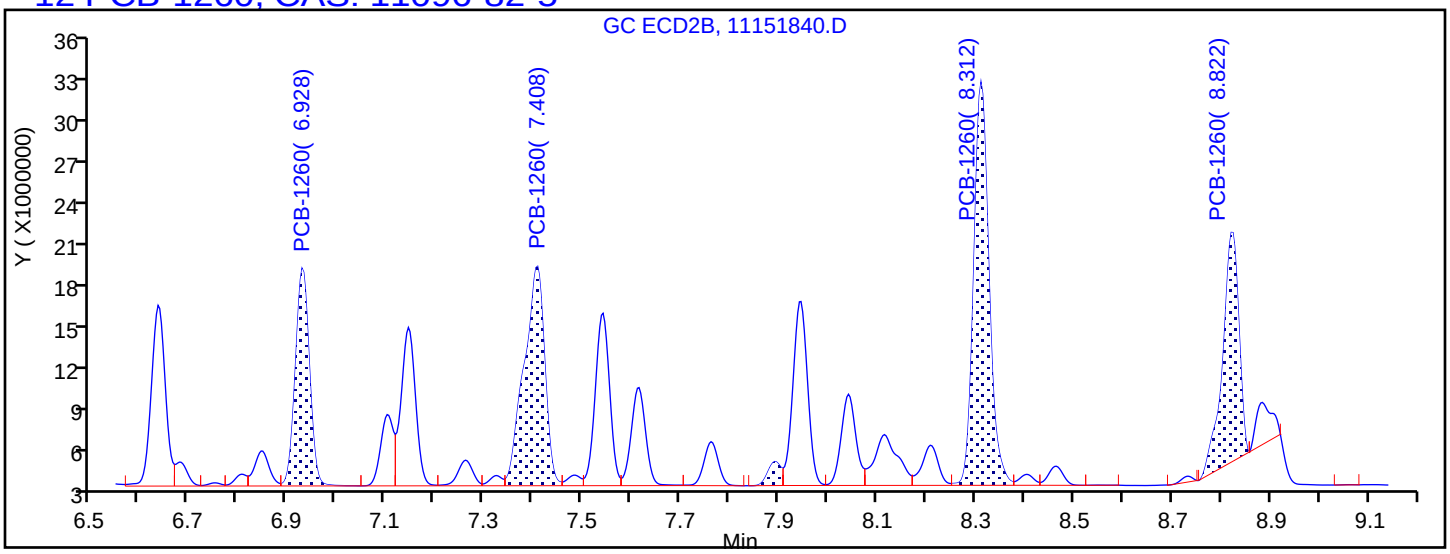
Operator ID: ALS ALS Bottle#: 40 Worklist Smp#: 40

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

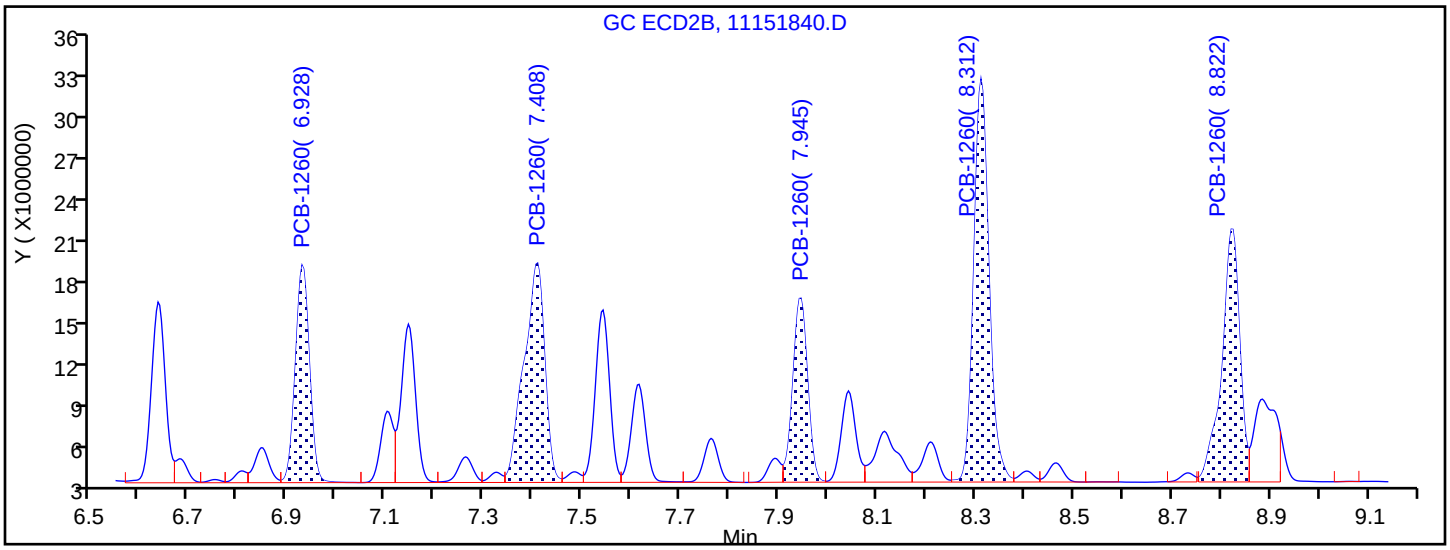
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

12 PCB-1260, CAS: 11096-82-5



Processing Integration Results

6.928	Response = 30818173
7.408	Response = 45734958
7.892	Response = 3182461
8.312	Response = 61992245
8.822	Response = 37460506



Manual Integration Results

6.928	Response = 30818173	
7.408	Response = 45734958	
7.945	Response = 27480582	M
8.312	Response = 61992245	
8.822	Response = 45838647	M

Reviewer: patadiab, 19-Nov-2018 10:54:10

Audit Action: Assigned Compound ID Audit Reason: Baseline Smoothing

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-437748/52 Calibration Date: 11/16/2018 05:35

Instrument ID: SGC_J Calib Start Date: 11/14/2018 18:04

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/14/2018 20:11

Lab File ID: 11151852.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.3703		481	500	-3.8	20.0
PCB-1016 Peak 2	Lin1		0.7988		463	500	-7.4	20.0
PCB-1016 Peak 3	Lin1		1.279		452	500	-9.5	20.0
PCB-1016 Peak 4	Lin1		0.5509		460	500	-8.0	20.0
PCB-1016 Peak 5	Lin1		0.5548		452	500	-9.7	20.0
PCB-1260 Peak 1	Lin1		0.7252		468	500	-6.5	20.0
PCB-1260 Peak 2	Lin1		1.074		465	500	-7.0	20.0
PCB-1260 Peak 3	Lin1		0.6596		465	500	-7.0	20.0
PCB-1260 Peak 4	Lin1		1.453		474	500	-5.3	20.0
PCB-1260 Peak 5	Lin1		0.6552		442	500	-11.5	20.0
Tetrachloro-m-xylene	Lin1		20.47		21.7	25.0	-13.3	20.0
DCB Decachlorobiphenyl	Lin1		13.17		22.8	25.0	-9.0	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-437748/52 Calibration Date: 11/16/2018 05:35

Instrument ID: SGC_J Calib Start Date: 11/14/2018 18:04

GC Column: CLP1 ID: 0.32(mm) Calib End Date: 11/14/2018 20:11

Lab File ID: 11151852.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.42	3.15	3.65
PCB-1016 Peak 2	3.80	3.53	4.03
PCB-1016 Peak 3	4.32	4.04	4.54
PCB-1016 Peak 4	4.47	4.20	4.70
PCB-1016 Peak 5	4.96	4.68	5.18
PCB-1260 Peak 1	6.52	6.24	6.74
PCB-1260 Peak 2	7.28	7.00	7.50
PCB-1260 Peak 3	7.79	7.50	8.00
PCB-1260 Peak 4	8.23	7.95	8.45
PCB-1260 Peak 5	8.63	8.34	8.84
Tetrachloro-m-xylene	3.01	2.74	3.24
DCB Decachlorobiphenyl	10.23	9.94	10.44

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151852.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 16-Nov-2018 05:35:17 ALS Bottle#: 52 Worklist Smp#: 52
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0076236-052
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 19-Nov-2018 11:13:54 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0332

First Level Reviewer: patadiab Date: 19-Nov-2018 11:11:49

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.063	2.053	0.010	21998245	1000.0	1000.0	
2	1.834	1.823	0.011	122481313	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	3.010	2.993	0.017	11258476	25.0	21.7	
2	2.904	2.890	0.014	35628349	25.0	25.0	
						RPD = 14.04	
1 PCB-1016							a
1	3.417	3.399	0.018	4073186	500.0	481.2	
1	3.800	3.779	0.021	8786023	500.0	462.8	
1	4.317	4.293	0.024	14064154	500.0	452.4	
1	4.470	4.446	0.024	6059759	500.0	460.0	a
1	4.960	4.933	0.027	6102284	500.0	451.7	
		Average of Peak Amounts =				461.6	
2	3.420	3.406	0.014	11999590	500.0	504.6	
2	3.837	3.820	0.017	23442027	500.0	496.4	
2	4.320	4.300	0.020	48753240	500.0	491.6	
2	4.470	4.450	0.020	19726318	500.0	491.1	
2	4.714	4.690	0.024	10949976	500.0	497.6	
		Average of Peak Amounts =				496.3	
						RPD = 7.24	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							a
1	6.523	6.493	0.030	7975961	500.0	467.7	
1	7.283	7.249	0.034	11812126	500.0	465.2	
1	7.787	7.753	0.034	7254422	500.0	464.9	
1	8.233	8.196	0.037	15983381	500.0	473.6	
1	8.627	8.593	0.034	7206595	500.0	442.5	a
		Average of Peak Amounts =				462.8	
2	6.930	6.900	0.030	31194136	500.0	486.6	
2	7.407	7.376	0.031	46239526	500.0	485.6	
2	7.944	7.913	0.031	27896066	500.0	486.5	a
2	8.314	8.280	0.034	62706988	500.0	486.8	
2	8.824	8.793	0.031	45877066	500.0	472.2	
		Average of Peak Amounts =				483.5	
						RPD = 4.38	
$ 15 DCB Decachlorobiphenyl							
1	10.230	10.193	0.037	7245490	25.0	22.8	
2	10.507	10.473	0.034	31462728	25.0	24.5	
						RPD = 7.55	
S 8 Polychlorinated biphenyls, Total							
1						924.4	
2						979.8	
						RPD = 5.82	
19 1260 Res 1							a
1	8.627	8.593	0.034	7206595	NR	NR	a
16 1260 Res 2							a
1	8.687	8.653	0.034	3936037	NR	NR	a
18 1260 Res 3							a
1	8.750	8.713	0.037	4849589	NR	NR	a

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Review Flags

a - User Assigned ID

Reagents:

AR_1660_L5_00066	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

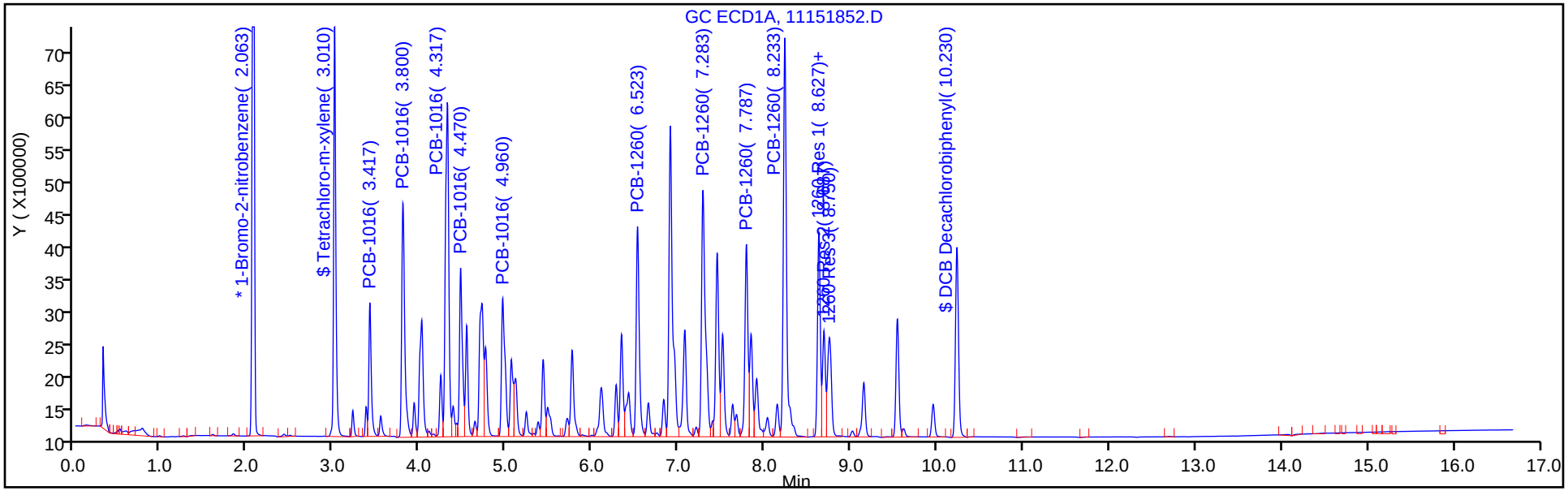
Report Date: 19-Nov-2018 11:13:55 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

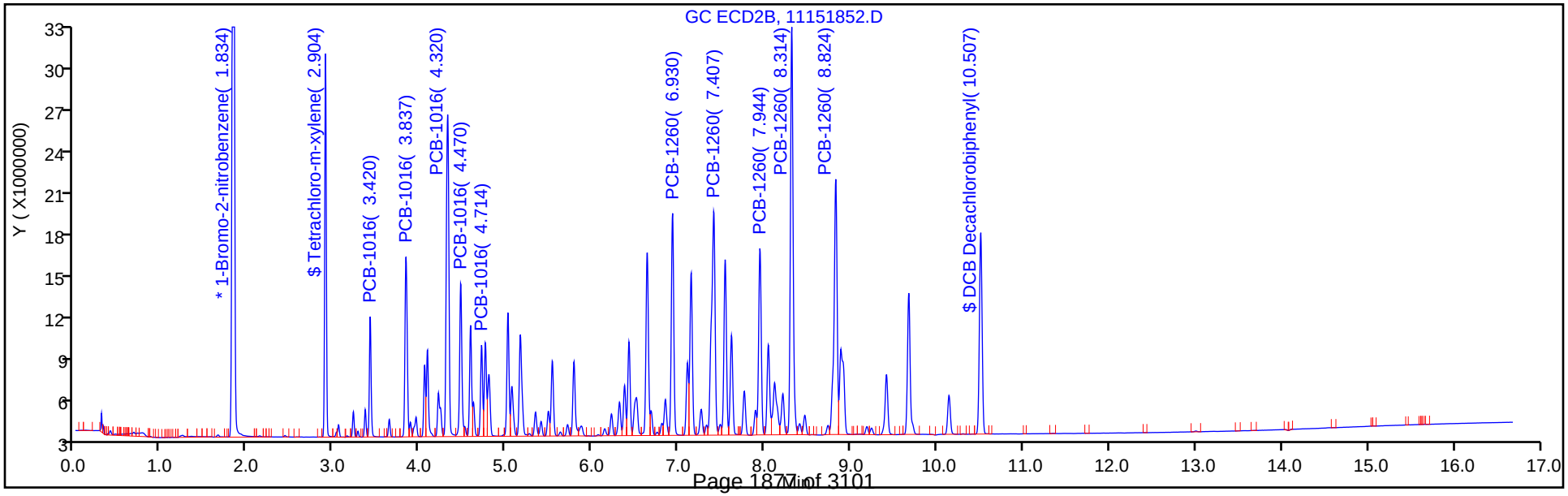
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151852.D

Injection Date:	16-Nov-2018 05:35:17	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	CCV			Worklist Smp#:	52
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	52
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 19-Nov-2018 11:13:55 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151852.D

Injection Date: 16-Nov-2018 05:35:17 Instrument ID: SGC_J

Lims ID: CCV

Client ID:

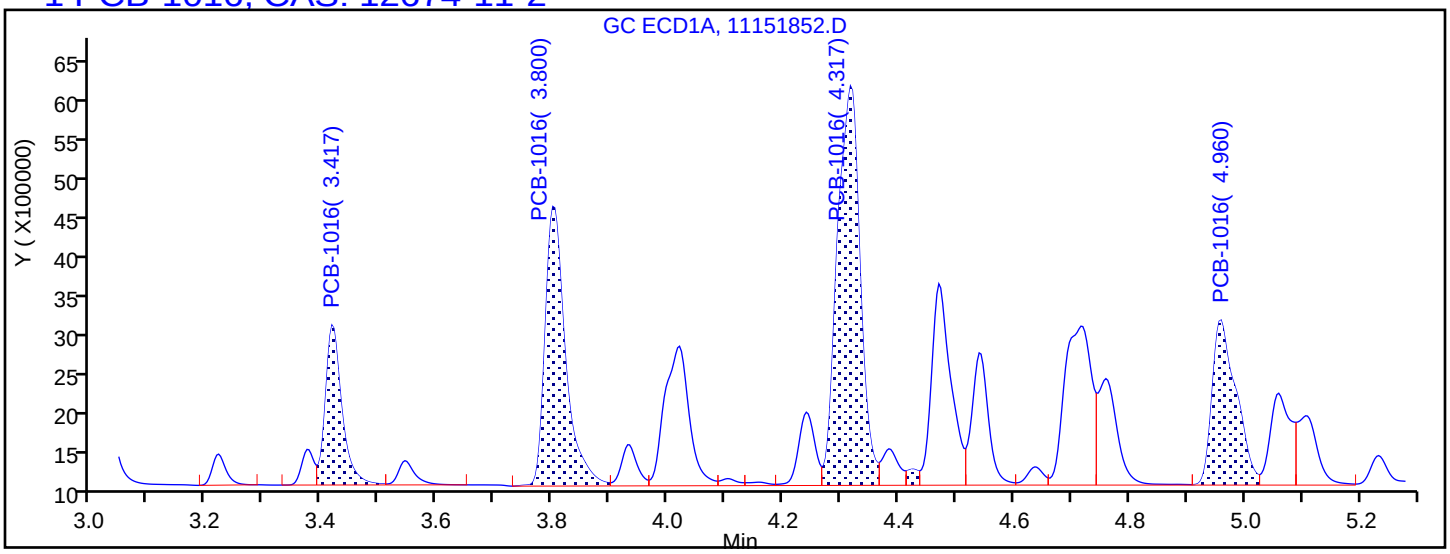
Operator ID: ALS ALS Bottle#: 52 Worklist Smp#: 52

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

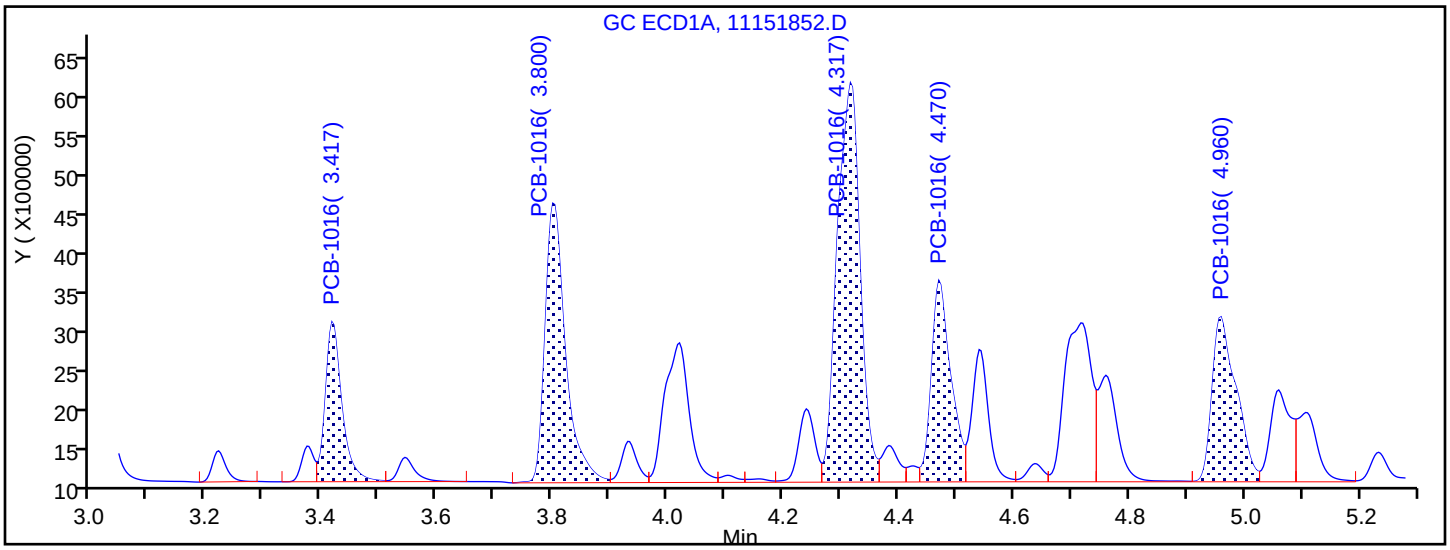
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

1 PCB-1016, CAS: 12674-11-2



Processing Integration Results

3.417	Response = 4073186
3.800	Response = 8786023
4.317	Response = 14064154
4.423	Response = 273066
4.960	Response = 6102284



Manual Integration Results

3.417	Response = 4073186	
3.800	Response = 8786023	
4.317	Response = 14064154	
4.470	Response = 6059759	M
4.960	Response = 6102284	

Reviewer: patadiab, 19-Nov-2018 11:10:30

Audit Action: Assigned Compound ID Audit Reason:

Report Date: 19-Nov-2018 11:13:55 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151852.D

Injection Date: 16-Nov-2018 05:35:17 Instrument ID: SGC_J

Lims ID: CCV

Client ID:

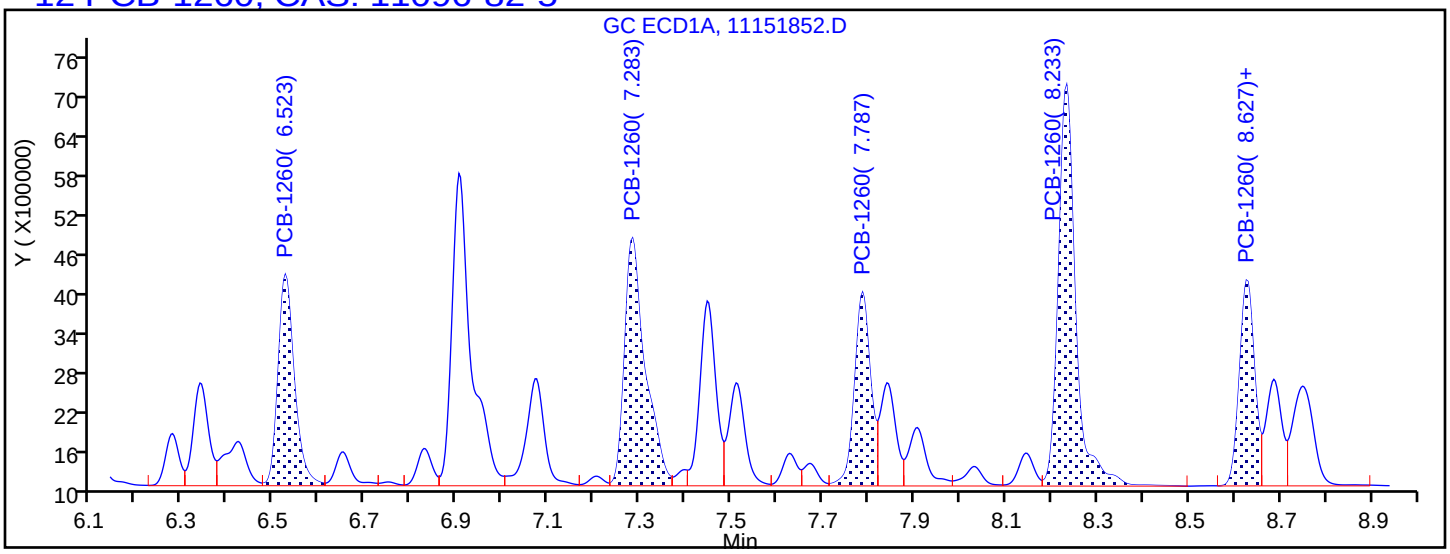
Operator ID: ALS ALS Bottle#: 52 Worklist Smp#: 52

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

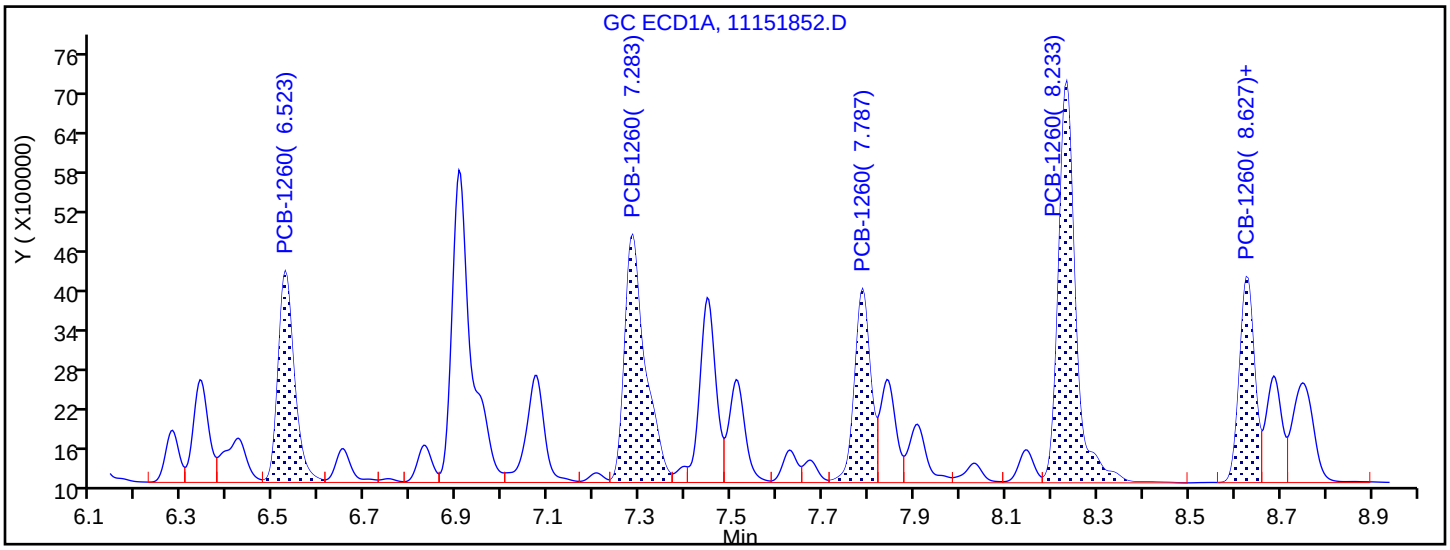
Column: CLP1 Pesticides Column 1 (0.32 mm) Detector GC ECD1A

12 PCB-1260, CAS: 11096-82-5



Processing Integration Results

6.523	Response = 7975961
7.283	Response = 11812126
7.787	Response = 7254422
8.233	Response = 15983381
8.627	Response = 7206595



Manual Integration Results

6.523	Response = 7975961	
7.283	Response = 11812126	
7.787	Response = 7254422	
8.233	Response = 15983381	
8.627	Response = 7206595	M

Reviewer: patadiab, 19-Nov-2018 11:11:30

Audit Action: Assigned Compound ID Audit Reason:

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-437748/52 Calibration Date: 11/16/2018 05:35

Instrument ID: SGC_J Calib Start Date: 11/14/2018 18:04

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/14/2018 20:11

Lab File ID: 11151852.D Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Lin1		0.1959		505	500	0.9	20.0
PCB-1016 Peak 2	Lin1		0.3828		496	500	-0.7	20.0
PCB-1016 Peak 3	Lin1		0.7961		492	500	-1.7	20.0
PCB-1016 Peak 4	Lin1		0.3221		491	500	-1.8	20.0
PCB-1016 Peak 5	Lin1		0.1788		498	500	-0.5	20.0
PCB-1260 Peak 1	Lin1		0.5094		487	500	-2.7	20.0
PCB-1260 Peak 2	Lin1		0.7551		486	500	-2.9	20.0
PCB-1260 Peak 3	Lin1		0.4555		486	500	-2.7	20.0
PCB-1260 Peak 4	Lin1		1.024		487	500	-2.6	20.0
PCB-1260 Peak 5	Lin1		0.7491		472	500	-5.6	20.0
Tetrachloro-m-xylene	Lin1		11.64		25.0	25.0	-0.2	20.0
DCB Decachlorobiphenyl	Lin1		10.28		24.5	25.0	-1.8	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-437748/52 Calibration Date: 11/16/2018 05:35

Instrument ID: SGC_J Calib Start Date: 11/14/2018 18:04

GC Column: CLP2 ID: 0.32(mm) Calib End Date: 11/14/2018 20:11

Lab File ID: 11151852.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.42	3.16	3.66
PCB-1016 Peak 2	3.84	3.57	4.07
PCB-1016 Peak 3	4.32	4.05	4.55
PCB-1016 Peak 4	4.47	4.20	4.70
PCB-1016 Peak 5	4.71	4.44	4.94
PCB-1260 Peak 1	6.93	6.65	7.15
PCB-1260 Peak 2	7.41	7.13	7.63
PCB-1260 Peak 3	7.94	7.66	8.16
PCB-1260 Peak 4	8.31	8.03	8.53
PCB-1260 Peak 5	8.82	8.54	9.04
Tetrachloro-m-xylene	2.90	2.64	3.14
DCB Decachlorobiphenyl	10.51	10.22	10.72

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151852.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 16-Nov-2018 05:35:17 ALS Bottle#: 52 Worklist Smp#: 52
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0076236-052
Operator ID: ALS Instrument ID: SGC_J
Sublist: chrom-8082_J*sub1

Method: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 19-Nov-2018 11:13:54 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0332

First Level Reviewer: patadiab Date: 19-Nov-2018 11:11:49

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.063	2.053	0.010	21998245	1000.0	1000.0	
2	1.834	1.823	0.011	122481313	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	3.010	2.993	0.017	11258476	25.0	21.7	
2	2.904	2.890	0.014	35628349	25.0	25.0	
						RPD = 14.04	
1 PCB-1016							a
1	3.417	3.399	0.018	4073186	500.0	481.2	
1	3.800	3.779	0.021	8786023	500.0	462.8	
1	4.317	4.293	0.024	14064154	500.0	452.4	
1	4.470	4.446	0.024	6059759	500.0	460.0	a
1	4.960	4.933	0.027	6102284	500.0	451.7	
		Average of Peak Amounts =				461.6	
2	3.420	3.406	0.014	11999590	500.0	504.6	
2	3.837	3.820	0.017	23442027	500.0	496.4	
2	4.320	4.300	0.020	48753240	500.0	491.6	
2	4.470	4.450	0.020	19726318	500.0	491.1	
2	4.714	4.690	0.024	10949976	500.0	497.6	
		Average of Peak Amounts =				496.3	
						RPD = 7.24	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							a
1	6.523	6.493	0.030	7975961	500.0	467.7	
1	7.283	7.249	0.034	11812126	500.0	465.2	
1	7.787	7.753	0.034	7254422	500.0	464.9	
1	8.233	8.196	0.037	15983381	500.0	473.6	
1	8.627	8.593	0.034	7206595	500.0	442.5	a
		Average of Peak Amounts =				462.8	
2	6.930	6.900	0.030	31194136	500.0	486.6	
2	7.407	7.376	0.031	46239526	500.0	485.6	
2	7.944	7.913	0.031	27896066	500.0	486.5	a
2	8.314	8.280	0.034	62706988	500.0	486.8	
2	8.824	8.793	0.031	45877066	500.0	472.2	
		Average of Peak Amounts =				483.5	
						RPD = 4.38	
$ 15 DCB Decachlorobiphenyl							
1	10.230	10.193	0.037	7245490	25.0	22.8	
2	10.507	10.473	0.034	31462728	25.0	24.5	
						RPD = 7.55	
S 8 Polychlorinated biphenyls, Total							
1						924.4	
2						979.8	
						RPD = 5.82	
19 1260 Res 1							a
1	8.627	8.593	0.034	7206595	NR	NR	a
16 1260 Res 2							a
1	8.687	8.653	0.034	3936037	NR	NR	a
18 1260 Res 3							a
1	8.750	8.713	0.037	4849589	NR	NR	a

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Review Flags

a - User Assigned ID

Reagents:

AR_1660_L5_00066	Amount Added:	1.00	Units: mL	
BNB IS_00012	Amount Added:	1.00	Units: mL	Run Reagent

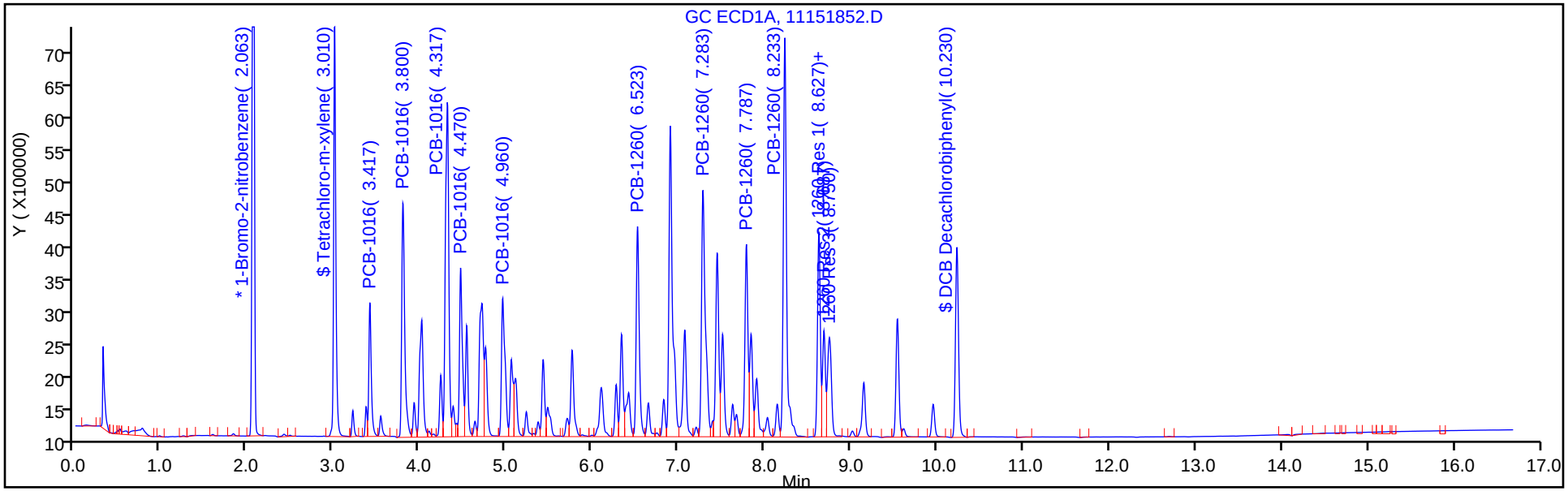
Report Date: 19-Nov-2018 11:13:55 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

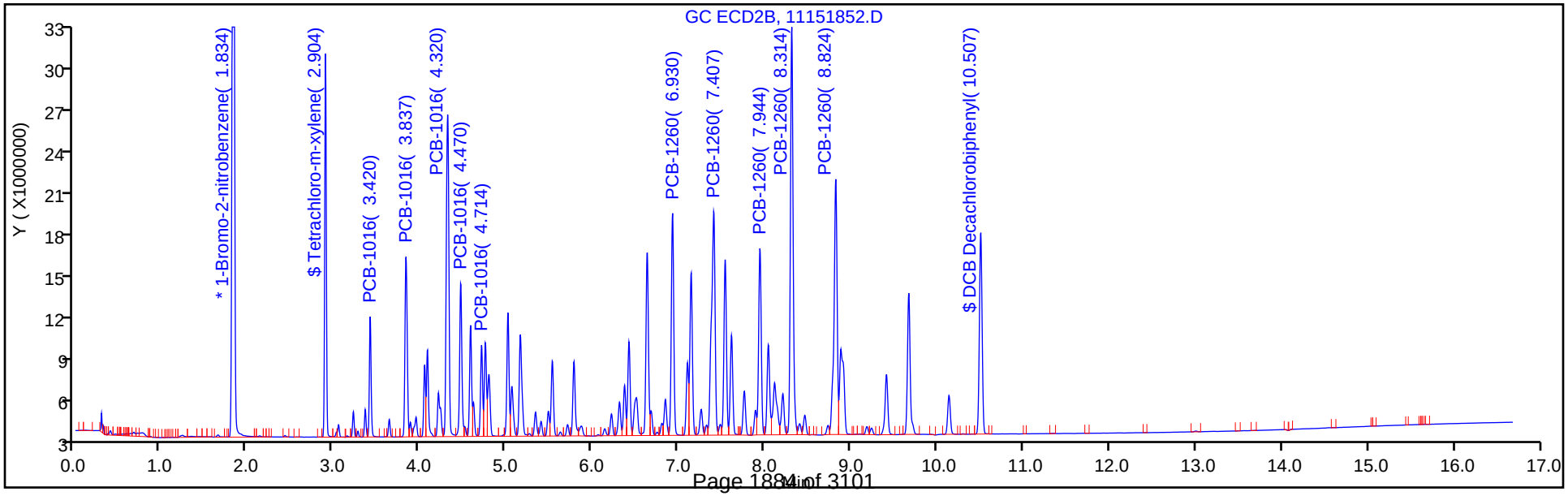
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151852.D

Injection Date:	16-Nov-2018 05:35:17	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	CCV			Worklist Smp#:	52
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	52
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 19-Nov-2018 11:13:56 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151852.D

Injection Date: 16-Nov-2018 05:35:17 Instrument ID: SGC_J

Lims ID: CCV

Client ID:

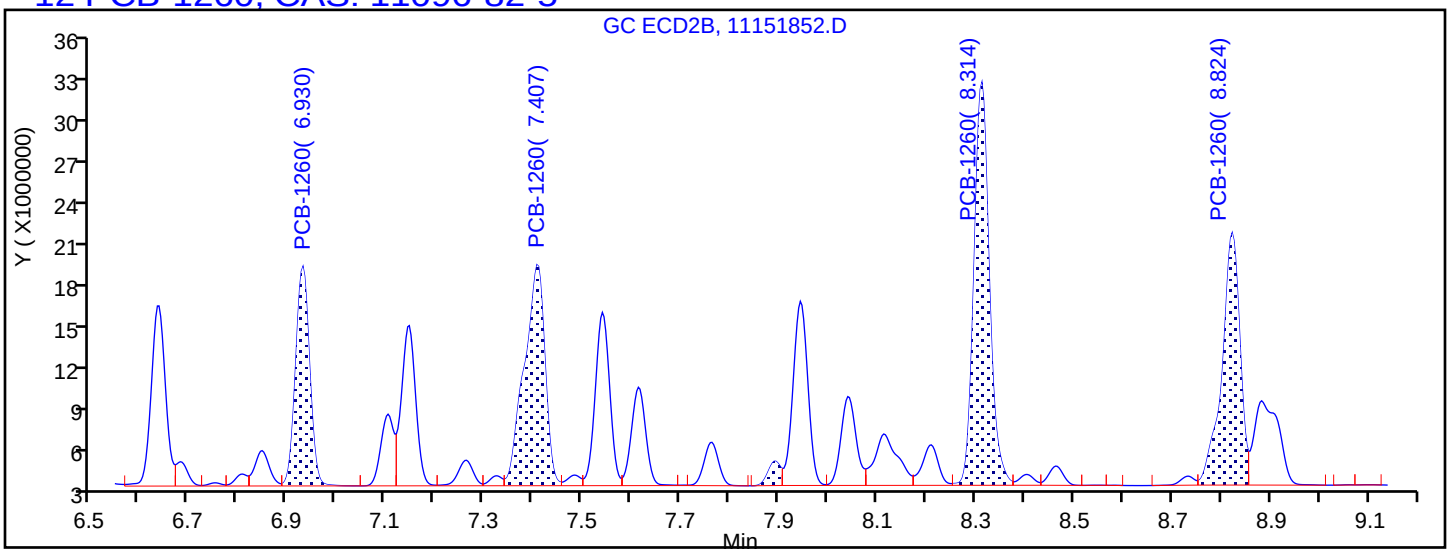
Operator ID: ALS ALS Bottle#: 52 Worklist Smp#: 52

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

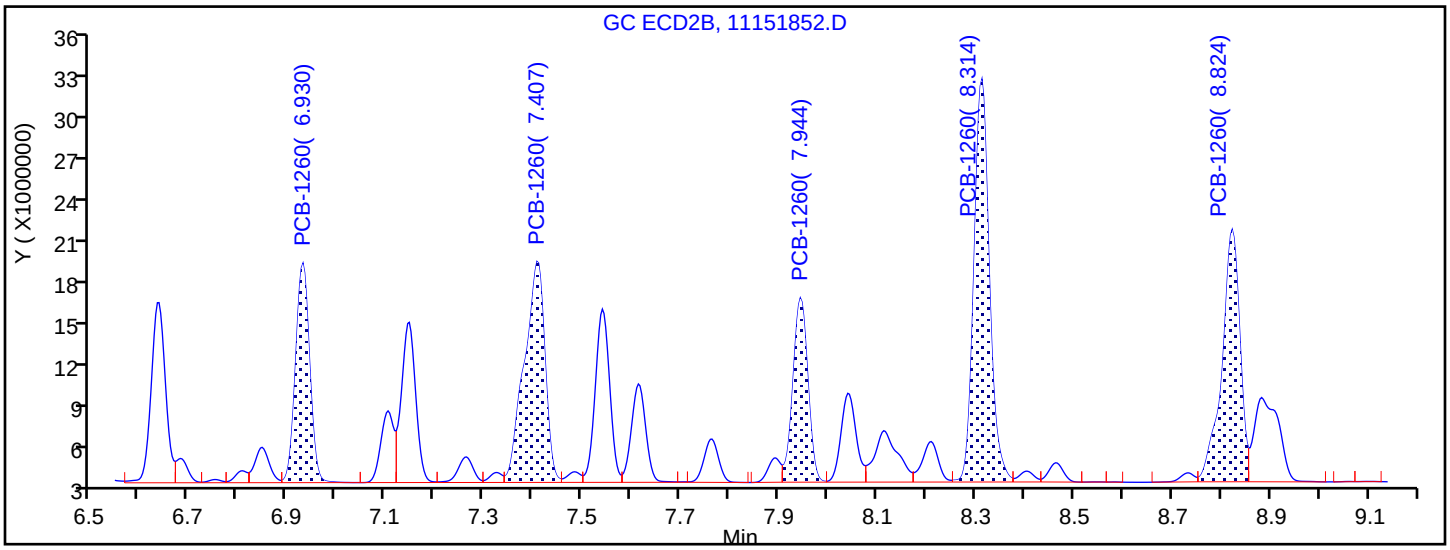
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

12 PCB-1260, CAS: 11096-82-5



Processing Integration Results

6.930	Response = 31194136
7.407	Response = 46239526
7.894	Response = 3087525
8.314	Response = 62706988
8.824	Response = 45877066



Manual Integration Results

6.930	Response = 31194136	
7.407	Response = 46239526	
7.944	Response = 27896066	M
8.314	Response = 62706988	
8.824	Response = 45877066	

Reviewer: patadiab, 19-Nov-2018 11:11:40

Audit Action: Assigned Compound ID Audit Reason:

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-434851/1-A

Matrix: Water | Lab File ID: 11151841.D

Analysis Method: 8082A | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/25/2018 09:01

Sample wt/vol: 1000(mL) | Date Analyzed: 11/16/2018 01:42

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 437748 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	0.40	U M	1.0	0.40	0.12
11104-28-2	PCB-1221	0.25	U M	1.0	0.25	0.21
11141-16-5	PCB-1232	0.60	U M	1.0	0.60	0.17
53469-21-9	PCB-1242	0.30	U M	1.0	0.30	0.10
12672-29-6	PCB-1248	0.30	U M	1.0	0.30	0.092
11097-69-1	PCB-1254	0.25	U	1.0	0.25	0.11
11096-82-5	PCB-1260	0.40	U	1.0	0.40	0.16

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	81		25-120
2051-24-3	DCB Decachlorobiphenyl	89		30-136

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151841.D
Lims ID: MB 280-434851/1-A
Client ID:
Sample Type: MB
Inject. Date: 16-Nov-2018 01:42:29 ALS Bottle#: 41 Worklist Smp#: 41
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-434851/1-
Misc. Info.: 280-0076236-041
Operator ID: ALS Instrument ID: SGC_J

Method: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 19-Nov-2018 11:13:15 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0332

First Level Reviewer: patadiab Date: 16-Nov-2018 09:05:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.066	2.053	0.013	19803874	1000.0	1000.0	
2	1.836	1.823	0.013	116221630	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	3.009	2.993	0.016	6257043	20.0	13.5	
2	2.906	2.890	0.016	22233813	20.0	16.2	
						RPD = 18.74	
7 PCB-1232							U
1		3.199				ND	
1		3.396					
1		4.289					
1		4.439					
1		4.926					
2		3.403					
2		3.816					
2		4.296					
2		4.446					
2		5.136					
3 PCB-1221							U
1		3.202				ND	
1		3.356					
1		3.396					
2		3.209					
2		3.346					
2		3.406					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
1	PCB-1016						U
1		3.399				ND	
1		3.779					
1		4.293					
1		4.446					
1		4.933					
2		3.406					
2		3.820					
2		4.300					
2		4.450					
2		4.690					
4	PCB-1248						U
1		3.767				ND	
1		4.277					
1		4.917					
1		5.717					
1		6.227					
2		4.287					
2		4.681					
2		4.984					
2		5.127					
2		6.331					
10	PCB-1242						U
1		3.770				ND	
1		4.280					
1		4.434					
1		5.440					
1		5.467					
2		3.807					
2		4.287					
2		4.437					
2		4.984					
2		5.127					
9	PCB-1254						
1		5.392				ND	
1		5.729					
1		6.076					
1		6.862					
1		7.239					
2		5.752					
2		6.186					
2		6.646					
2		6.892					
2		7.372					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
5 PCB-1262							
1		6.486				ND	
1		7.406					
1		7.746					
1		8.189					
1		8.583					
2		6.896					
2		7.503					
2		7.906					
2		8.276					
2		8.783					
12 PCB-1260							
1		6.493				ND	
1		7.249					
1		7.753					
1		8.196					
1		8.593					
2		6.900					
2		7.376					
2		7.913					
2		8.280					
2		8.793					
13 PCB-1268							U
1		8.634				ND	
1		8.687					
1		8.964					
1		9.484					
1		9.900					
2		8.770					
2		8.834					
2		9.187					
2		9.620					
2		10.087					
$ 15 DCB Decachlorobiphenyl							
1	10.229	10.193	0.036	4819628	20.0	16.7	
2	10.503	10.473	0.030	21835615	20.0	17.8	
						RPD = 6.46	
S 8 Polychlorinated biphenyls, Total							
1		0.000				ND	
2		0.000					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
2 PCB-5460							
1		0.000				ND	
1		12.739					
1		0.000					
1		13.802					
1		14.259					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
6 PCB-5432							
1		7.063				ND	
1		7.693					
1		8.203					
1		9.029					
1		9.459					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
11 PCB-5442							
1		9.459				ND	
1		9.923					
1		10.079					
1		10.289					
1		0.000					
2		0.000					
2		0.000					
2		0.000					
2		0.000					
2		0.000					

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

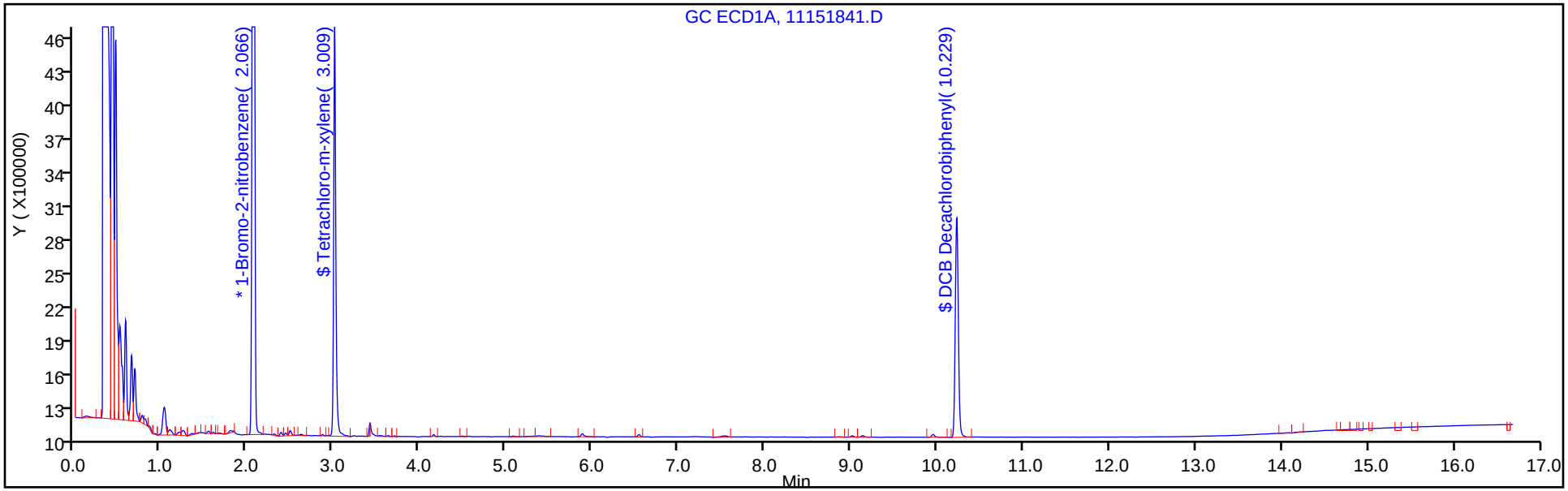
Report Date: 19-Nov-2018 11:13:22 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

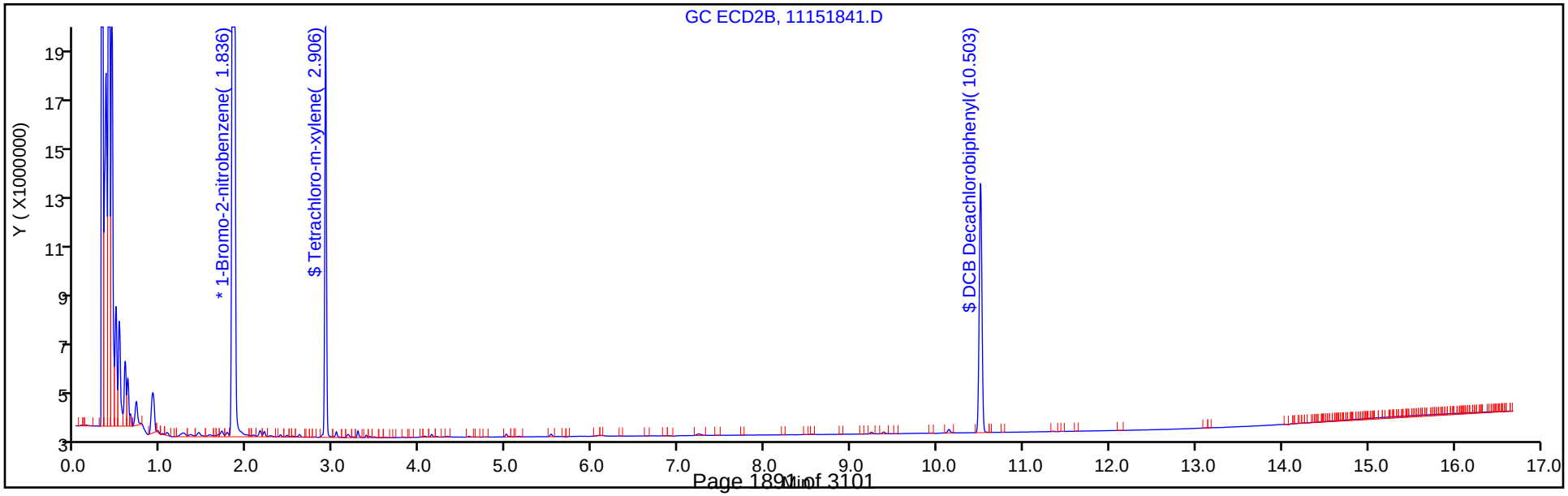
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151841.D

Injection Date:	16-Nov-2018 01:42:29	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	MB 280-434851/1-A			Worklist Smp#:	41
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	41
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151841.D				
Lims ID:	MB 280-434851/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	16-Nov-2018 01:42:29	ALS Bottle#:	41	Worklist Smp#:	41
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	MB 280-434851/1-				
Misc. Info.:	280-0076236-041				
Operator ID:	ALS	Instrument ID:	SGC_J		
Method:	\\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\8082_J.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	19-Nov-2018 11:13:15	Calib Date:	15-Nov-2018 01:07:13		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0332				
First Level Reviewer: patadiab		Date:	16-Nov-2018 09:05:51		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	13.5	67.33
$ 15 DCB Decachlorobiphenyl	20.0	16.7	83.35

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	16.2	81.25
$ 15 DCB Decachlorobiphenyl	20.0	17.8	88.91

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-434851/4-A

Matrix: Water | Lab File ID: 11151842.D

Analysis Method: 8082A | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/25/2018 09:01

Sample wt/vol: 1000(mL) | Date Analyzed: 11/16/2018 02:03

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 437748 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	1.94	M	1.0	0.40	0.12
11096-82-5	PCB-1260	1.98	M	1.0	0.40	0.16

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	83		25-120
2051-24-3	DCB Decachlorobiphenyl	90		30-136

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151842.D
Lims ID: LCS 280-434851/4-A
Client ID:
Sample Type: LCS
Inject. Date: 16-Nov-2018 02:03:39 ALS Bottle#: 42 Worklist Smp#: 42
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-434851/4
Misc. Info.: 280-0076236-042
Operator ID: ALS Instrument ID: SGC_J

Method: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 19-Nov-2018 11:13:15 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0332

First Level Reviewer: patadiab Date: 19-Nov-2018 10:57:09

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.066	2.053	0.013	19999699	1000.0	1000.0	
2	1.836	1.823	0.013	116901174	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	3.010	2.993	0.017	6583581	20.0	14.0	
2	2.903	2.890	0.013	22799501	20.0	16.6	
						RPD = 16.70	
1 PCB-1016							a
1	3.416	3.399	0.017	1633645	200.0	200.2	
1	3.800	3.779	0.021	3207541	200.0	178.4	
1	4.316	4.293	0.023	4778759	200.0	168.5	
1	4.470	4.446	0.024	2164218	200.0	177.3	a
1	4.956	4.933	0.023	2212053	200.0	177.0	
		Average of Peak Amounts =				180.3	
2	3.423	3.406	0.017	4761775	200.0	202.8	
2	3.836	3.820	0.016	8897751	200.0	189.2	
2	4.320	4.300	0.020	18487818	200.0	188.7	
2	4.473	4.450	0.023	7666459	200.0	191.7	
2	4.713	4.690	0.023	4336925	200.0	199.3	
		Average of Peak Amounts =				194.3	
						RPD = 7.50	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							a
1	6.523	6.493	0.030	3188516	200.0	201.0	
1	7.279	7.249	0.030	4949938	200.0	212.5	
1	7.783	7.753	0.030	2336126	200.0	161.0	
1	8.229	8.196	0.033	4893909	200.0	157.8	
1	8.626	8.593	0.033	2658971	200.0	177.9	
		Average of Peak Amounts =				182.0	
2	6.926	6.900	0.026	13766654	200.0	219.7	
2	7.406	7.376	0.030	21772883	200.0	234.8	
2	7.943	7.913	0.030	9969789	200.0	176.0	a
2	8.310	8.280	0.030	22617528	200.0	178.6	
2	8.823	8.793	0.030	17466394	200.0	182.8	
		Average of Peak Amounts =				198.4	
						RPD = 8.59	
$ 15 DCB Decachlorobiphenyl							
1	10.226	10.193	0.033	4941750	20.0	16.9	
2	10.503	10.473	0.030	22264862	20.0	18.0	
						RPD = 6.30	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

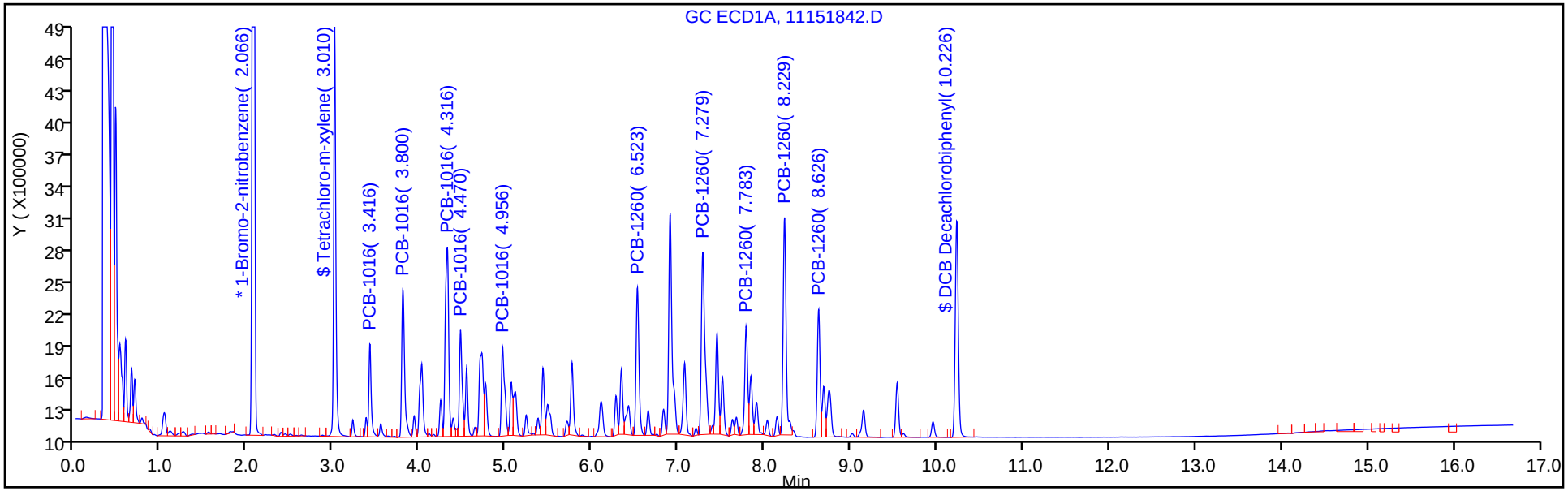
Report Date: 19-Nov-2018 11:13:25 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

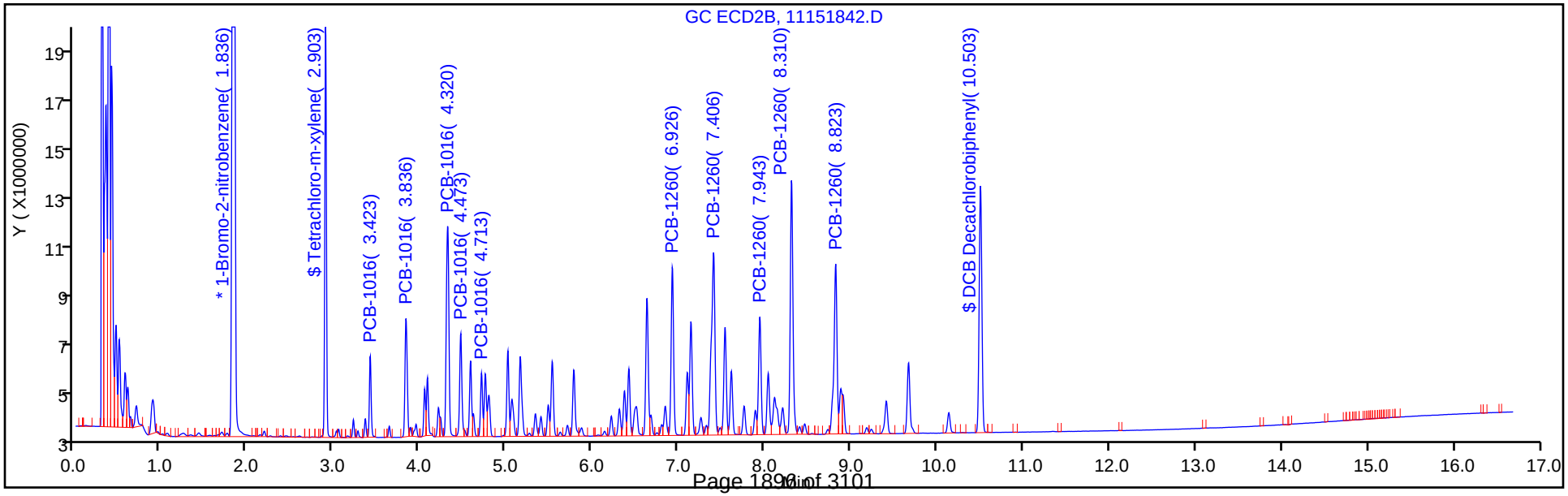
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151842.D

Injection Date:	16-Nov-2018 02:03:39	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	LCS 280-434851/4-A			Worklist Smp#:	42
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	42
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151842.D				
Lims ID:	LCS 280-434851/4-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	16-Nov-2018 02:03:39	ALS Bottle#:	42	Worklist Smp#:	42
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCS 280-434851/4				
Misc. Info.:	280-0076236-042				
Operator ID:	ALS	Instrument ID:	SGC_J		
Method:	\\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\8082_J.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	19-Nov-2018 11:13:15	Calib Date:	15-Nov-2018 01:07:13		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0332				
First Level Reviewer: patadiab		Date:	19-Nov-2018 10:57:09		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	14.0	70.10
$ 15 DCB Decachlorobiphenyl	20.0	16.9	84.66

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	16.6	82.88
$ 15 DCB Decachlorobiphenyl	20.0	18.0	90.17

Report Date: 19-Nov-2018 11:13:25 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151842.D

Injection Date: 16-Nov-2018 02:03:39 Instrument ID: SGC_J

Lims ID: LCS 280-434851/4-A

Client ID:

Operator ID: ALS ALS Bottle#: 42 Worklist Smp#: 42

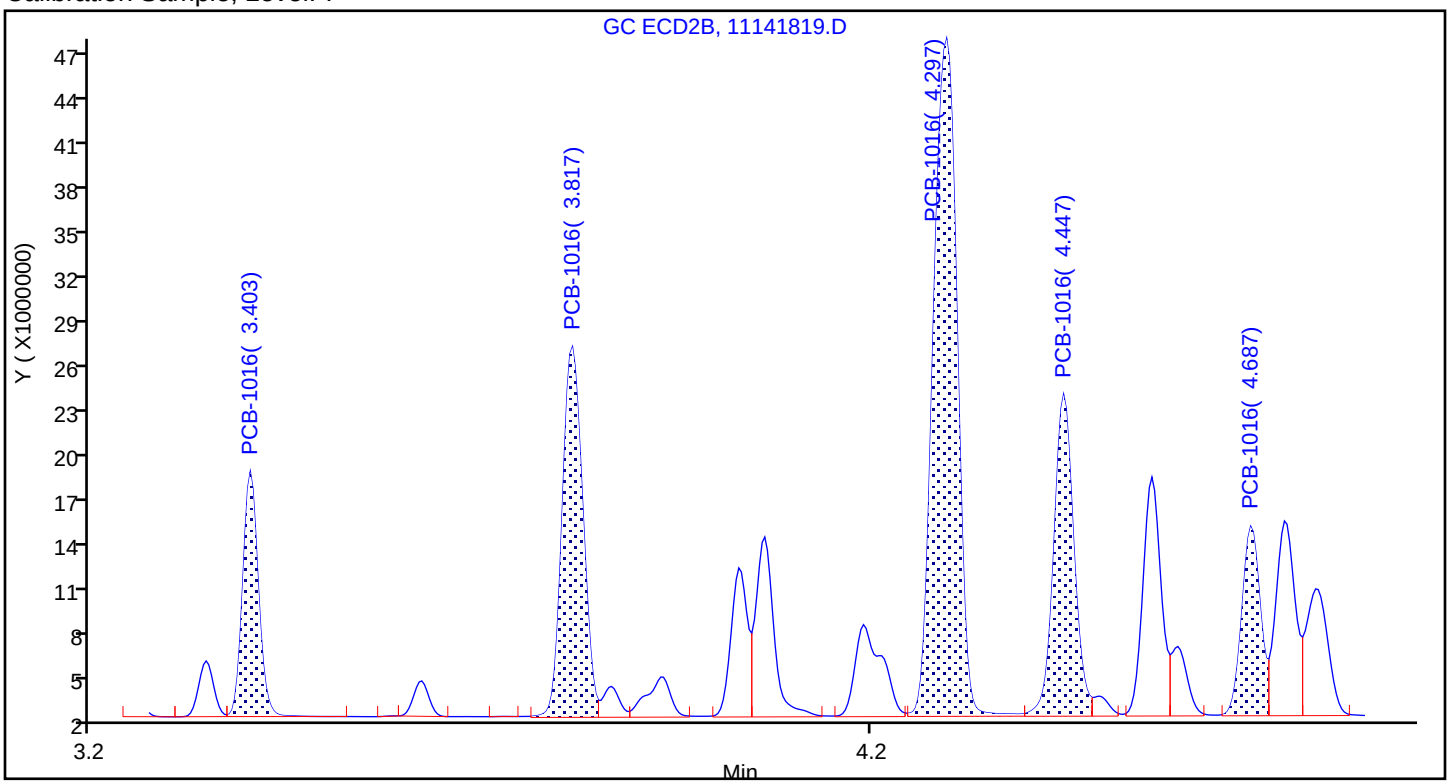
Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

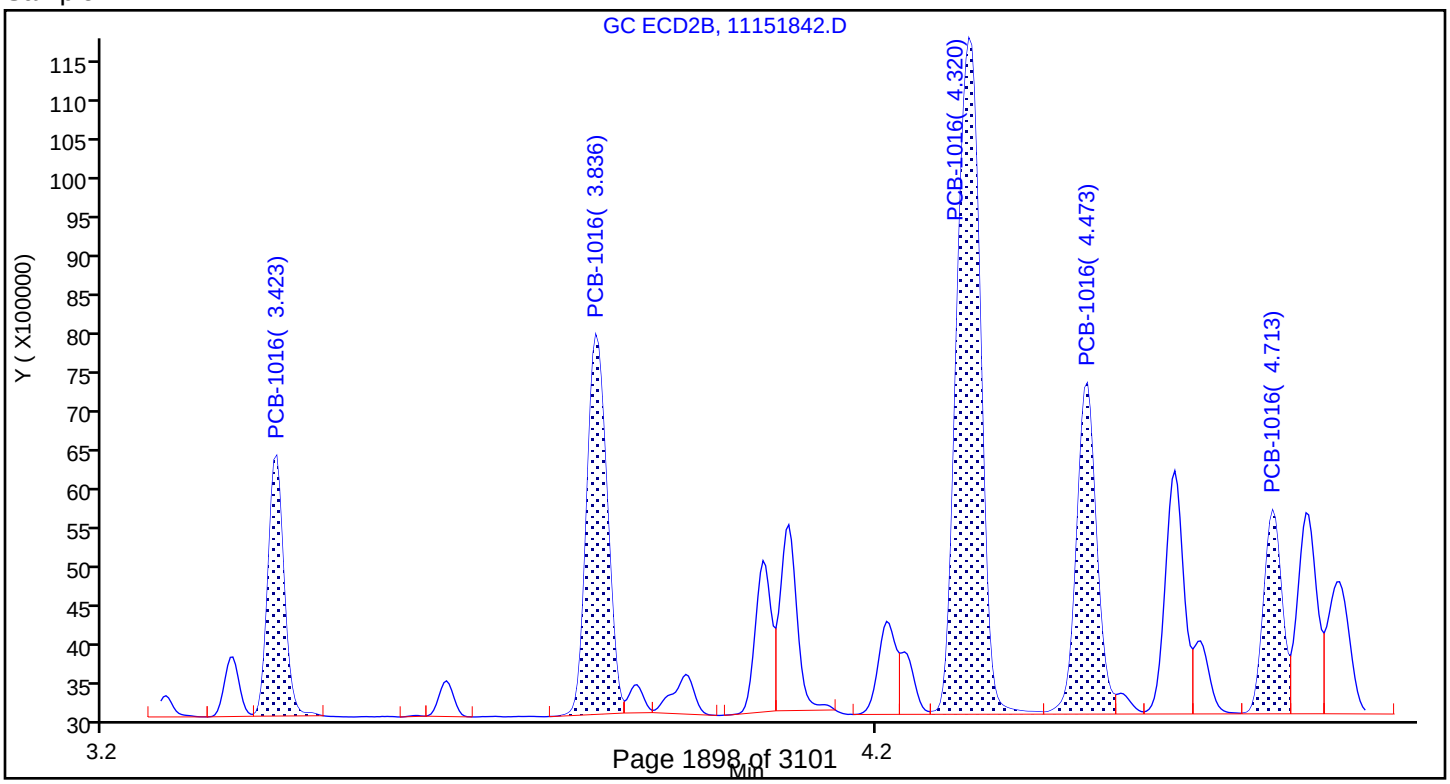
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

1 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7



Sample



Report Date: 19-Nov-2018 11:13:25 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151842.D

Injection Date: 16-Nov-2018 02:03:39 Instrument ID: SGC_J

Lims ID: LCS 280-434851/4-A

Client ID:

Operator ID: ALS ALS Bottle#: 42 Worklist Smp#: 42

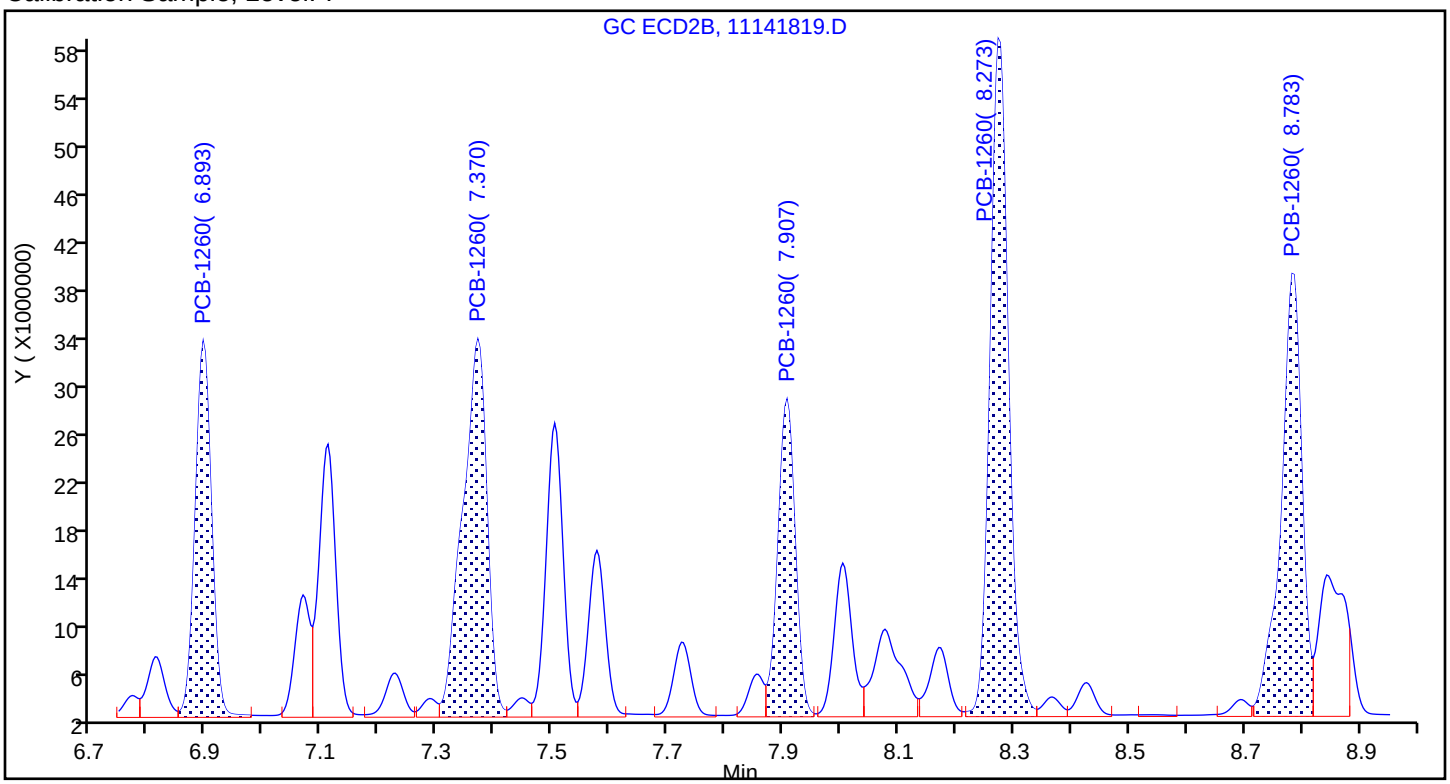
Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

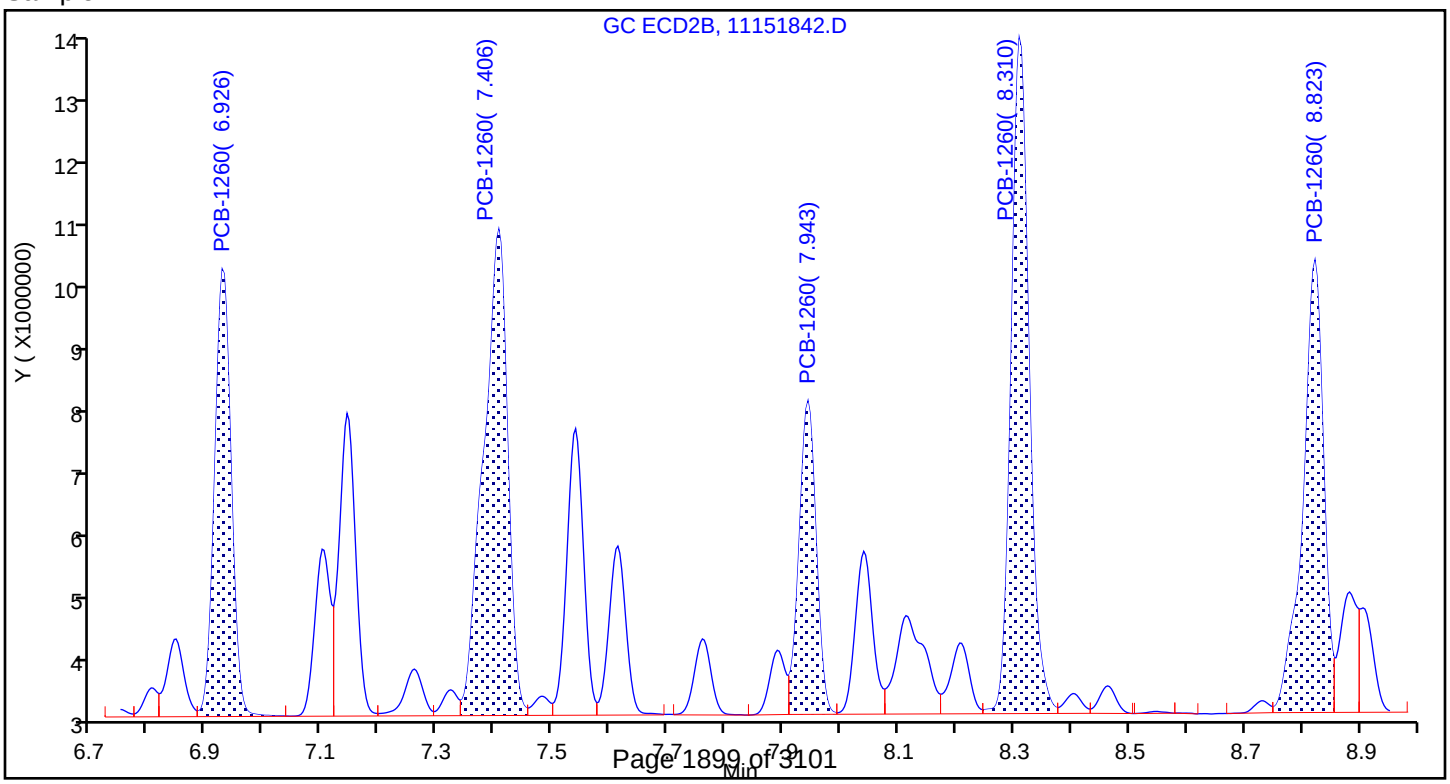
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

12 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7



Sample



Report Date: 19-Nov-2018 11:13:25 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151842.D

Injection Date: 16-Nov-2018 02:03:39 Instrument ID: SGC_J

Lims ID: LCS 280-434851/4-A

Client ID:

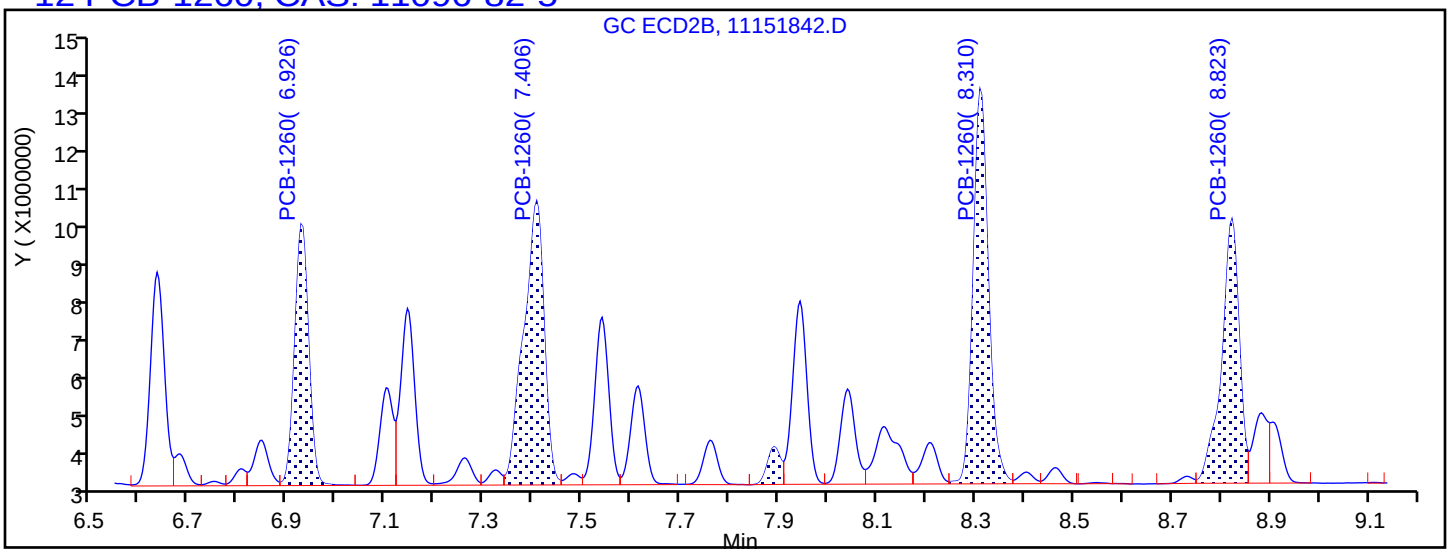
Operator ID: ALS ALS Bottle#: 42 Worklist Smp#: 42

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

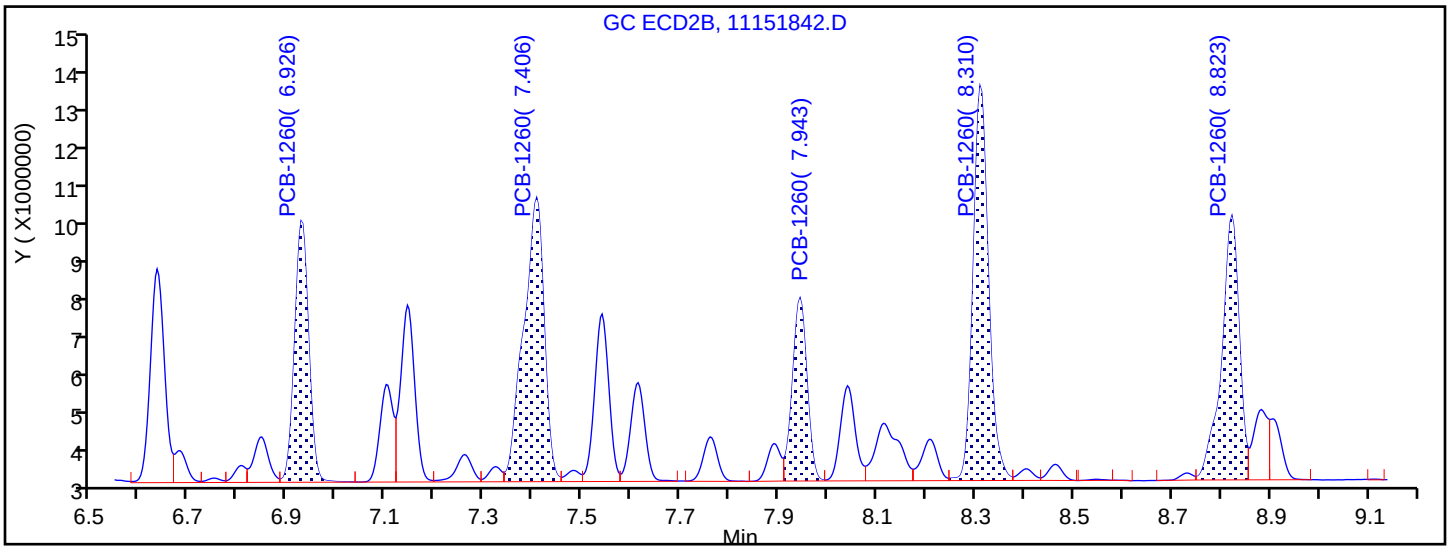
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

12 PCB-1260, CAS: 11096-82-5



Processing Integration Results

6.926	Response = 13766654
7.406	Response = 21772883
7.890	Response = 1890937
8.310	Response = 22617528
8.823	Response = 17466394



Manual Integration Results

6.926	Response = 13766654	
7.406	Response = 21772883	
7.943	Response = 9969789	M
8.310	Response = 22617528	
8.823	Response = 17466394	

Reviewer: patadiab, 19-Nov-2018 10:56:57

Audit Action: Assigned Compound ID Audit Reason:

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-434851/5-A

Matrix: Water | Lab File ID: 11151843.D

Analysis Method: 8082A | Date Collected:

Extraction Method: 3510C | Date Extracted: 10/25/2018 09:01

Sample wt/vol: 1000(mL) | Date Analyzed: 11/16/2018 02:24

Con. Extract Vol.: 10(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: CLP2 ID: 0.32(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 437748 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
12674-11-2	PCB-1016	2.00	M	1.0	0.40	0.12
11096-82-5	PCB-1260	2.06	M	1.0	0.40	0.16

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	86		25-120
2051-24-3	DCB Decachlorobiphenyl	94		30-136

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151843.D
Lims ID: LCSD 280-434851/5-A
Client ID:
Sample Type: LCSD
Inject. Date: 16-Nov-2018 02:24:47 ALS Bottle#: 43 Worklist Smp#: 43
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-434851/
Misc. Info.: 280-0076236-043
Operator ID: ALS Instrument ID: SGC_J

Method: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\8082_J.m
Limit Group: GCSV - 8082 - IS
Last Update: 19-Nov-2018 11:13:15 Calib Date: 15-Nov-2018 01:07:13
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D

Column 1 : CLP1 Pesticides Column 1 (0.32 mm) Det: GC ECD1A
Column 2 : CLP2 Pesticides Column 2 (0.32 mm) Det: GC ECD2B
Process Host: CTX0332

First Level Reviewer: patadiab Date: 16-Nov-2018 09:07:34

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 17 1-Bromo-2-nitrobenzene							
1	2.064	2.053	0.011	19767455	1000.0	1000.0	
2	1.834	1.823	0.011	115751577	1000.0	1000.0	
						RPD = 0.00	
$ 14 Tetrachloro-m-xylene							
1	3.007	2.993	0.014	6597852	20.0	14.2	
2	2.904	2.890	0.014	23270147	20.0	17.1	
						RPD = 18.44	
1 PCB-1016							a
1	3.417	3.399	0.018	1660163	200.0	206.4	
1	3.800	3.779	0.021	3284406	200.0	185.3	
1	4.317	4.293	0.024	4861664	200.0	173.5	
1	4.470	4.446	0.024	2211358	200.0	183.5	a
1	4.957	4.933	0.024	2239291	200.0	181.4	
		Average of Peak Amounts =				186.0	
2	3.420	3.406	0.014	4942889	200.0	213.1	
2	3.837	3.820	0.017	9173746	200.0	197.5	
2	4.320	4.300	0.020	18818543	200.0	194.3	
2	4.470	4.450	0.020	7800946	200.0	197.4	
2	4.714	4.690	0.024	4309677	200.0	200.1	
		Average of Peak Amounts =				200.5	
						RPD = 7.49	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
12 PCB-1260							Ma
1	6.524	6.493	0.031	3260544	200.0	208.2	
1	7.280	7.249	0.031	5083877	200.0	221.0	
1	7.784	7.753	0.031	2415023	200.0	168.6	
1	8.230	8.196	0.034	5048284	200.0	164.8	
1	8.627	8.593	0.034	2746820	200.0	186.1	
		Average of Peak Amounts =				189.7	
2	6.927	6.900	0.027	13970944	200.0	225.4	
2	7.407	7.376	0.031	22228744	200.0	242.4	
2	7.940	7.913	0.027	10303599	200.0	184.2	a
2	8.310	8.280	0.030	23114844	200.0	184.6	
2	8.824	8.793	0.031	18102173	200.0	191.7	M
		Average of Peak Amounts =				205.7	
						RPD = 8.05	
$ 15 DCB Decachlorobiphenyl							
1	10.227	10.193	0.034	5058466	20.0	17.6	
2	10.504	10.473	0.031	22858559	20.0	18.7	
						RPD = 6.43	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

BNB IS_00012 Amount Added: 1.00 Units: mL Run Reagent

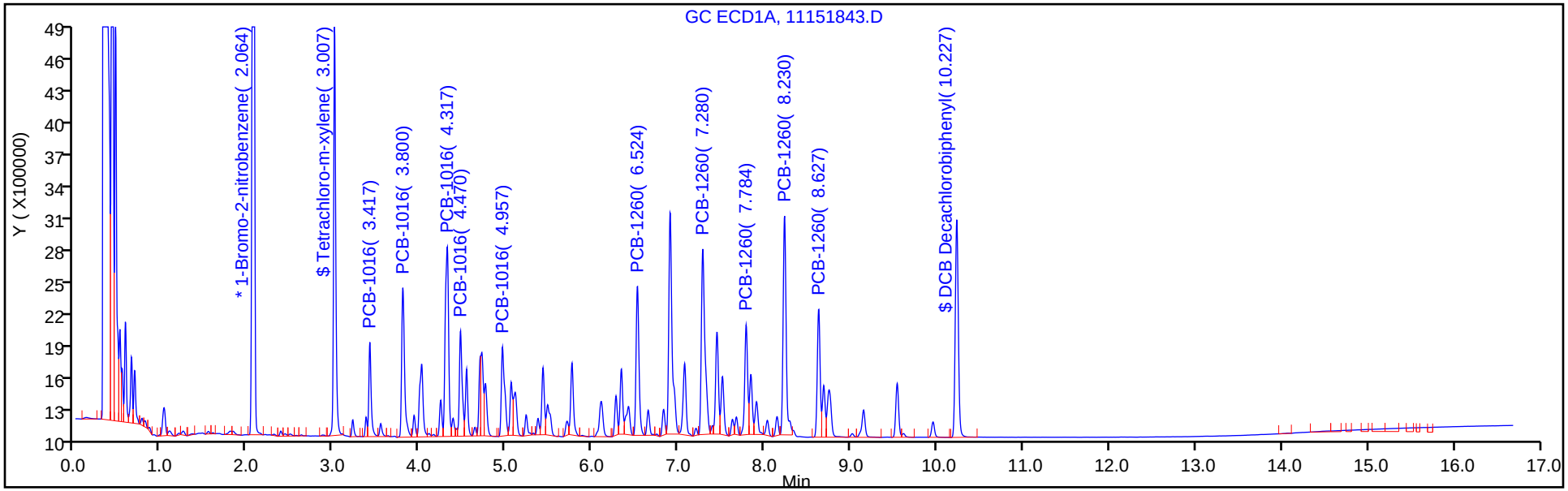
Report Date: 19-Nov-2018 11:13:28 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

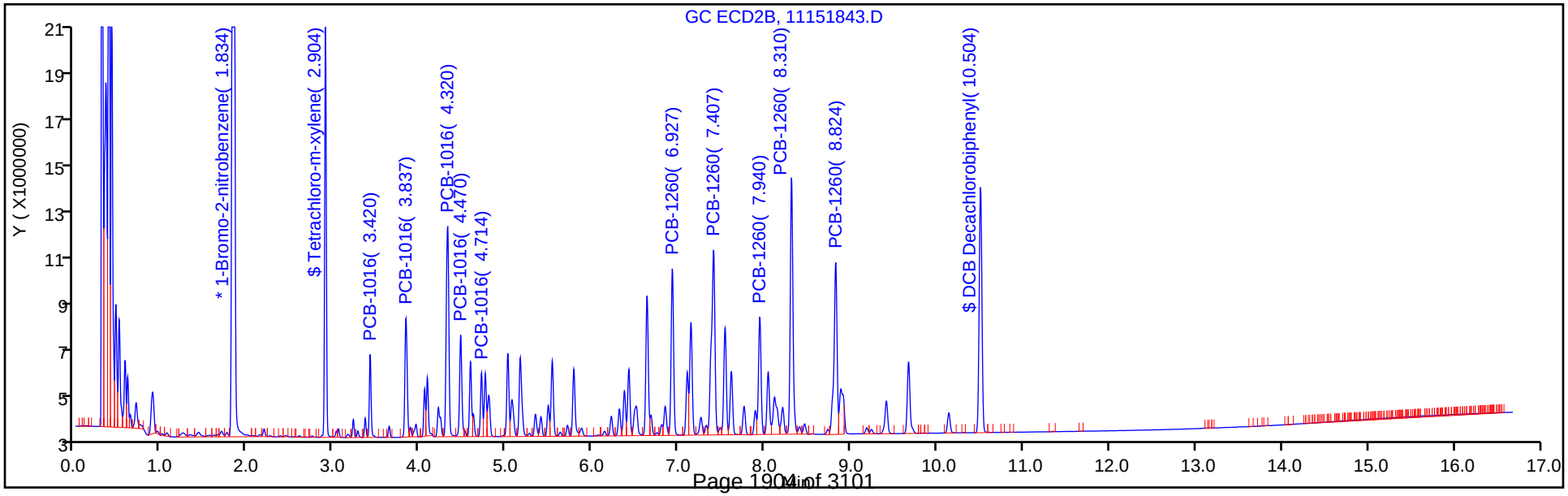
Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151843.D

Injection Date:	16-Nov-2018 02:24:47	Instrument ID:	SGC_J	Operator ID:	ALS
Lims ID:	LCSD 280-434851/5-A			Worklist Smp#:	43
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	43
Method:	8082_J	Limit Group:	GCSV - 8082 - IS		

Column: CLP1 Pesticides Column 1 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Column: CLP2 Pesticides Column 2 (0.32 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151843.D				
Lims ID:	LCSD 280-434851/5-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	16-Nov-2018 02:24:47	ALS Bottle#:	43	Worklist Smp#:	43
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCSD 280-434851/				
Misc. Info.:	280-0076236-043				
Operator ID:	ALS	Instrument ID:	SGC_J		
Method:	\\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\8082_J.m				
Limit Group:	GCSV - 8082 - IS				
Last Update:	19-Nov-2018 11:13:15	Calib Date:	15-Nov-2018 01:07:13		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\SGC_J\20181114-76197.b\11141839.D				
Column 1 :	CLP1 Pesticides Column 1 (0.32 mm)		Det: GC ECD1A		
Column 2 :	CLP2 Pesticides Column 2 (0.32 mm)		Det: GC ECD2B		
Process Host:	CTX0332				
First Level Reviewer: patadiab		Date:	16-Nov-2018 09:07:34		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	14.2	71.07
$ 15 DCB Decachlorobiphenyl	20.0	17.6	87.78

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 14 Tetrachloro-m-xylene	20.0	17.1	85.50
$ 15 DCB Decachlorobiphenyl	20.0	18.7	93.61

Report Date: 19-Nov-2018 11:13:28 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151843.D

Injection Date: 16-Nov-2018 02:24:47 Instrument ID: SGC_J

Lims ID: LCSD 280-434851/5-A

Client ID:

Operator ID: ALS ALS Bottle#: 43 Worklist Smp#: 43

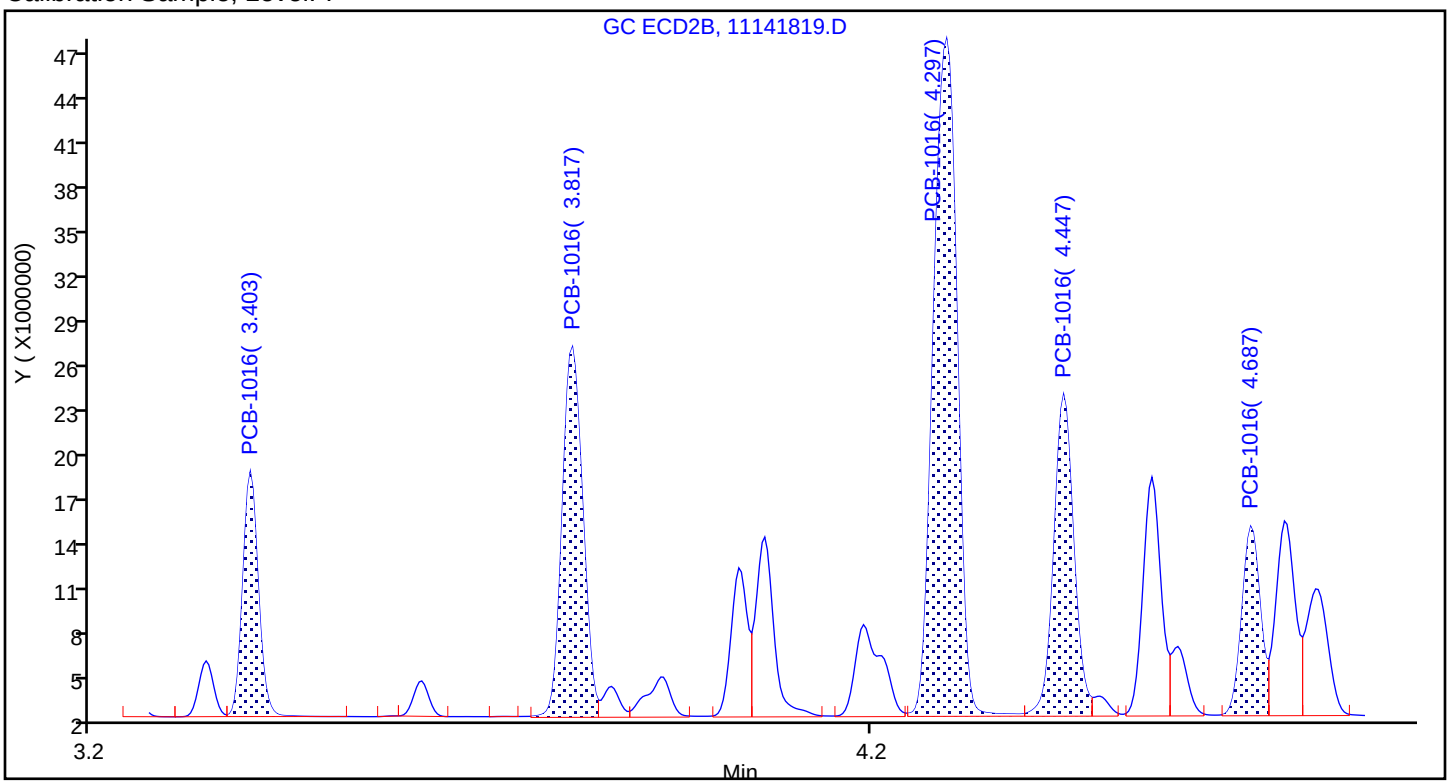
Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

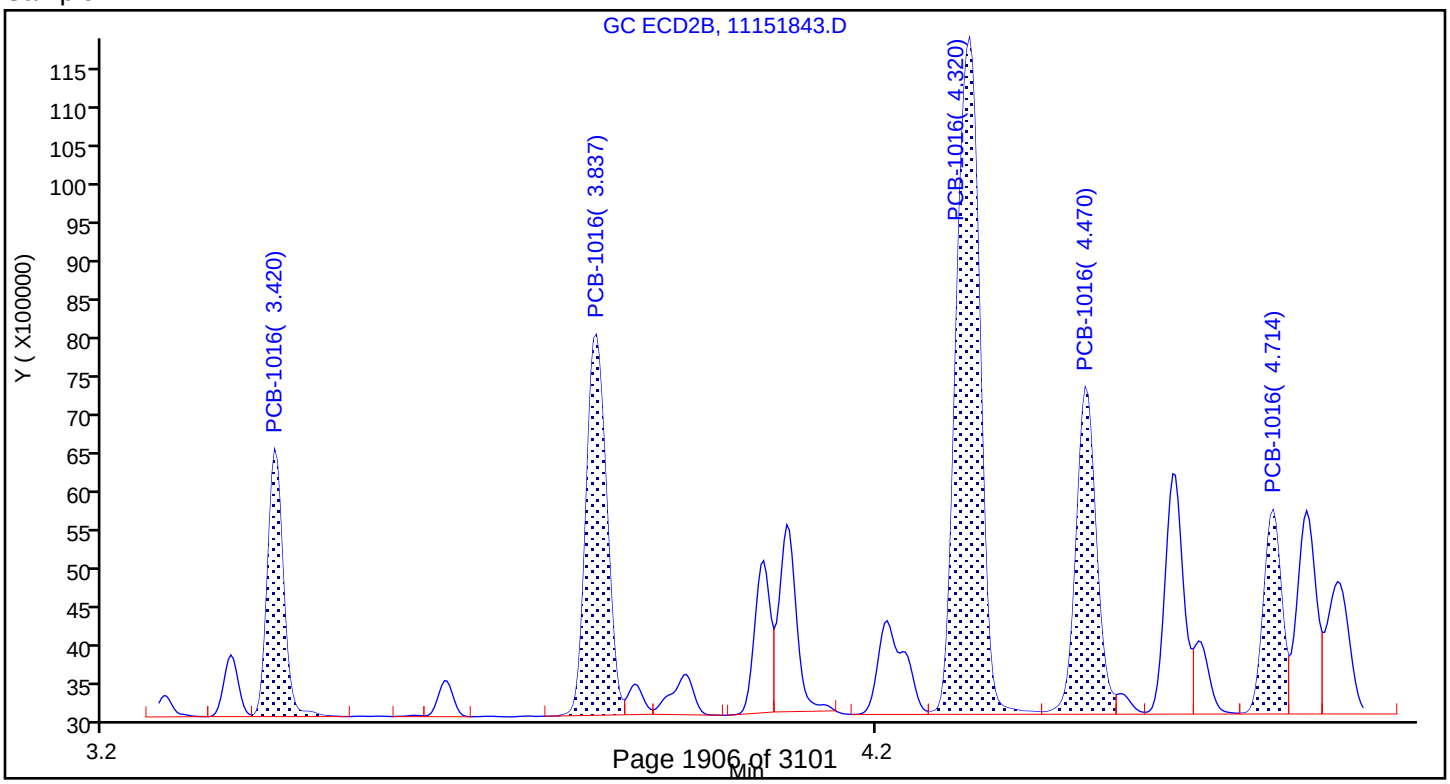
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

1 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7



Sample



Report Date: 19-Nov-2018 11:13:28 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151843.D

Injection Date: 16-Nov-2018 02:24:47 Instrument ID: SGC_J

Lims ID: LCSD 280-434851/5-A

Client ID:

Operator ID: ALS ALS Bottle#: 43 Worklist Smp#: 43

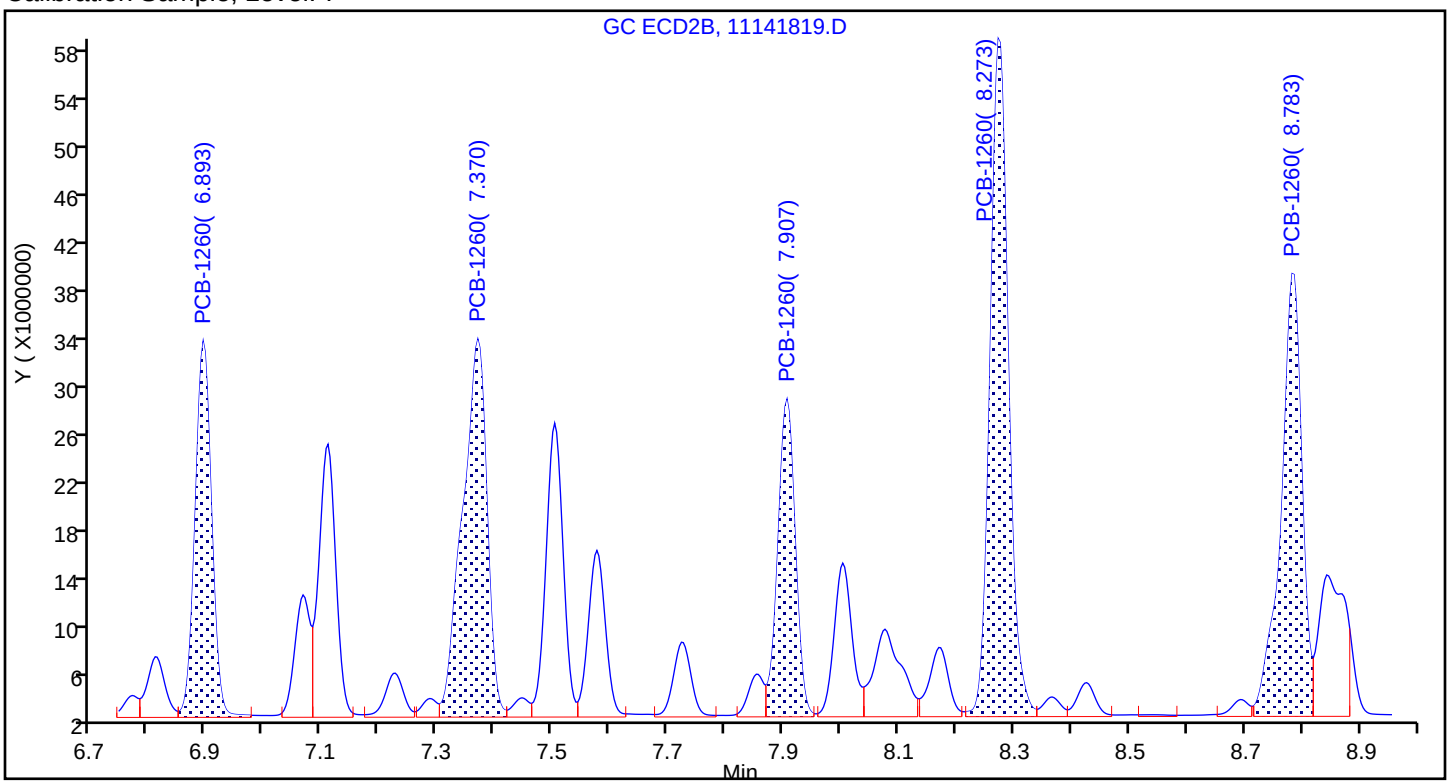
Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

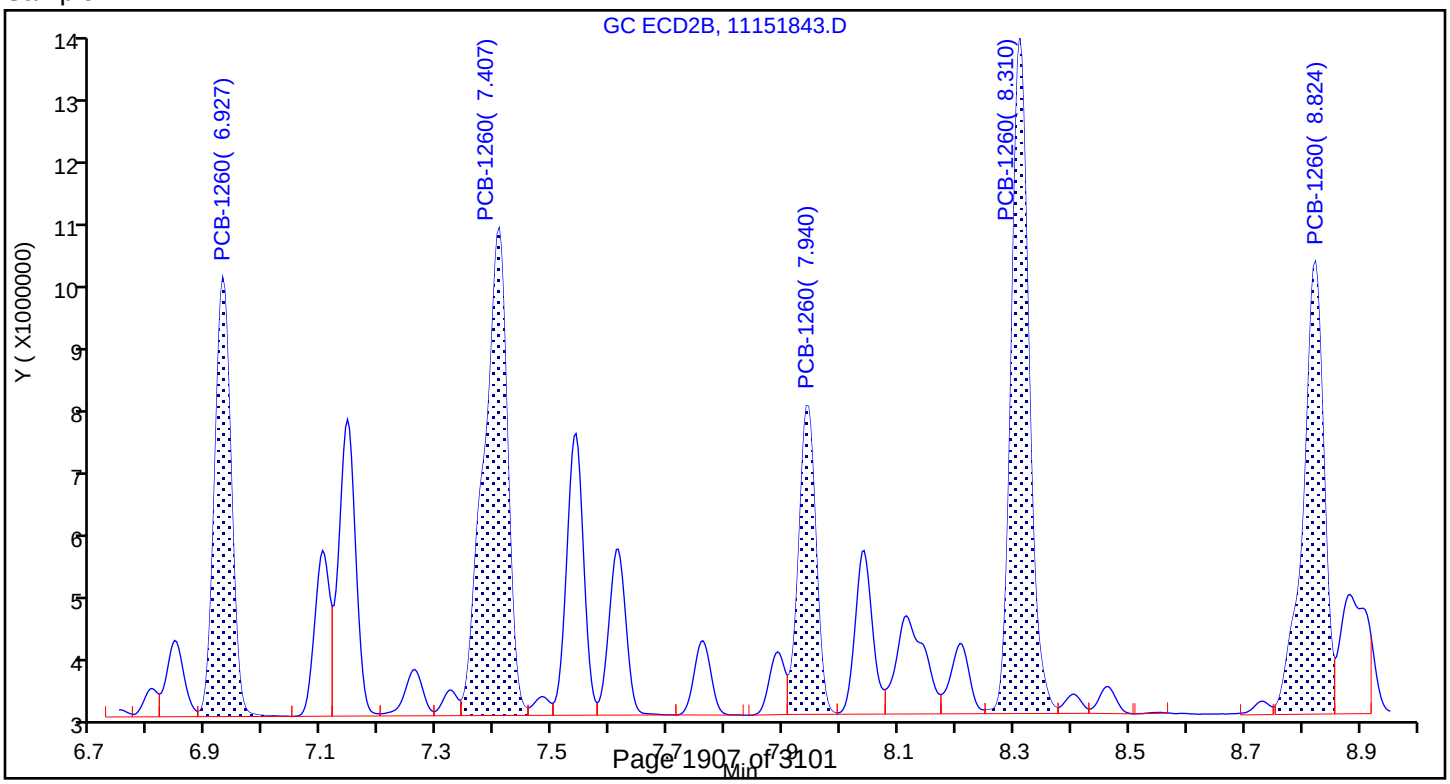
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

12 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7



Sample



Report Date: 19-Nov-2018 11:13:28 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\SGC_J\20181115-76236.b\11151843.D

Injection Date: 16-Nov-2018 02:24:47 Instrument ID: SGC_J

Lims ID: LCSD 280-434851/5-A

Client ID:

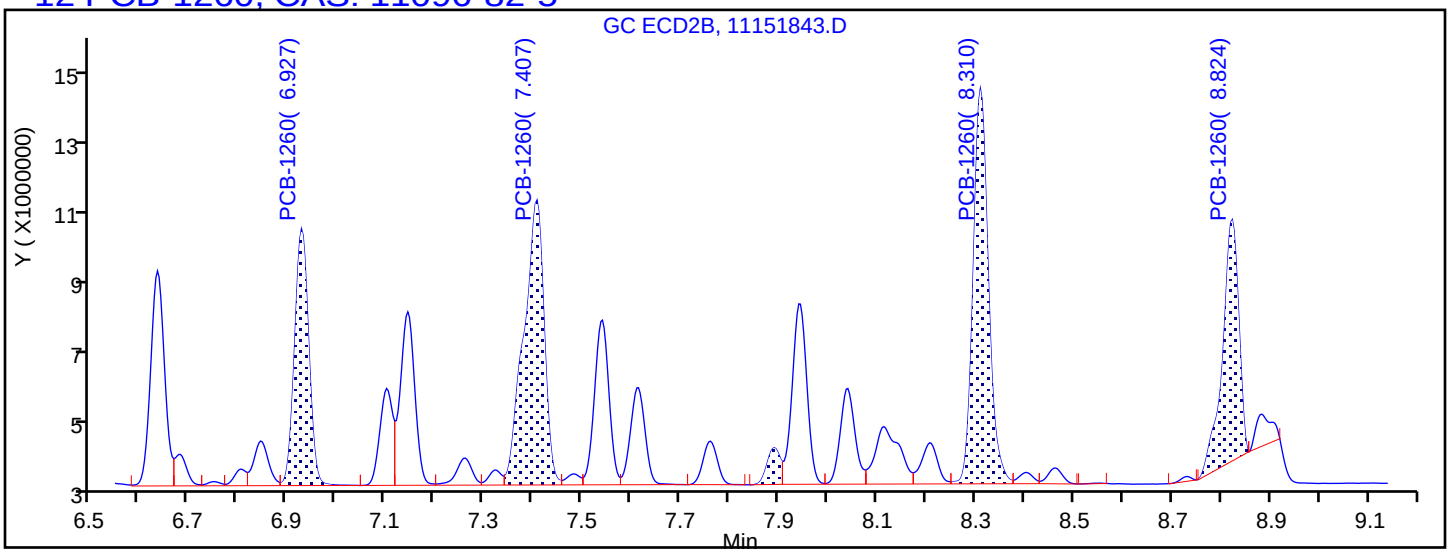
Operator ID: ALS ALS Bottle#: 43 Worklist Smp#: 43

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 8082_J Limit Group: GCSV - 8082 - IS

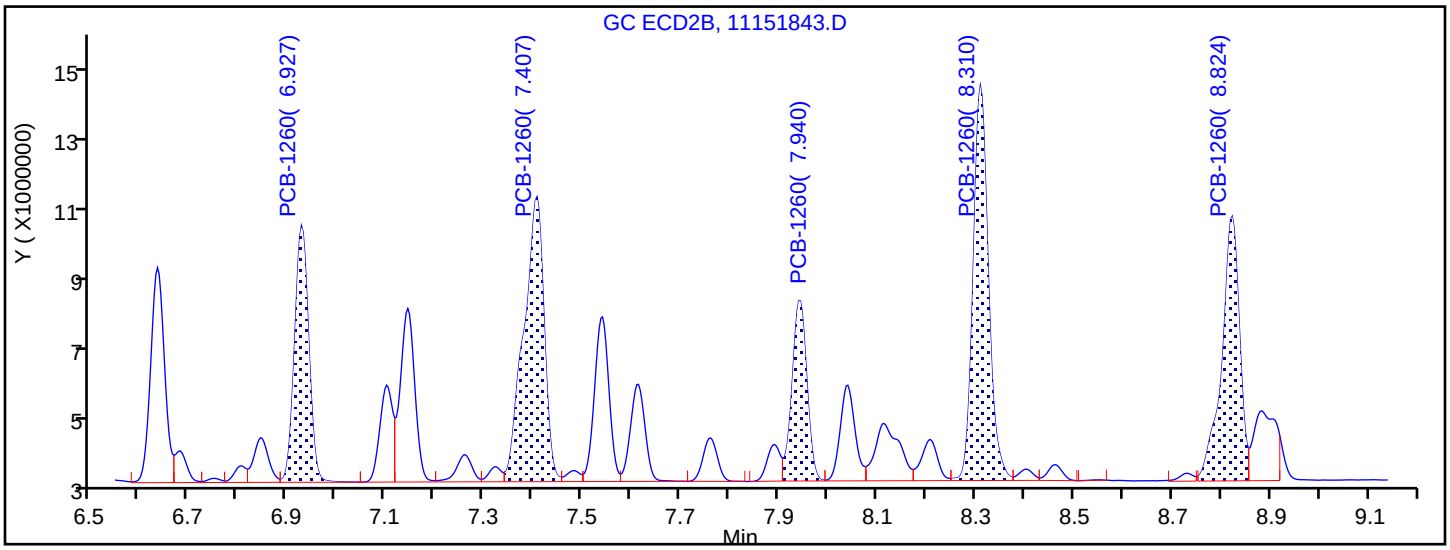
Column: CLP2 Pesticides Column 2 (0.32 mm) Detector GC ECD2B

12 PCB-1260, CAS: 11096-82-5



Processing Integration Results

6.927	Response = 13970944	
7.407	Response = 22228744	
7.890	Response = 1843575	
8.310	Response = 23114844	
8.824	Response = 15017462	



Manual Integration Results

6.927	Response = 13970944	
7.407	Response = 22228744	
7.940	Response = 10303599	M
8.310	Response = 23114844	
8.824	Response = 18102173	M

Reviewer: patadiab, 16-Nov-2018 09:07:31

Audit Action: Assigned Compound ID Audit Reason:

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Start Date: 11/14/2018 13:07

Analysis Batch Number: 437583 End Date: 11/15/2018 02:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STDL71248 280-437583/5 IC		11/14/2018 13:07	1	11141805.D	CLP1 0.32(mm)
STDL71248 280-437583/5 IC		11/14/2018 13:07	1	11141805.D	CLP2 0.32(mm)
STDL61248 280-437583/6 IC		11/14/2018 13:28	1	11141806.D	CLP1 0.32(mm)
STDL61248 280-437583/6 IC		11/14/2018 13:28	1	11141806.D	CLP2 0.32(mm)
STDL51248 280-437583/7 IC		11/14/2018 13:49	1	11141807.D	CLP1 0.32(mm)
STDL51248 280-437583/7 IC		11/14/2018 13:49	1	11141807.D	CLP2 0.32(mm)
STDL41248 280-437583/8 IC		11/14/2018 14:11	1	11141808.D	CLP1 0.32(mm)
STDL41248 280-437583/8 IC		11/14/2018 14:11	1	11141808.D	CLP2 0.32(mm)
STDL31248 280-437583/9 IC		11/14/2018 14:32	1	11141809.D	CLP1 0.32(mm)
STDL31248 280-437583/9 IC		11/14/2018 14:32	1	11141809.D	CLP2 0.32(mm)
STDL21248 280-437583/10 IC		11/14/2018 14:53	1	11141810.D	CLP1 0.32(mm)
STDL21248 280-437583/10 IC		11/14/2018 14:53	1	11141810.D	CLP2 0.32(mm)
STDL11248 280-437583/11 IC		11/14/2018 15:14	1	11141811.D	CLP1 0.32(mm)
STDL11248 280-437583/11 IC		11/14/2018 15:14	1	11141811.D	CLP2 0.32(mm)
STDL72154 280-437583/12 IC		11/14/2018 15:35	1	11141812.D	CLP1 0.32(mm)
STDL72154 280-437583/12 IC		11/14/2018 15:35	1	11141812.D	CLP2 0.32(mm)
STDL62154 280-437583/13 IC		11/14/2018 15:57	1	11141813.D	CLP1 0.32(mm)
STDL62154 280-437583/13 IC		11/14/2018 15:57	1	11141813.D	CLP2 0.32(mm)
STDL52154 280-437583/14 IC		11/14/2018 16:18	1	11141814.D	CLP1 0.32(mm)
STDL52154 280-437583/14 IC		11/14/2018 16:18	1	11141814.D	CLP2 0.32(mm)
STDL42154 280-437583/15 IC		11/14/2018 16:39	1	11141815.D	CLP1 0.32(mm)
STDL42154 280-437583/15 IC		11/14/2018 16:39	1	11141815.D	CLP2 0.32(mm)
STDL32154 280-437583/16 IC		11/14/2018 17:00	1	11141816.D	CLP1 0.32(mm)
STDL32154 280-437583/16 IC		11/14/2018 17:00	1	11141816.D	CLP2 0.32(mm)
STDL22154 280-437583/17 IC		11/14/2018 17:21	1	11141817.D	CLP1 0.32(mm)
STDL22154 280-437583/17 IC		11/14/2018 17:21	1	11141817.D	CLP2 0.32(mm)
STDL12154 280-437583/18 IC		11/14/2018 17:42	1	11141818.D	CLP1 0.32(mm)
STDL12154 280-437583/18 IC		11/14/2018 17:42	1	11141818.D	CLP2 0.32(mm)
STDL71660 280-437583/19 IC		11/14/2018 18:04	1	11141819.D	CLP1 0.32(mm)
STDL71660 280-437583/19 IC		11/14/2018 18:04	1	11141819.D	CLP2 0.32(mm)
STDL61660 280-437583/20 IC		11/14/2018 18:25	1	11141820.D	CLP1 0.32(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Start Date: 11/14/2018 13:07

Analysis Batch Number: 437583 End Date: 11/15/2018 02:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STDL61660 280-437583/20 IC		11/14/2018 18:25	1	11141820.D	CLP2 0.32(mm)
STDL51660 280-437583/21 ICIS		11/14/2018 18:46	1	11141821.D	CLP1 0.32(mm)
STDL51660 280-437583/21 ICIS		11/14/2018 18:46	1	11141821.D	CLP2 0.32(mm)
STDL41660 280-437583/22 IC		11/14/2018 19:07	1	11141822.D	CLP1 0.32(mm)
STDL41660 280-437583/22 IC		11/14/2018 19:07	1	11141822.D	CLP2 0.32(mm)
STDL31660 280-437583/23 IC		11/14/2018 19:28	1	11141823.D	CLP1 0.32(mm)
STDL31660 280-437583/23 IC		11/14/2018 19:28	1	11141823.D	CLP2 0.32(mm)
STDL21660 280-437583/24 IC		11/14/2018 19:49	1	11141824.D	CLP1 0.32(mm)
STDL21660 280-437583/24 IC		11/14/2018 19:49	1	11141824.D	CLP2 0.32(mm)
STDL11660 280-437583/25 IC		11/14/2018 20:11	1	11141825.D	CLP1 0.32(mm)
STDL11660 280-437583/25 IC		11/14/2018 20:11	1	11141825.D	CLP2 0.32(mm)
STDL73262 280-437583/26 IC		11/14/2018 20:32	1	11141826.D	CLP1 0.32(mm)
STDL73262 280-437583/26 IC		11/14/2018 20:32	1	11141826.D	CLP2 0.32(mm)
STDL63262 280-437583/27 IC		11/14/2018 20:53	1	11141827.D	CLP1 0.32(mm)
STDL63262 280-437583/27 IC		11/14/2018 20:53	1	11141827.D	CLP2 0.32(mm)
STDL53262 280-437583/28 IC		11/14/2018 21:14	1	11141828.D	CLP1 0.32(mm)
STDL53262 280-437583/28 IC		11/14/2018 21:14	1	11141828.D	CLP2 0.32(mm)
STDL43262 280-437583/29 IC		11/14/2018 21:35	1	11141829.D	CLP1 0.32(mm)
STDL43262 280-437583/29 IC		11/14/2018 21:35	1	11141829.D	CLP2 0.32(mm)
STDL33262 280-437583/30 IC		11/14/2018 21:56	1	11141830.D	CLP1 0.32(mm)
STDL33262 280-437583/30 IC		11/14/2018 21:56	1	11141830.D	CLP2 0.32(mm)
STDL23262 280-437583/31 IC		11/14/2018 22:18	1	11141831.D	CLP1 0.32(mm)
STDL23262 280-437583/31 IC		11/14/2018 22:18	1	11141831.D	CLP2 0.32(mm)
STDL13262 280-437583/32 IC		11/14/2018 22:39	1	11141832.D	CLP1 0.32(mm)
STDL13262 280-437583/32 IC		11/14/2018 22:39	1	11141832.D	CLP2 0.32(mm)
STDL74268 280-437583/33 IC		11/14/2018 23:00	1	11141833.D	CLP1 0.32(mm)
STDL74268 280-437583/33 IC		11/14/2018 23:00	1	11141833.D	CLP2 0.32(mm)
STDL64268 280-437583/34 IC		11/14/2018 23:21	1	11141834.D	CLP1 0.32(mm)
STDL64268 280-437583/34 IC		11/14/2018 23:21	1	11141834.D	CLP2 0.32(mm)
STDL54268 280-437583/35 IC		11/14/2018 23:42	1	11141835.D	CLP1 0.32(mm)
STDL54268 280-437583/35 IC		11/14/2018 23:42	1	11141835.D	CLP2 0.32(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Start Date: 11/14/2018 13:07

Analysis Batch Number: 437583 End Date: 11/15/2018 02:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STDL44268 280-437583/36 IC		11/15/2018 00:03	1	11141836.D	CLP1 0.32(mm)
STDL44268 280-437583/36 IC		11/15/2018 00:03	1	11141836.D	CLP2 0.32(mm)
STDL34268 280-437583/37 IC		11/15/2018 00:24	1	11141837.D	CLP1 0.32(mm)
STDL34268 280-437583/37 IC		11/15/2018 00:24	1	11141837.D	CLP2 0.32(mm)
STDL24268 280-437583/38 IC		11/15/2018 00:46	1	11141838.D	CLP1 0.32(mm)
STDL24268 280-437583/38 IC		11/15/2018 00:46	1	11141838.D	CLP2 0.32(mm)
STDL14268 280-437583/39 IC		11/15/2018 01:07	1	11141839.D	CLP1 0.32(mm)
STDL14268 280-437583/39 IC		11/15/2018 01:07	1	11141839.D	CLP2 0.32(mm)
ICV 280-437583/40		11/15/2018 01:28	1	11141840.D	CLP1 0.32(mm)
ICV 280-437583/40		11/15/2018 01:28	1	11141840.D	CLP2 0.32(mm)
ICV 280-437583/41		11/15/2018 01:49	1	11141841.D	CLP1 0.32(mm)
ICV 280-437583/41		11/15/2018 01:49	1	11141841.D	CLP2 0.32(mm)
ICV 280-437583/42		11/15/2018 02:10	1	11141842.D	CLP1 0.32(mm)
ICV 280-437583/42		11/15/2018 02:10	1	11141842.D	CLP2 0.32(mm)
ICV 280-437583/43		11/15/2018 02:31	1	11141843.D	CLP1 0.32(mm)
ICV 280-437583/43		11/15/2018 02:31	1	11141843.D	CLP2 0.32(mm)
ICV 280-437583/44		11/15/2018 02:52	1	11141844.D	CLP1 0.32(mm)
ICV 280-437583/44		11/15/2018 02:52	1	11141844.D	CLP2 0.32(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Start Date: 11/15/2018 12:38

Analysis Batch Number: 437748 End Date: 11/16/2018 05:35

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVIS 280-437748/4		11/15/2018 12:38	1	11151804.D	CLP1 0.32(mm)
CCVIS 280-437748/4		11/15/2018 12:38	1	11151804.D	CLP2 0.32(mm)
ZZZZZ		11/15/2018 12:59	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 12:59	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 13:21	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 13:21	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 13:42	1000		CLP1 0.32(mm)
ZZZZZ		11/15/2018 13:42	1000		CLP2 0.32(mm)
ZZZZZ		11/15/2018 14:24	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 14:24	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 14:45	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 14:45	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 15:07	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 15:07	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 15:28	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 15:28	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 15:49	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 15:49	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 16:10	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 16:10	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 16:32	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 16:32	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 16:53	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 16:53	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 17:14	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 17:14	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 17:35	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 17:35	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 17:56	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 17:56	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 18:18	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 18:18	1		CLP2 0.32(mm)
CCV 280-437748/21		11/15/2018 18:39	1		CLP1 0.32(mm)
CCV 280-437748/21		11/15/2018 18:39	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 19:00	10		CLP1 0.32(mm)
ZZZZZ		11/15/2018 19:00	10		CLP2 0.32(mm)
ZZZZZ		11/15/2018 19:21	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 19:21	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 19:42	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 19:42	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 20:03	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 20:03	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 20:24	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 20:24	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 20:46	1		CLP1 0.32(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: SGC_J Start Date: 11/15/2018 12:38

Analysis Batch Number: 437748 End Date: 11/16/2018 05:35

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		11/15/2018 20:46	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 21:07	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 21:07	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 21:28	10		CLP1 0.32(mm)
ZZZZZ		11/15/2018 21:28	10		CLP2 0.32(mm)
ZZZZZ		11/15/2018 23:14	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 23:14	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 23:35	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 23:35	1		CLP2 0.32(mm)
ZZZZZ		11/15/2018 23:56	1		CLP1 0.32(mm)
ZZZZZ		11/15/2018 23:56	1		CLP2 0.32(mm)
ZZZZZ		11/16/2018 00:17	1		CLP1 0.32(mm)
ZZZZZ		11/16/2018 00:17	1		CLP2 0.32(mm)
ZZZZZ		11/16/2018 00:39	1		CLP1 0.32(mm)
ZZZZZ		11/16/2018 00:39	1		CLP2 0.32(mm)
ZZZZZ		11/16/2018 01:00	1		CLP1 0.32(mm)
ZZZZZ		11/16/2018 01:00	1		CLP2 0.32(mm)
CCV 280-437748/40		11/16/2018 01:21	1	11151840.D	CLP1 0.32(mm)
CCV 280-437748/40		11/16/2018 01:21	1	11151840.D	CLP2 0.32(mm)
MB 280-434851/1-A		11/16/2018 01:42	1	11151841.D	CLP1 0.32(mm)
MB 280-434851/1-A		11/16/2018 01:42	1	11151841.D	CLP2 0.32(mm)
LCS 280-434851/4-A		11/16/2018 02:03	1	11151842.D	CLP1 0.32(mm)
LCS 280-434851/4-A		11/16/2018 02:03	1	11151842.D	CLP2 0.32(mm)
LCSD 280-434851/5-A		11/16/2018 02:24	1	11151843.D	CLP1 0.32(mm)
LCSD 280-434851/5-A		11/16/2018 02:24	1	11151843.D	CLP2 0.32(mm)
ZZZZZ		11/16/2018 02:45	1		CLP1 0.32(mm)
ZZZZZ		11/16/2018 02:45	1		CLP2 0.32(mm)
280-115950-4		11/16/2018 03:07	1	11151845.D	CLP1 0.32(mm)
280-115950-4		11/16/2018 03:07	1	11151845.D	CLP2 0.32(mm)
280-115950-5		11/16/2018 03:28	1	11151846.D	CLP1 0.32(mm)
280-115950-5		11/16/2018 03:28	1	11151846.D	CLP2 0.32(mm)
ZZZZZ		11/16/2018 03:49	1		CLP1 0.32(mm)
ZZZZZ		11/16/2018 03:49	1		CLP2 0.32(mm)
ZZZZZ		11/16/2018 04:10	1		CLP1 0.32(mm)
ZZZZZ		11/16/2018 04:10	1		CLP2 0.32(mm)
ZZZZZ		11/16/2018 04:31	1		CLP1 0.32(mm)
ZZZZZ		11/16/2018 04:31	1		CLP2 0.32(mm)
ZZZZZ		11/16/2018 04:52	10		CLP1 0.32(mm)
ZZZZZ		11/16/2018 04:52	10		CLP2 0.32(mm)
ZZZZZ		11/16/2018 05:14	1		CLP1 0.32(mm)
ZZZZZ		11/16/2018 05:14	1		CLP2 0.32(mm)
CCV 280-437748/52		11/16/2018 05:35	1	11151852.D	CLP1 0.32(mm)
CCV 280-437748/52		11/16/2018 05:35	1	11151852.D	CLP2 0.32(mm)

8082A

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 434851 Batch Start Date: 10/25/18 09:01 Batch Analyst: Stewart, Klaudia J

Batch Method: 3510C Batch End Date: 10/25/18 21:14

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	8081/82 Surr 00105
MB 280-434851/1		3510C, 8082A				1000 mL	10 mL	7 SU	1 mL
LCS 280-434851/4		3510C, 8082A				1000 mL	10 mL	7 SU	1 mL
LCSD 280-434851/5		3510C, 8082A				1000 mL	10 mL	7 SU	1 mL
280-115950-C-4	RQLmw-007-181001-GW	3510C, 8082A	T	1536.3 g	501.5 g	1034.8 mL	10 mL	7 SU	1 mL
280-115950-C-5	RQLmw-008-181001-GW	3510C, 8082A	T	1471.3 g	499.2 g	972.1 mL	10 mL	7 SU	1 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	8082 LCS 00049	AnalysisComment				
MB 280-434851/1		3510C, 8082A							
LCS 280-434851/4		3510C, 8082A		1 mL	8082				
LCSD 280-434851/5		3510C, 8082A		1 mL	8082				
280-115950-C-4	RQLmw-007-181001-GW	3510C, 8082A	T						
280-115950-C-5	RQLmw-008-181001-GW	3510C, 8082A	T						

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

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 434851 Batch Start Date: 10/25/18 09:01 Batch Analyst: Stewart, Klaudia J

Batch Method: 3510C Batch End Date: 10/25/18 21:14

Batch Notes	
Balance ID	24750399
Batch Comment	DV-OP-0006/0007 BB8 @ 10.0mL
Analyst ID - Concentration	MM
Concentration 1 Corrected Temperature	88/88 Degrees C
Equipment ID - Concentration 1	A/B
Exchange Solvent ID	Hexane_cycl_010053
Analyst ID - Extraction	KS (trainee) + AMB (trainer)
Glass Wool ID	Glass wool
Method/Fraction	3510C/808/1A/8081B_DOD5/8082/8082A_DOD5/608
Na2SO4 ID	0000205461_00008
NaCl ID	17831
Pipette/Syringe/Dispenser ID	1n2s
Prep Solvent ID	MeCl2_Cycl_00409
Prep Solvent Volume Used	180 mL
Analyst ID - Spike Analyst	KS
Analyst ID - Spike Witness Analyst	Reviewer: JZ
Sufficient Volume for Batch QC	No
Concentration 1 Uncorrected Temperature	89/87 Degrees C
Reagent Water ID	S. Elga

Basis	Basis Description
T	Total/NA

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

8330B_DOD5

Nitroaromatics and Nitramines (HPLC)

FORM II
HPLC/IC SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): UltraCarb5u ID: 4.6 (mm) GC Column (2): Luna-phenyl 4.6 (mm)

Client Sample ID	Lab Sample ID	12DNB1 #	12DNB2 #
LL1mw-064-181001-GW	280-115950-1	96	
LL1mw-088-181001-GW	280-115950-2	98	
LL1mw-088-181002-GW	280-115950-3		85
LL1mw-088-181002-GW	280-115950-3	101 M	
RQLmw-007-181001-GW	280-115950-4	99	
RQLmw-008-181001-GW	280-115950-5		81 Q
RQLmw-008-181001-GW	280-115950-5	108 M	
	MB 280-434708/1-A	103	
	LCS 280-434708/2-A	104	
	LCSD 280-434708/3-A	105	

	QC LIMITS
12DNB = 1,2-Dinitrobenzene	83-119

Column to be used to flag recovery values

FORM II 8330B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 10260045.D

Lab ID: LCS 280-434708/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,3,5-Trinitrobenzene	2.00	2.15	107	73-125	
1,3-Dinitrobenzene	2.00	2.04	102	78-120	
2,4,6-Trinitrotoluene	2.00	1.97	98	71-123	
2,4-Dinitrotoluene	2.00	1.93	97	78-120	
2,6-Dinitrotoluene	2.00	1.93	97	77-127	
2-Amino-4,6-dinitrotoluene	2.00	1.97	99	79-120	
2-Nitrotoluene	2.00	1.53	77	70-127	
3-Nitrotoluene	2.00	1.57	79	73-125	
4-Amino-2,6-dinitrotoluene	2.00	1.82	91	76-125	
4-Nitrotoluene	2.00	1.74	87	71-127	
HMX	2.00	1.97	98	65-135	
Nitrobenzene	2.00	1.76	88	65-134	
Nitroglycerin	20.0	21.3	107	74-127	
PETN	20.0	20.2	101	73-127	
RDX	2.00	2.02	101	68-130	
Tetryl	2.00	2.15	107	64-128	

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 10260046.D

Lab ID: LCSD 280-434708/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,3,5-Trinitrobenzene	2.00	2.18	109	2	20	73-125	
1,3-Dinitrobenzene	2.00	2.07	103	1	20	78-120	
2,4,6-Trinitrotoluene	2.00	2.01	101	2	20	71-123	
2,4-Dinitrotoluene	2.00	1.97	99	2	20	78-120	
2,6-Dinitrotoluene	2.00	1.96	98	1	20	77-127	
2-Amino-4,6-dinitrotoluene	2.00	1.97	99	0	20	79-120	
2-Nitrotoluene	2.00	1.44	72	6	20	70-127	
3-Nitrotoluene	2.00	1.52	76	3	20	73-125	
4-Amino-2,6-dinitrotoluene	2.00	1.78	89	2	20	76-125	
4-Nitrotoluene	2.00	1.65	82	6	20	71-127	
HMX	2.00	2.02	101	2	20	65-135	
Nitrobenzene	2.00	1.72	86	2	20	65-134	
Nitroglycerin	20.0	20.9	104	2	20	74-127	
PETN	20.0	20.4	102	1	20	73-127	
RDX	2.00	2.06	103	2	20	68-130	
Tetryl	2.00	2.18	109	2	20	64-128	

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: MB 280-434708/1-A

Matrix: Water Date Extracted: 10/24/2018 12:14

Lab File ID:(1) 10260044.D Lab File ID:(2)

Date Analyzed:(1) 10/27/2018 02:48 Date Analyzed:(2)

Instrument ID:(1) CHHPLC_X3 Instrument ID:(2) CHHPLC_G2_LUNA

GC Column:(1) UltraCarb5uO ID: 4.6(mm) GC Column:(2) Luna-phenylh ID: 4.6(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-434708/2-A	10/27/2018 03:11	
	LCSD 280-434708/3-A	10/27/2018 03:34	
LL1mw-064-181001-GW	280-115950-1	10/27/2018 08:32	
LL1mw-088-181001-GW	280-115950-2	10/27/2018 08:55	
LL1mw-088-181002-GW	280-115950-3	10/27/2018 09:18	10/30/2018 17:09
RQLmw-007-181001-GW	280-115950-4	10/27/2018 09:41	
RQLmw-008-181001-GW	280-115950-5	10/27/2018 10:04	10/30/2018 17:44

FORM X
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Client Sample ID: RQLmw-008-181001-GW Lab Sample ID: 280-115950-5

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_G2_LUNA

Date Analyzed (1): 10/27/2018 10:04 Date Analyzed (2): 10/30/2018 17:44

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
HMX	1		6.60	6.49	6.79	0.27		16.6
	2		7.07	6.97	7.27	0.32		
RDX	1		7.73	7.59	7.89	0.85		73.9
	2		9.20	9.03	9.33	0.39		

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: LL1mw-064-181001-GW | Lab Sample ID: 280-115950-1

Matrix: Water | Lab File ID: 10260059.D

Analysis Method: 8330B | Date Collected: 10/22/2018 12:20

Extraction Method: 3535 | Date Extracted: 10/24/2018 12:14

Sample wt/vol: 489.5(mL) | Date Analyzed: 10/27/2018 08:32

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435098 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.41	U	1.0	0.41	0.20
99-65-0	1,3-Dinitrobenzene	0.20	U	0.41	0.20	0.091
118-96-7	2,4,6-Trinitrotoluene	0.20	U	0.41	0.20	0.074
121-14-2	2,4-Dinitrotoluene	0.20	U	0.41	0.20	0.086
606-20-2	2,6-Dinitrotoluene	0.20	U	0.20	0.20	0.066
35572-78-2	2-Amino-4,6-dinitrotoluene	0.12	U	0.20	0.12	0.052
88-72-2	2-Nitrotoluene	0.20	U	0.41	0.20	0.087
99-08-1	3-Nitrotoluene	0.20	U	0.41	0.20	0.085
19406-51-0	4-Amino-2,6-dinitrotoluene	0.12	U	0.20	0.12	0.059
99-99-0	4-Nitrotoluene	0.41	U	1.0	0.41	0.20
2691-41-0	HMX	0.20	U M	0.41	0.20	0.089
98-95-3	Nitrobenzene	0.20	U	0.41	0.20	0.093
55-63-0	Nitroglycerin	2.0	U	3.1	2.0	0.94
78-11-5	PETN	1.2	U	2.0	1.2	0.42
121-82-4	RDX	0.12	U	0.20	0.12	0.053
479-45-8	Tetryl	0.20	U Q	0.25	0.20	0.081

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	96		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260059.D
Lims ID: 280-115950-A-1-A
Client ID: LL1mw-064-181001-GW
Sample Type: Client
Inject. Date: 27-Oct-2018 08:32:52 ALS Bottle#: 59 Worklist Smp#: 59
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-A-1-A
Misc. Info.: 280-0075517-059
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2018 11:14:20 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK002

First Level Reviewer: fiedlerh Date: 29-Oct-2018 11:10:59

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 HMX	1		6.639			ND	U
	5 RDX	1		7.739			ND	
$	7 1,2-Dinitrobenzene	1	8.723	8.719	0.004	24607	0.1912	
	8 1,3,5-Trinitrobenzene	1		8.879			ND	
	9 1,3-Dinitrobenzene	1		9.532			ND	
	11 Nitrobenzene	1		9.919			ND	
	12 Tetryl	1		10.239			ND	
	13 Nitroglycerin	2		10.746			ND	
	14 2,4,6-Trinitrotoluene	1		11.192			ND	
	15 4-Amino-2,6-dinitrotoluene	1		11.366			ND	
	16 2-Amino-4,6-dinitrotoluene	1		11.646			ND	
	17 2,6-Dinitrotoluene	1		11.799			ND	
	18 2,4-Dinitrotoluene	1		11.992			ND	
	19 o-Nitrotoluene	1		12.832			ND	
	20 p-Nitrotoluene	1		13.266			ND	
	21 m-Nitrotoluene	1		13.859			ND	
	22 PETN	2		14.966			ND	

QC Flag Legend

Review Flags
U - Marked Undetected

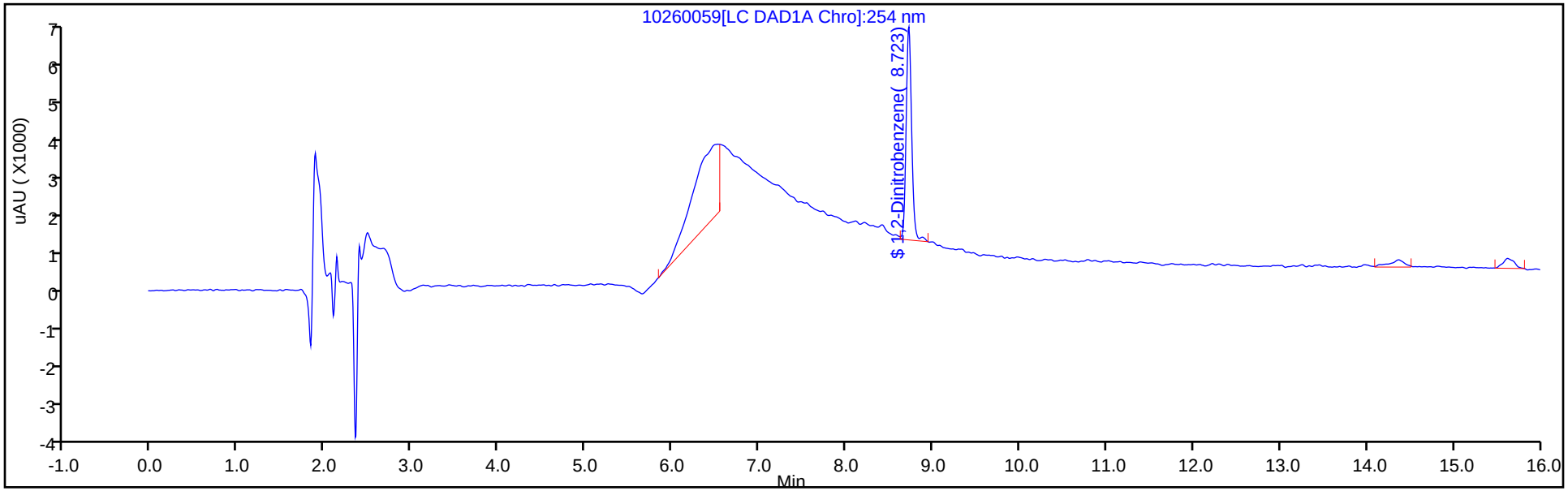
Report Date: 29-Oct-2018 11:14:25 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

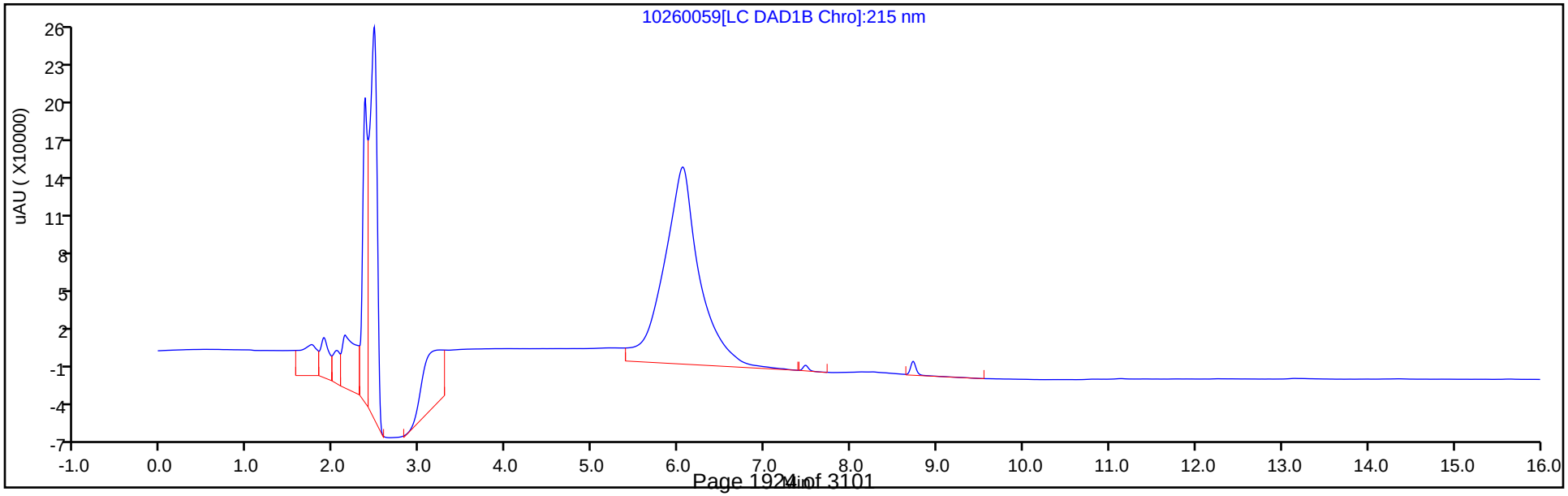
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260059.D

Injection Date:	27-Oct-2018 08:32:52	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	280-115950-A-1-A	Lab Sample ID:	280-115950-1	Worklist Smp#:	59
Client ID:	LL1mw-064-181001-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	59
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260059.D				
Lims ID:	280-115950-A-1-A				
Client ID:	LL1mw-064-181001-GW				
Sample Type:	Client				
Inject. Date:	27-Oct-2018 08:32:52	ALS Bottle#:	59	Worklist Smp#:	59
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-115950-A-1-A				
Misc. Info.:	280-0075517-059				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	29-Oct-2018 11:14:20	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	XAWRK002				
First Level Reviewer: fiedlerh		Date:	29-Oct-2018 11:10:59		

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.1912	95.58

User Disabled Compound Report

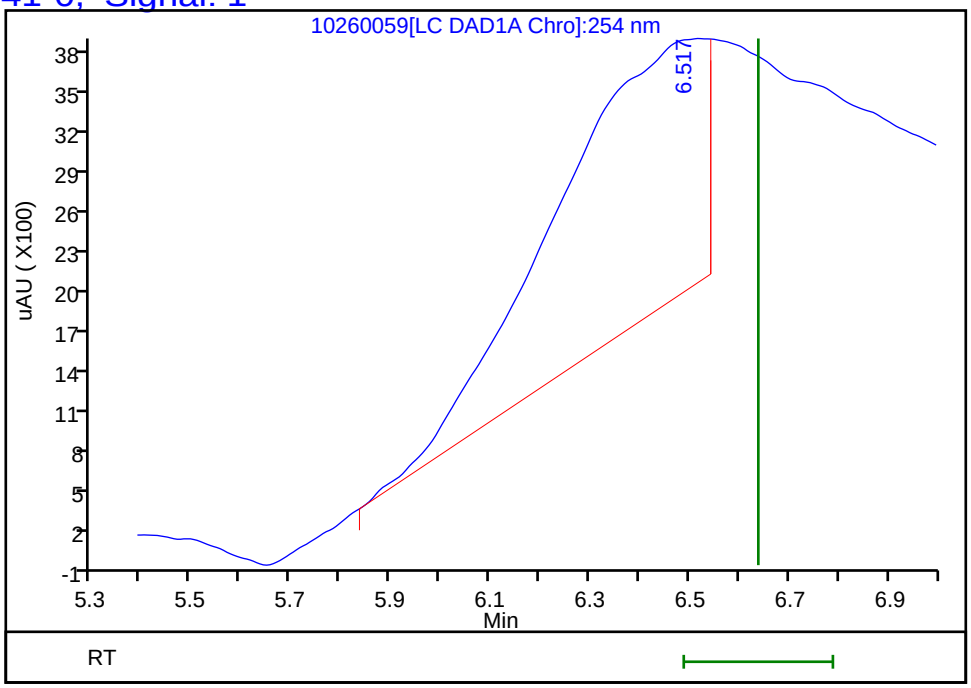
TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260059.D

Injection Date:	27-Oct-2018 08:32:52	Instrument ID:	CHHPLC_X3		
Lims ID:	280-115950-A-1-A	Lab Sample ID:	280-115950-1		
Client ID:	LL1mw-064-181001-GW				
Operator ID:	hkf	ALS Bottle#:	59	Worklist Smp#:	59
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 HMX, CAS: 2691-41-0, Signal: 1

RT: 6.52
Response: 41850
Amount: 0.492668



Reviewer: fiedlerh, 29-Oct-2018 11:10:59
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: LL1mw-088-181001-GW | Lab Sample ID: 280-115950-2

Matrix: Water | Lab File ID: 10260060.D

Analysis Method: 8330B | Date Collected: 10/22/2018 10:40

Extraction Method: 3535 | Date Extracted: 10/24/2018 12:14

Sample wt/vol: 473.2(mL) | Date Analyzed: 10/27/2018 08:55

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435098 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.42	U	1.1	0.42	0.21
99-65-0	1,3-Dinitrobenzene	0.21	U	0.42	0.21	0.094
118-96-7	2,4,6-Trinitrotoluene	0.21	U	0.42	0.21	0.077
121-14-2	2,4-Dinitrotoluene	0.21	U	0.42	0.21	0.089
606-20-2	2,6-Dinitrotoluene	0.21	U	0.21	0.21	0.068
35572-78-2	2-Amino-4,6-dinitrotoluene	0.13	U	0.21	0.13	0.054
88-72-2	2-Nitrotoluene	0.21	U	0.42	0.21	0.090
99-08-1	3-Nitrotoluene	0.21	U	0.42	0.21	0.088
19406-51-0	4-Amino-2,6-dinitrotoluene	0.13	U	0.21	0.13	0.061
99-99-0	4-Nitrotoluene	0.42	U	1.1	0.42	0.21
2691-41-0	HMX	0.21	U M	0.42	0.21	0.093
98-95-3	Nitrobenzene	0.21	U	0.42	0.21	0.096
55-63-0	Nitroglycerin	2.1	U	3.2	2.1	0.97
78-11-5	PETN	1.3	U	2.1	1.3	0.44
121-82-4	RDX	0.13	U	0.21	0.13	0.055
479-45-8	Tetryl	0.21	U Q	0.25	0.21	0.084

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	98		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260060.D
Lims ID: 280-115950-F-2-A
Client ID: LL1mw-088-181001-GW
Sample Type: Client
Inject. Date: 27-Oct-2018 08:55:50 ALS Bottle#: 60 Worklist Smp#: 60
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-F-2-A
Misc. Info.: 280-0075517-060
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2018 11:14:20 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK002

First Level Reviewer: fiedlerh Date: 29-Oct-2018 11:11:04

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 HMX	1		6.639			ND	U
	5 RDX	1		7.739			ND	
$	7 1,2-Dinitrobenzene	1	8.723	8.719	0.004	25327	0.1967	
	8 1,3,5-Trinitrobenzene	1		8.879			ND	
	9 1,3-Dinitrobenzene	1		9.532			ND	
	11 Nitrobenzene	1		9.919			ND	
	12 Tetryl	1		10.239			ND	
	13 Nitroglycerin	2		10.746			ND	
	14 2,4,6-Trinitrotoluene	1		11.192			ND	
	15 4-Amino-2,6-dinitrotoluene	1		11.366			ND	
	16 2-Amino-4,6-dinitrotoluene	1		11.646			ND	
	17 2,6-Dinitrotoluene	1		11.799			ND	
	18 2,4-Dinitrotoluene	1		11.992			ND	
	19 o-Nitrotoluene	1		12.832			ND	
	20 p-Nitrotoluene	1		13.266			ND	
	21 m-Nitrotoluene	1		13.859			ND	
	22 PETN	2		14.966			ND	

QC Flag Legend

Review Flags
U - Marked Undetected

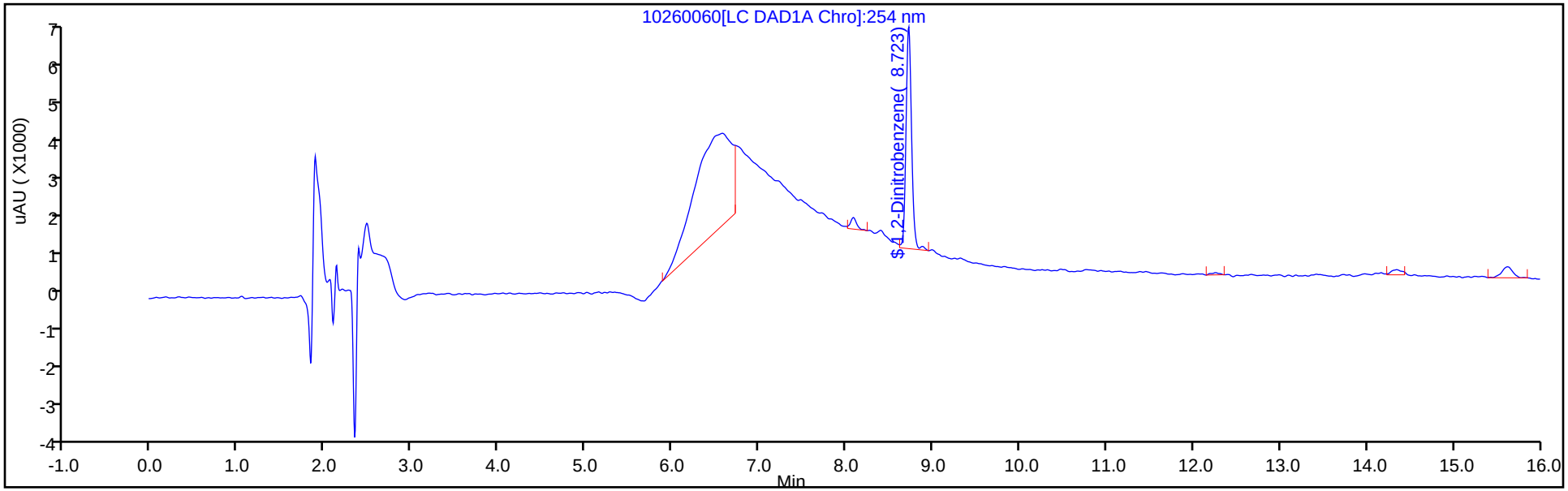
Report Date: 29-Oct-2018 11:14:26 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

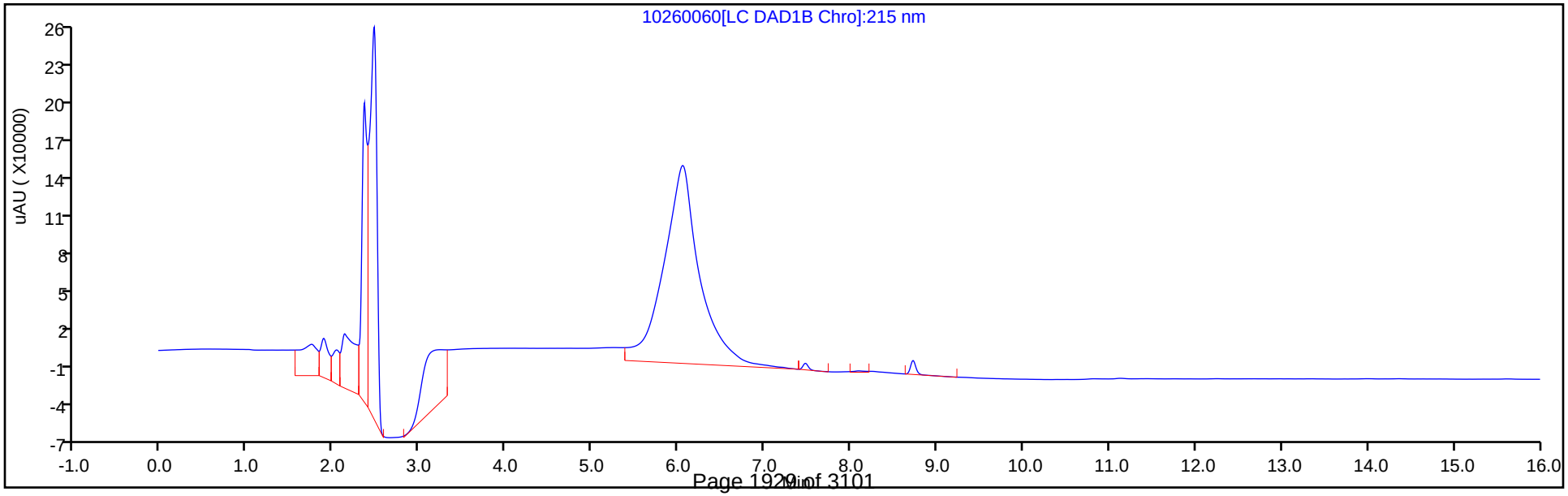
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260060.D

Injection Date:	27-Oct-2018 08:55:50	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	280-115950-F-2-A	Lab Sample ID:	280-115950-2	Worklist Smp#:	60
Client ID:	LL1mw-088-181001-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	60
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260060.D				
Lims ID:	280-115950-F-2-A				
Client ID:	LL1mw-088-181001-GW				
Sample Type:	Client				
Inject. Date:	27-Oct-2018 08:55:50	ALS Bottle#:	60	Worklist Smp#:	60
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-115950-F-2-A				
Misc. Info.:	280-0075517-060				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	29-Oct-2018 11:14:20	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	XAWRK002				

First Level Reviewer: fiedlerh Date: 29-Oct-2018 11:11:04

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.1967	98.37

User Disabled Compound Report

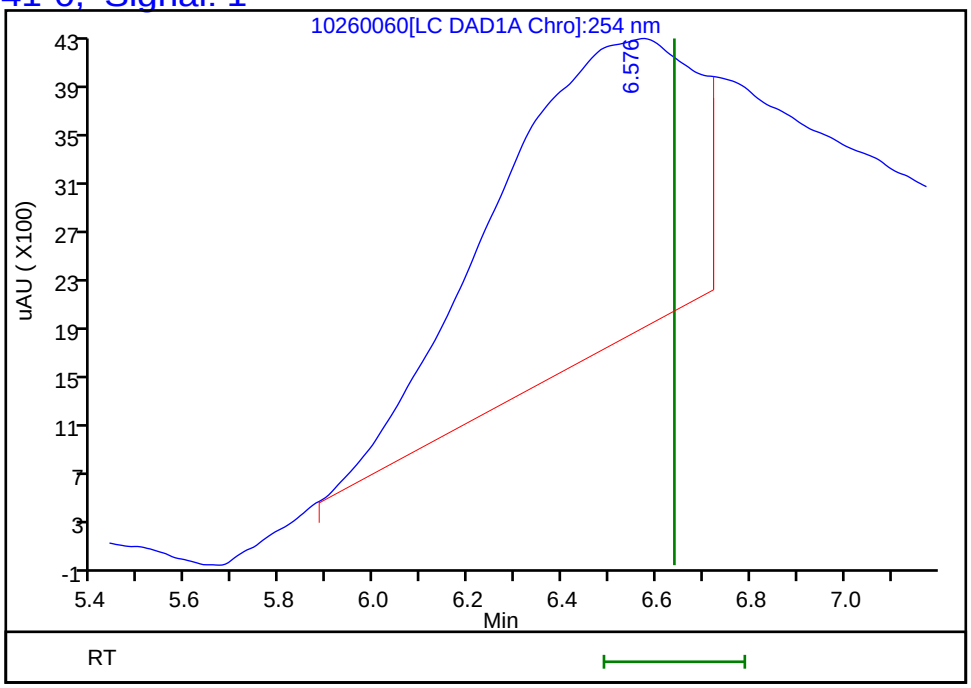
TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260060.D

Injection Date:	27-Oct-2018 08:55:50	Instrument ID:	CHHPLC_X3		
Lims ID:	280-115950-F-2-A	Lab Sample ID:	280-115950-2		
Client ID:	LL1mw-088-181001-GW				
Operator ID:	hkf	ALS Bottle#:	60	Worklist Smp#:	60
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 HMX, CAS: 2691-41-0, Signal: 1

RT: 6.58
Response: 74652
Amount: 0.878822



Reviewer: fiedlerh, 29-Oct-2018 11:11:04

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: LL1mw-088-181002-GW | Lab Sample ID: 280-115950-3

Matrix: Water | Lab File ID: 10260061.D

Analysis Method: 8330B | Date Collected: 10/22/2018 10:40

Extraction Method: 3535 | Date Extracted: 10/24/2018 12:14

Sample wt/vol: 471.3(mL) | Date Analyzed: 10/27/2018 09:18

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435098 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.42	U	1.1	0.42	0.21
99-65-0	1,3-Dinitrobenzene	0.21	U	0.42	0.21	0.094
118-96-7	2,4,6-Trinitrotoluene	0.21	U	0.42	0.21	0.077
606-20-2	2,6-Dinitrotoluene	0.21	U	0.21	0.21	0.068
35572-78-2	2-Amino-4,6-dinitrotoluene	0.13	U	0.21	0.13	0.054
88-72-2	2-Nitrotoluene	0.21	U	0.42	0.21	0.091
99-08-1	3-Nitrotoluene	0.21	U M	0.42	0.21	0.088
19406-51-0	4-Amino-2,6-dinitrotoluene	0.13	U	0.21	0.13	0.061
99-99-0	4-Nitrotoluene	0.42	U	1.1	0.42	0.21
2691-41-0	HMX	0.21	U M	0.42	0.21	0.093
98-95-3	Nitrobenzene	0.21	U	0.42	0.21	0.097
55-63-0	Nitroglycerin	2.1	U	3.2	2.1	0.98
78-11-5	PETN	1.3	U	2.1	1.3	0.44
479-45-8	Tetryl	0.21	U Q	0.25	0.21	0.084

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	101	M	83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260061.D
Lims ID: 280-115950-E-3-A
Client ID: LL1mw-088-181002-GW
Sample Type: Client
Inject. Date: 27-Oct-2018 09:18:52 ALS Bottle#: 61 Worklist Smp#: 61
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-E-3-A
Misc. Info.: 280-0075517-061
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2018 11:14:20 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK002

First Level Reviewer: fiedlerh Date: 29-Oct-2018 11:11:32

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 HMX	1		6.639			ND	U
	5 RDX	1	7.731	7.739	-0.008	8075	0.0772	M
$	7 1,2-Dinitrobenzene	1	8.718	8.719	-0.001	25942	0.2015	M
	8 1,3,5-Trinitrobenzene	1		8.879			ND	
	9 1,3-Dinitrobenzene	1		9.532			ND	
	11 Nitrobenzene	1		9.919			ND	
	12 Tetryl	1		10.239			ND	
	13 Nitroglycerin	2		10.746			ND	
	14 2,4,6-Trinitrotoluene	1		11.192			ND	
	15 4-Amino-2,6-dinitrotoluene	1		11.366			ND	
	16 2-Amino-4,6-dinitrotoluene	1		11.646			ND	
	17 2,6-Dinitrotoluene	1		11.799			ND	
	18 2,4-Dinitrotoluene	1	12.011	11.992	0.019	3683	0.0123	M
	19 o-Nitrotoluene	1		12.832			ND	
	20 p-Nitrotoluene	1		13.266			ND	
	21 m-Nitrotoluene	1		13.859			ND	U
	22 PETN	2		14.966			ND	

QC Flag Legend

Review Flags
M - Manually Integrated
U - Marked Undetected

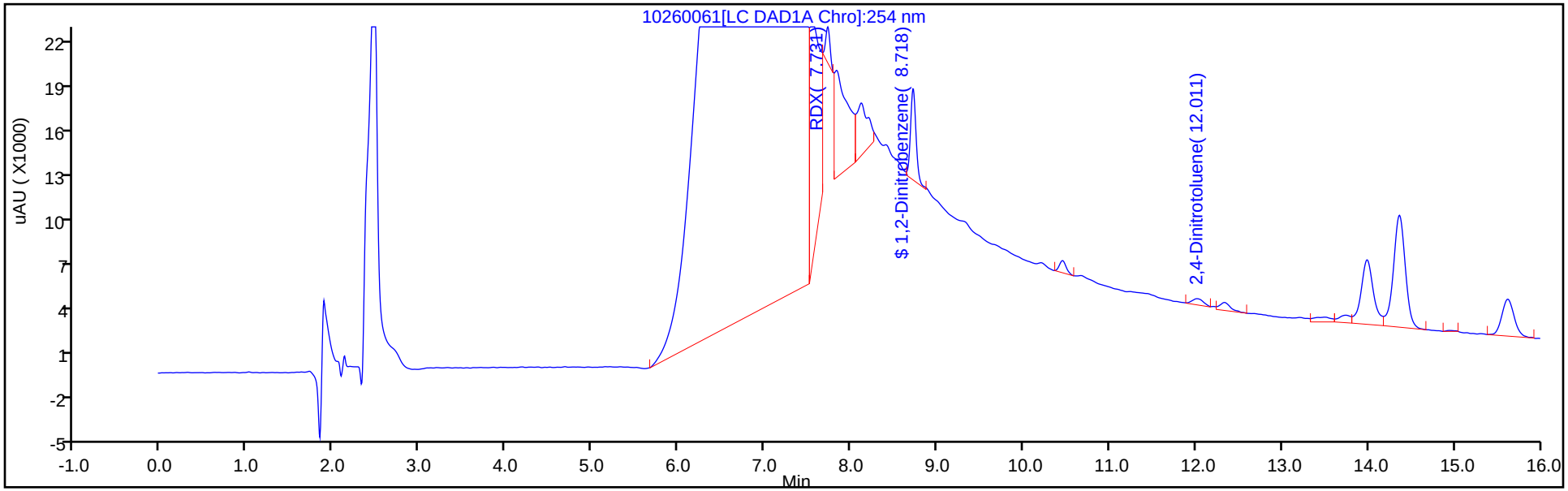
Report Date: 29-Oct-2018 11:14:27 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

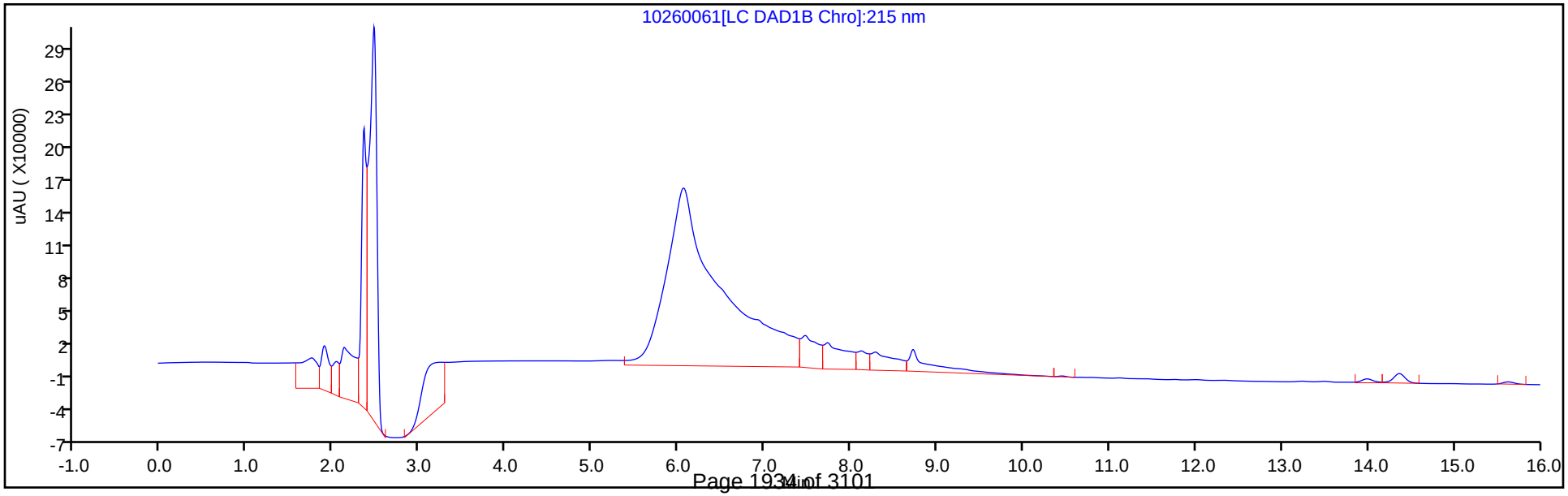
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260061.D

Injection Date:	27-Oct-2018 09:18:52	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	280-115950-E-3-A	Lab Sample ID:	280-115950-3	Worklist Smp#:	61
Client ID:	LL1mw-088-181002-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	61
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260061.D				
Lims ID:	280-115950-E-3-A				
Client ID:	LL1mw-088-181002-GW				
Sample Type:	Client				
Inject. Date:	27-Oct-2018 09:18:52	ALS Bottle#:	61	Worklist Smp#:	61
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-115950-E-3-A				
Misc. Info.:	280-0075517-061				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	29-Oct-2018 11:14:20	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	XAWRK002				

First Level Reviewer: fiedlerh Date: 29-Oct-2018 11:11:32

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.2015	100.76

Manual Integration/User Assign Peak Report

TestAmerica Denver

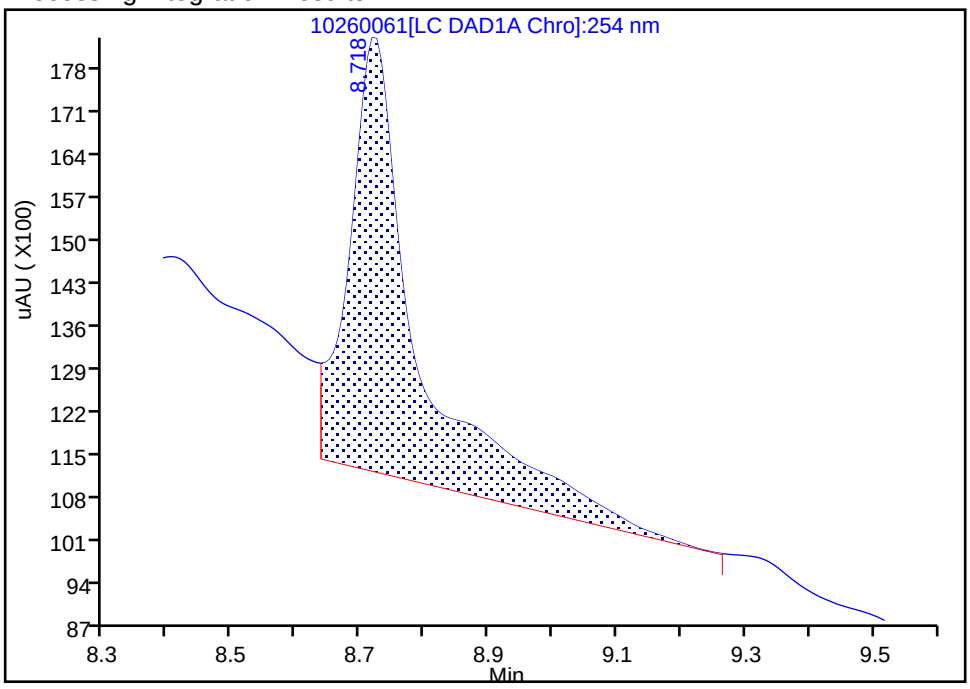
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260061.D				
Injection Date:	27-Oct-2018 09:18:52	Instrument ID:	CHHPLC_X3		
Lims ID:	280-115950-E-3-A	Lab Sample ID:	280-115950-3		
Client ID:	LL1mw-088-181002-GW				
Operator ID:	hkf	ALS Bottle#:	61	Worklist Smp#:	61
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

$ 7 1,2-Dinitrobenzene, CAS: 528-29-0

Signal: 1

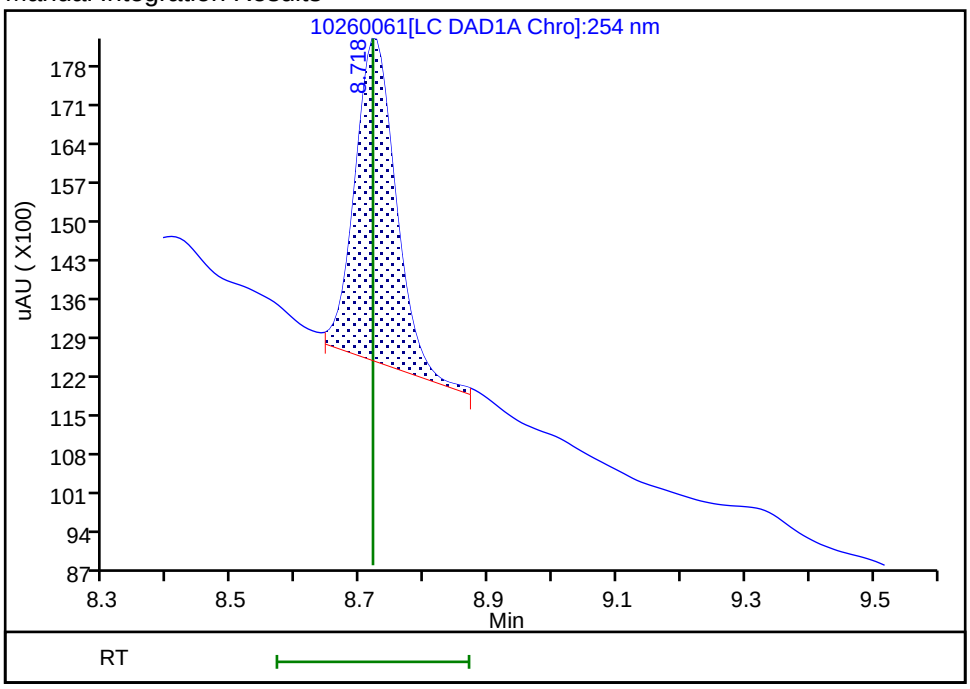
Processing Integration Results

RT: 8.72
Area: 52747
Amount: 0.409758
Amount Units: ug/mL



Manual Integration Results

RT: 8.72
Area: 25942
Amount: 0.201527
Amount Units: ug/mL



Reviewer: fiedlerh, 29-Oct-2018 11:11:21

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

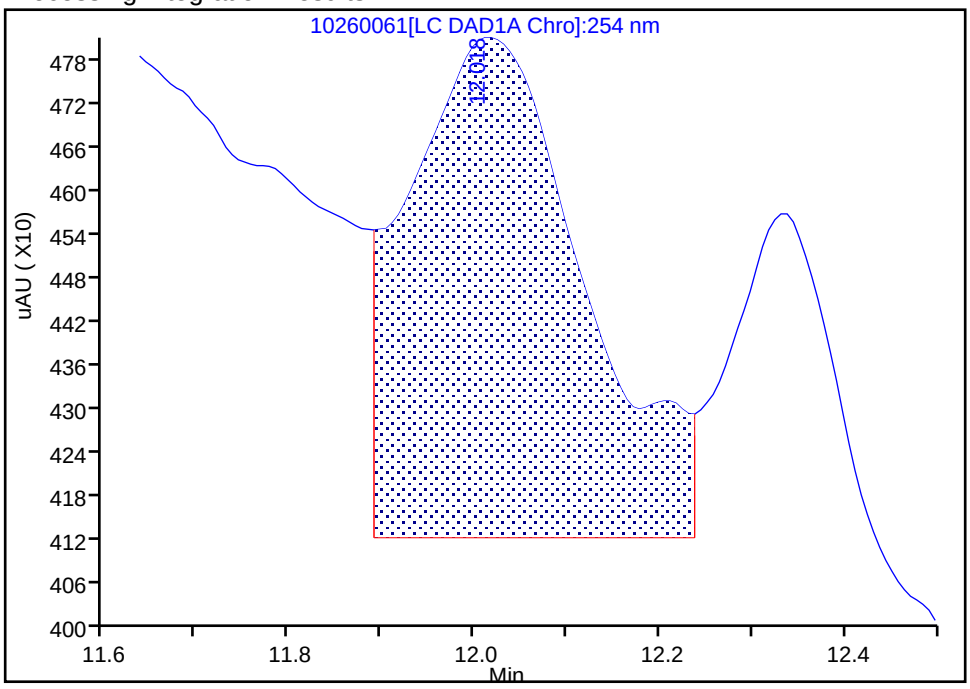
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260061.D				
Injection Date:	27-Oct-2018 09:18:52	Instrument ID:	CHHPLC_X3		
Lims ID:	280-115950-E-3-A	Lab Sample ID:	280-115950-3		
Client ID:	LL1mw-088-181002-GW				
Operator ID:	hkf	ALS Bottle#:	61	Worklist Smp#:	61
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

18 2,4-Dinitrotoluene, CAS: 121-14-2

Signal: 1

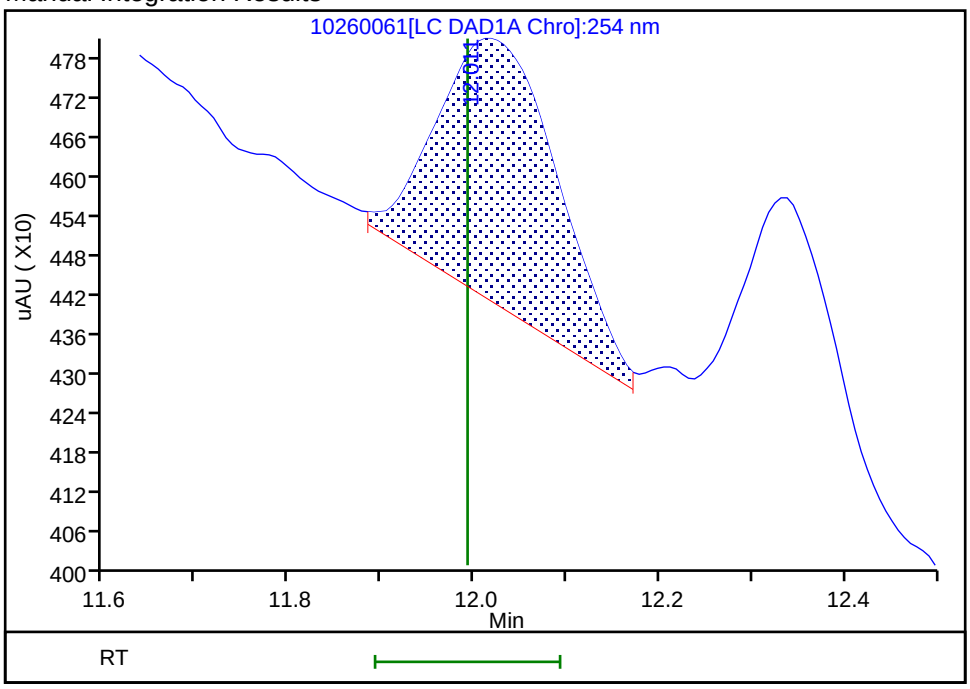
Processing Integration Results

RT: 12.02
Area: 9016
Amount: 0.030228
Amount Units: ug/mL



Manual Integration Results

RT: 12.01
Area: 3683
Amount: 0.012348
Amount Units: ug/mL



Reviewer: fiedlerh, 29-Oct-2018 11:11:29

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

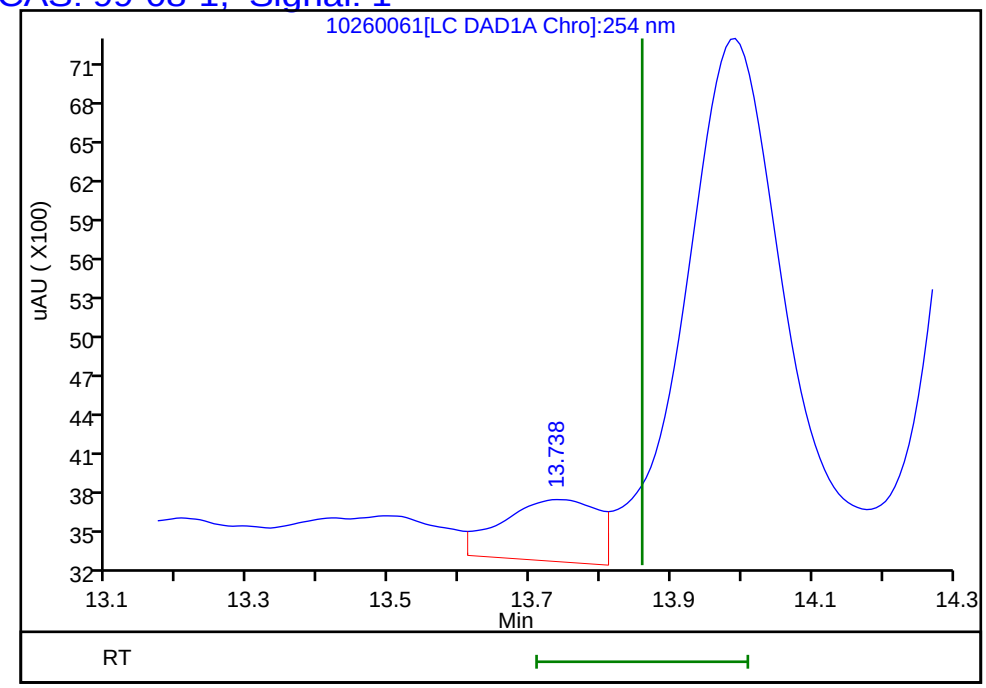
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260061.D				
Injection Date:	27-Oct-2018 09:18:52	Instrument ID:	CHHPLC_X3		
Lims ID:	280-115950-E-3-A	Lab Sample ID:	280-115950-3		
Client ID:	LL1mw-088-181002-GW				
Operator ID:	hkf	ALS Bottle#:	61	Worklist Smp#:	61
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

21 m-Nitrotoluene, CAS: 99-08-1, Signal: 1

RT: 13.74
Response: 4479
Amount: 0.030241



Reviewer: fiedlerh, 29-Oct-2018 11:11:32
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

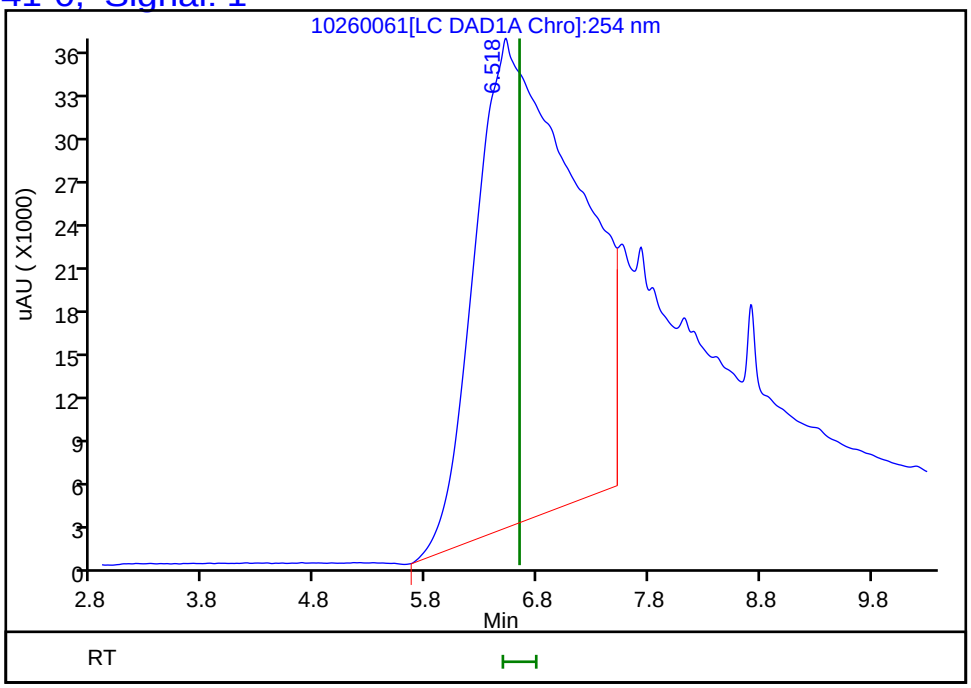
TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260061.D

Injection Date:	27-Oct-2018 09:18:52	Instrument ID:	CHHPLC_X3		
Lims ID:	280-115950-E-3-A	Lab Sample ID:	280-115950-3		
Client ID:	LL1mw-088-181002-GW				
Operator ID:	hkf	ALS Bottle#:	61	Worklist Smp#:	61
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 HMX, CAS: 2691-41-0, Signal: 1

RT: 6.52
Response: 2132980
Amount: 25.109961



Reviewer: fiedlerh, 29-Oct-2018 11:11:32

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

TestAmerica Denver

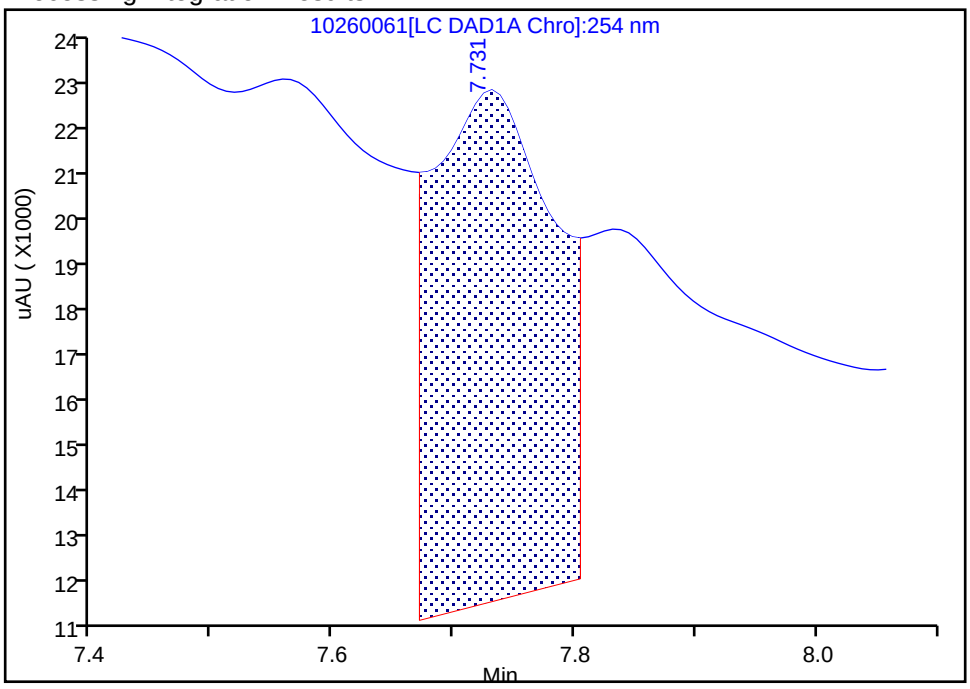
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260061.D				
Injection Date:	27-Oct-2018 09:18:52	Instrument ID:	CHHPLC_X3		
Lims ID:	280-115950-E-3-A	Lab Sample ID:	280-115950-3		
Client ID:	LL1mw-088-181002-GW				
Operator ID:	hkf	ALS Bottle#:	61	Worklist Smp#:	61
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 RDX, CAS: 121-82-4

Signal: 1

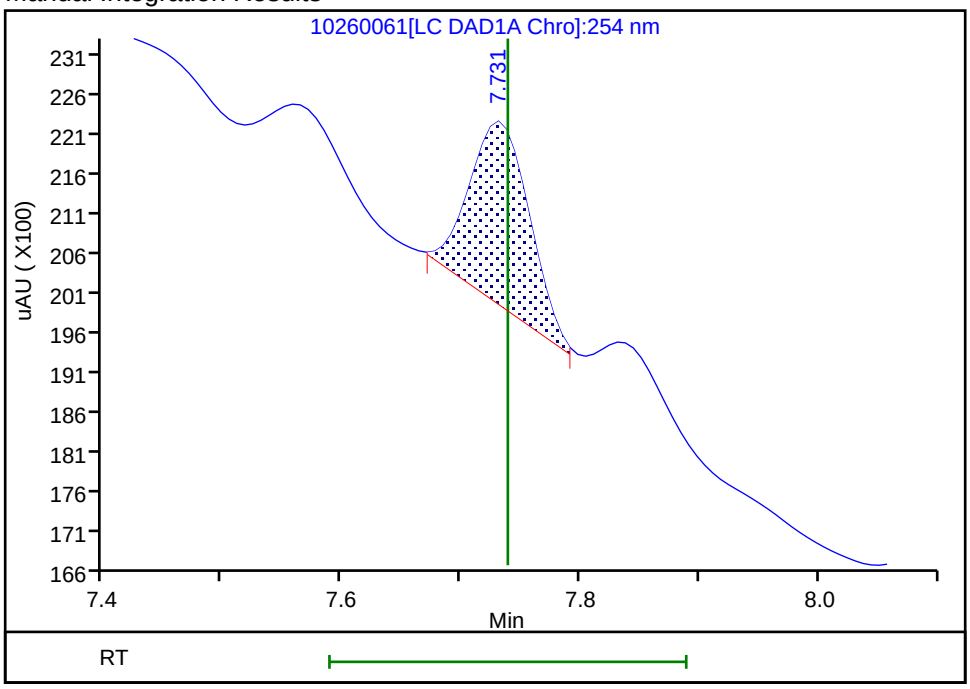
Processing Integration Results

RT: 7.73
Area: 70565
Amount: 0.674764
Amount Units: ug/mL



Manual Integration Results

RT: 7.73
Area: 8075
Amount: 0.077216
Amount Units: ug/mL



Reviewer: fiedlerh, 29-Oct-2018 11:11:16

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: LL1mw-088-181002-GW | Lab Sample ID: 280-115950-3

Matrix: Water | Lab File ID: 10290054.D

Analysis Method: 8330B | Date Collected: 10/22/2018 10:40

Extraction Method: 3535 | Date Extracted: 10/24/2018 12:14

Sample wt/vol: 471.3(mL) | Date Analyzed: 10/30/2018 17:09

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435336 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
121-14-2	2,4-Dinitrotoluene	0.21	U	0.42	0.21	0.089
121-82-4	RDX	0.13	U	0.21	0.13	0.055

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	85		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\10290054.D
Lims ID: 280-115950-E-3-A
Client ID: LL1mw-088-181002-GW
Sample Type: Client
Inject. Date: 30-Oct-2018 17:09:07 ALS Bottle#: 54 Worklist Smp#: 54
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-E-3-A
Misc. Info.: 280-0075570-054
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 31-Oct-2018 14:39:10 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0316

First Level Reviewer: fiedlerh Date: 31-Oct-2018 14:05:09

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
5 HMX	1	7.019	7.116	-0.097	11376	0.0596	
7 RDX	1		9.183			ND	
8 Nitrobenzene	1		12.123			ND	
$ 9 1,2-Dinitrobenzene	1	13.105	13.123	-0.018	52267	0.1692	
12 Nitroglycerin	2		15.623			ND	
11 1,3-Dinitrobenzene	1		15.669			ND	
13 o-Nitrotoluene	1		16.436			ND	
14 p-Nitrotoluene	1	16.818	16.769	0.049	120894	0.5127	
15 4-Amino-2,6-dinitrotoluene	1		17.176			ND	
16 m-Nitrotoluene	1	17.658	17.676	-0.018	27882	0.0891	
17 2-Amino-4,6-dinitrotoluene	1		18.209			ND	
18 1,3,5-Trinitrobenzene	1		18.963			ND	
19 2,6-Dinitrotoluene	1		19.776			ND	
20 2,4-Dinitrotoluene	1		20.343			ND	
21 Tetryl	1		23.669			ND	
22 2,4,6-Trinitrotoluene	1		24.683			ND	
23 PETN	2		25.103			ND	

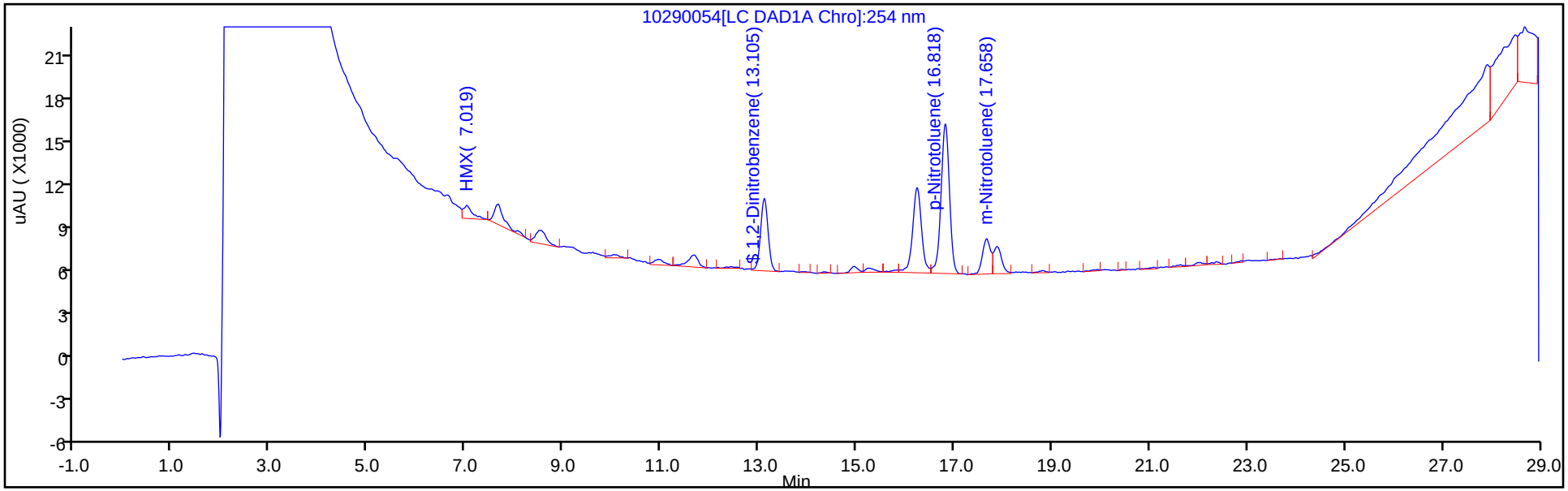
Report Date: 31-Oct-2018 14:39:13 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

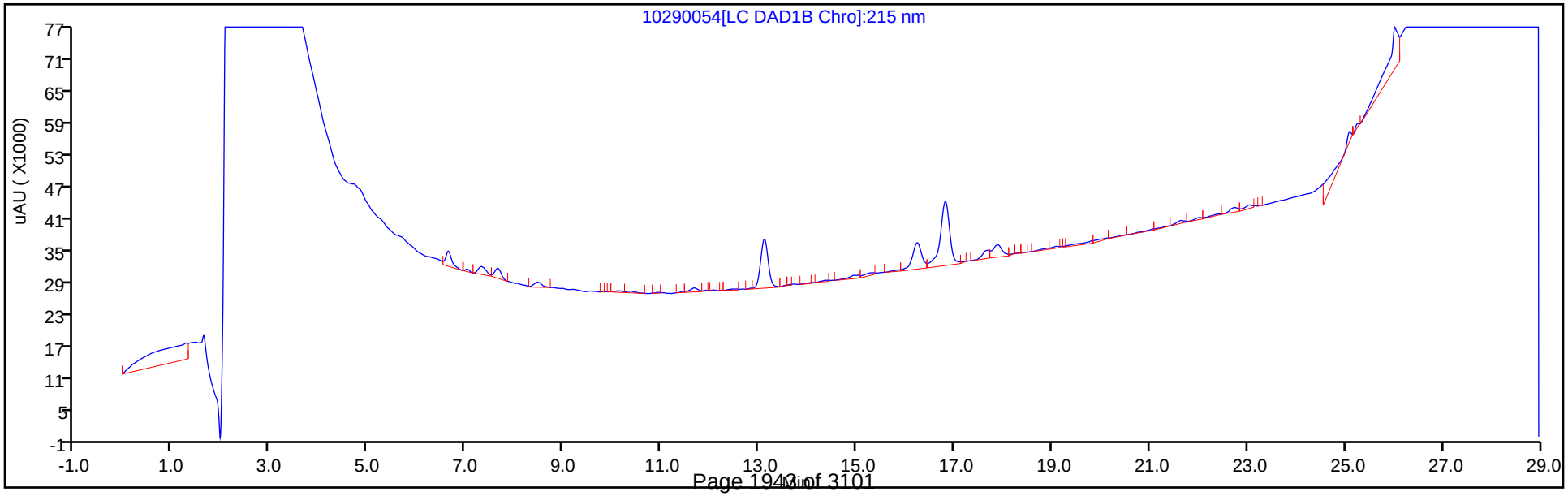
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\10290054.D

Injection Date:	30-Oct-2018 17:09:07	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	280-115950-E-3-A	Lab Sample ID:	280-115950-3	Worklist Smp#:	54
Client ID:	LL1mw-088-181002-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	54
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\10290054.D
Lims ID: 280-115950-E-3-A
Client ID: LL1mw-088-181002-GW
Sample Type: Client
Inject. Date: 30-Oct-2018 17:09:07 ALS Bottle#: 54 Worklist Smp#: 54
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-E-3-A
Misc. Info.: 280-0075570-054
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 31-Oct-2018 14:39:10 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0316

First Level Reviewer: fiedlerh Date: 31-Oct-2018 14:05:09

Compound	Amount Added	Amount Recovered	% Rec.
$ 9 1,2-Dinitrobenzene	0.2000	0.1692	84.61

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: RQLmw-007-181001-GW | Lab Sample ID: 280-115950-4

Matrix: Water | Lab File ID: 10260062.D

Analysis Method: 8330B | Date Collected: 10/22/2018 12:50

Extraction Method: 3535 | Date Extracted: 10/24/2018 12:14

Sample wt/vol: 474.5(mL) | Date Analyzed: 10/27/2018 09:41

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435098 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.42	U	1.1	0.42	0.21
99-65-0	1,3-Dinitrobenzene	0.21	U	0.42	0.21	0.093
118-96-7	2,4,6-Trinitrotoluene	0.21	U	0.42	0.21	0.076
121-14-2	2,4-Dinitrotoluene	0.21	U	0.42	0.21	0.088
606-20-2	2,6-Dinitrotoluene	0.21	U	0.21	0.21	0.068
35572-78-2	2-Amino-4,6-dinitrotoluene	0.13	U	0.21	0.13	0.053
88-72-2	2-Nitrotoluene	0.21	U	0.42	0.21	0.090
99-08-1	3-Nitrotoluene	0.21	U	0.42	0.21	0.088
19406-51-0	4-Amino-2,6-dinitrotoluene	0.13	U	0.21	0.13	0.061
99-99-0	4-Nitrotoluene	0.42	U	1.1	0.42	0.21
2691-41-0	HMX	0.21	U M	0.42	0.21	0.092
98-95-3	Nitrobenzene	0.21	U	0.42	0.21	0.096
55-63-0	Nitroglycerin	2.1	U	3.2	2.1	0.97
78-11-5	PETN	1.3	U	2.1	1.3	0.44
121-82-4	RDX	0.13	U	0.21	0.13	0.055
479-45-8	Tetryl	0.21	U Q	0.25	0.21	0.084

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	99		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260062.D
Lims ID: 280-115950-E-4-A
Client ID: RQLmw-007-181001-GW
Sample Type: Client
Inject. Date: 27-Oct-2018 09:41:51 ALS Bottle#: 62 Worklist Smp#: 62
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-E-4-A
Misc. Info.: 280-0075517-062
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2018 11:14:20 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK002

First Level Reviewer: fiedlerh Date: 29-Oct-2018 11:11:48

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 HMX	1		6.639			ND	U
	5 RDX	1		7.739			ND	
$	7 1,2-Dinitrobenzene	1	8.722	8.719	0.003	25422	0.1975	
	8 1,3,5-Trinitrobenzene	1		8.879			ND	
	9 1,3-Dinitrobenzene	1		9.532			ND	
	11 Nitrobenzene	1		9.919			ND	
	12 Tetryl	1		10.239			ND	
	13 Nitroglycerin	2		10.746			ND	
	14 2,4,6-Trinitrotoluene	1		11.192			ND	
	15 4-Amino-2,6-dinitrotoluene	1		11.366			ND	
	16 2-Amino-4,6-dinitrotoluene	1		11.646			ND	
	17 2,6-Dinitrotoluene	1		11.799			ND	
	18 2,4-Dinitrotoluene	1		11.992			ND	
	19 o-Nitrotoluene	1		12.832			ND	
	20 p-Nitrotoluene	1		13.266			ND	
	21 m-Nitrotoluene	1		13.859			ND	
	22 PETN	2		14.966			ND	

QC Flag Legend

Review Flags
U - Marked Undetected

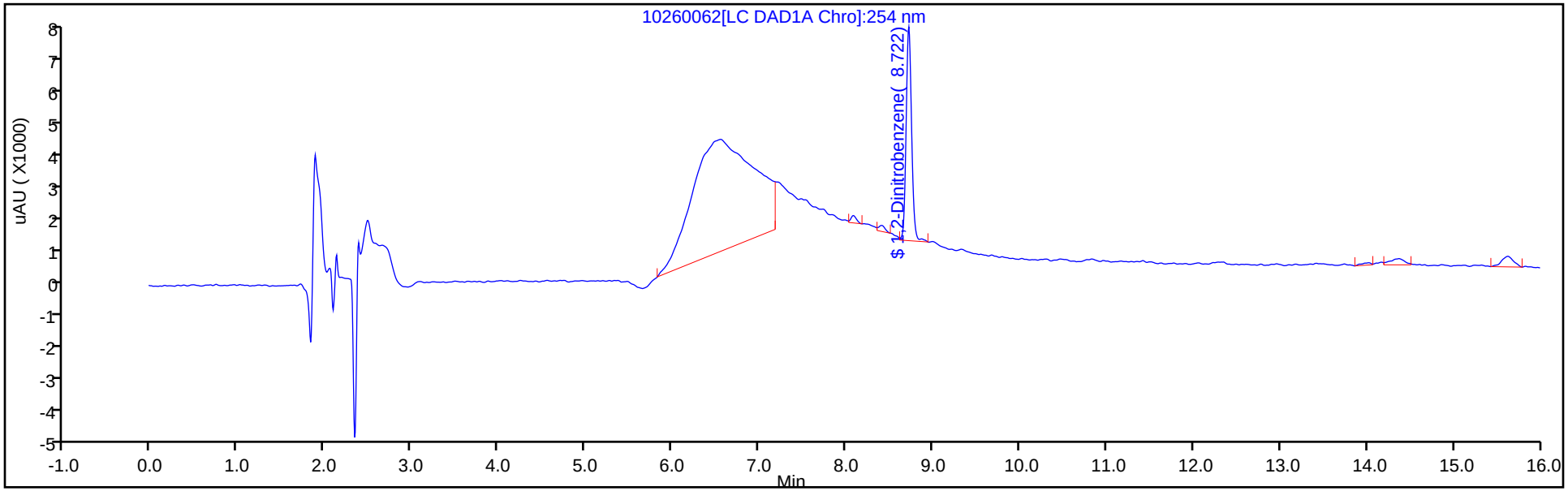
Report Date: 29-Oct-2018 11:14:29 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

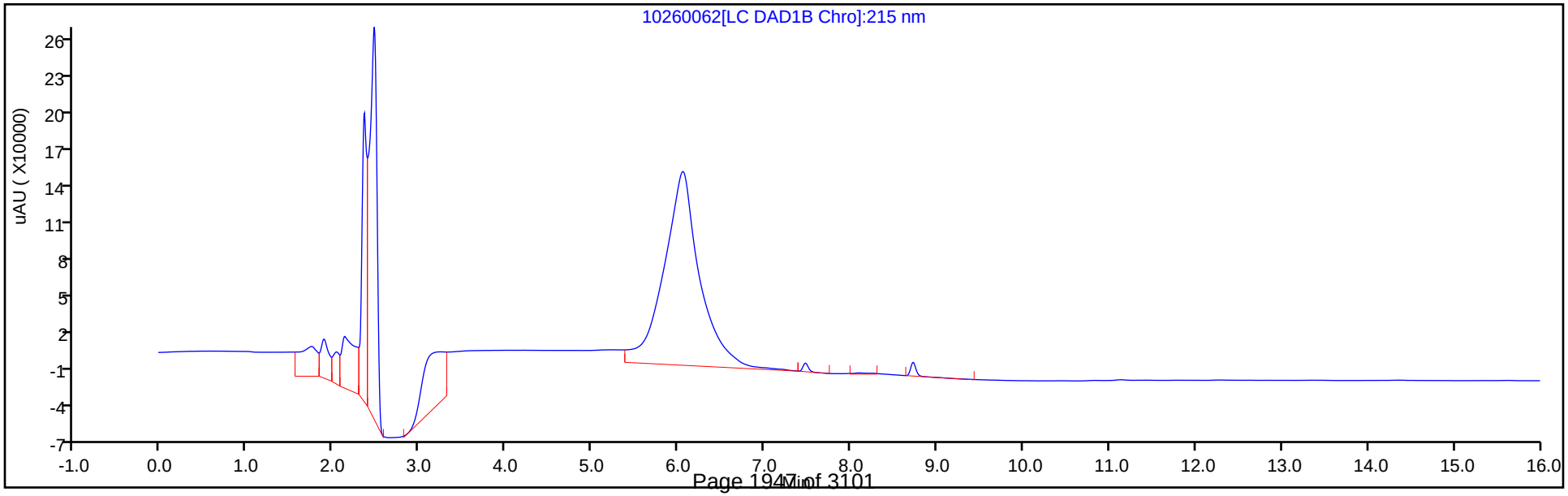
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260062.D

Injection Date:	27-Oct-2018 09:41:51	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	280-115950-E-4-A	Lab Sample ID:	280-115950-4	Worklist Smp#:	62
Client ID:	RQLmw-007-181001-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	62
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260062.D				
Lims ID:	280-115950-E-4-A				
Client ID:	RQLmw-007-181001-GW				
Sample Type:	Client				
Inject. Date:	27-Oct-2018 09:41:51	ALS Bottle#:	62	Worklist Smp#:	62
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-115950-E-4-A				
Misc. Info.:	280-0075517-062				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	29-Oct-2018 11:14:20	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	XAWRK002				

First Level Reviewer: fiedlerh Date: 29-Oct-2018 11:11:48

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.1975	98.74

User Disabled Compound Report

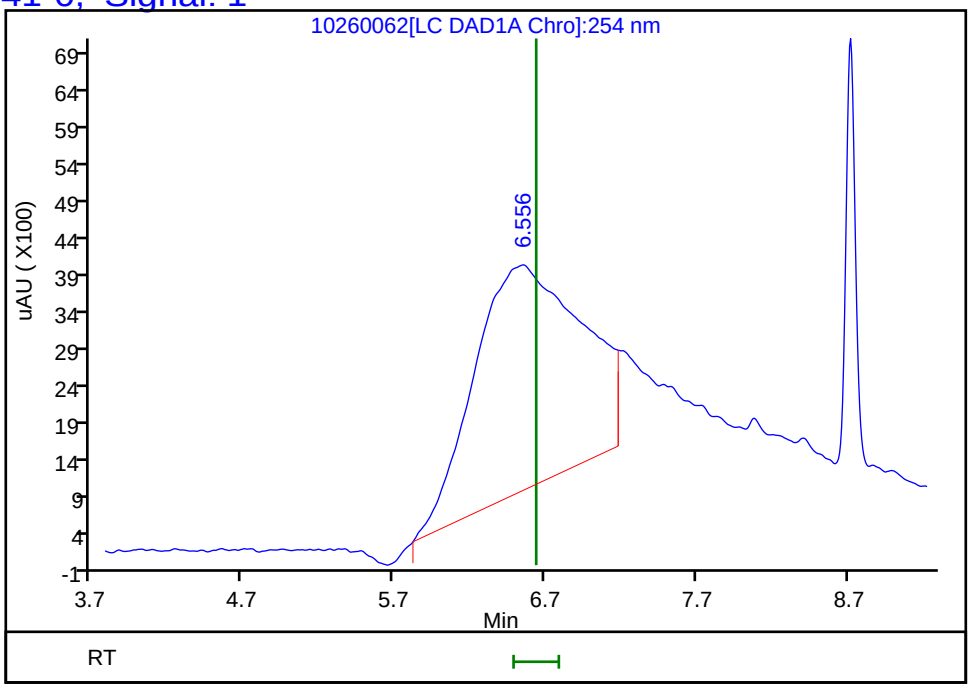
TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260062.D

Injection Date:	27-Oct-2018 09:41:51	Instrument ID:	CHHPLC_X3		
Lims ID:	280-115950-E-4-A	Lab Sample ID:	280-115950-4		
Client ID:	RQLmw-007-181001-GW				
Operator ID:	hkf	ALS Bottle#:	62	Worklist Smp#:	62
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 HMX, CAS: 2691-41-0, Signal: 1

RT: 6.56
Response: 149247
Amount: 1.756972



Reviewer: fiedlerh, 29-Oct-2018 11:11:48

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: RQLmw-008-181001-GW | Lab Sample ID: 280-115950-5

Matrix: Water | Lab File ID: 10260063.D

Analysis Method: 8330B | Date Collected: 10/22/2018 10:05

Extraction Method: 3535 | Date Extracted: 10/24/2018 12:14

Sample wt/vol: 474.3(mL) | Date Analyzed: 10/27/2018 10:04

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435098 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.42	U	1.1	0.42	0.21
99-65-0	1,3-Dinitrobenzene	0.21	U	0.42	0.21	0.094
118-96-7	2,4,6-Trinitrotoluene	0.21	U	0.42	0.21	0.076
606-20-2	2,6-Dinitrotoluene	0.21	U	0.21	0.21	0.068
35572-78-2	2-Amino-4,6-dinitrotoluene	0.13	U	0.21	0.13	0.053
88-72-2	2-Nitrotoluene	0.21	U M	0.42	0.21	0.090
99-08-1	3-Nitrotoluene	0.21	U M	0.42	0.21	0.088
19406-51-0	4-Amino-2,6-dinitrotoluene	0.13	U M	0.21	0.13	0.061
99-99-0	4-Nitrotoluene	0.42	U M	1.1	0.42	0.21
2691-41-0	HMX	0.27	J M	0.42	0.21	0.092
98-95-3	Nitrobenzene	0.21	U	0.42	0.21	0.096
55-63-0	Nitroglycerin	2.1	U M	3.2	2.1	0.97
78-11-5	PETN	1.3	U	2.1	1.3	0.44
121-82-4	RDX	0.85	M J1	0.21	0.13	0.055

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	108	M	83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260063.D
Lims ID: 280-115950-F-5-B
Client ID: RQLmw-008-181001-GW
Sample Type: Client
Inject. Date: 27-Oct-2018 10:04:50 ALS Bottle#: 63 Worklist Smp#: 63
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-F-5-B
Misc. Info.: 280-0075517-063
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2018 11:14:20 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK002

First Level Reviewer: fiedlerh Date: 29-Oct-2018 11:12:38

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 HMX	1	6.603	6.639	-0.036	2150	0.0253	M
	5 RDX	1	7.729	7.739	-0.010	8410	0.0804	M
$	7 1,2-Dinitrobenzene	1	8.723	8.719	0.004	27827	0.2162	M
	8 1,3,5-Trinitrobenzene	1		8.879			ND	
	9 1,3-Dinitrobenzene	1		9.532			ND	
	11 Nitrobenzene	1		9.919			ND	
	12 Tetryl	1	10.222	10.239	-0.017	2934	0.0180	
	13 Nitroglycerin	2		10.746			ND	U
	14 2,4,6-Trinitrotoluene	1		11.192			ND	
	15 4-Amino-2,6-dinitrotoluene	1		11.366			ND	U
	16 2-Amino-4,6-dinitrotoluene	1		11.646			ND	
	17 2,6-Dinitrotoluene	1		11.799			ND	
	18 2,4-Dinitrotoluene	1	12.002	11.992	0.010	7028	0.0236	
	19 o-Nitrotoluene	1		12.832			ND	U
	20 p-Nitrotoluene	1		13.266			ND	U
	21 m-Nitrotoluene	1		13.859			ND	U
	22 PETN	2		14.966			ND	

QC Flag Legend

Review Flags
M - Manually Integrated
U - Marked Undetected

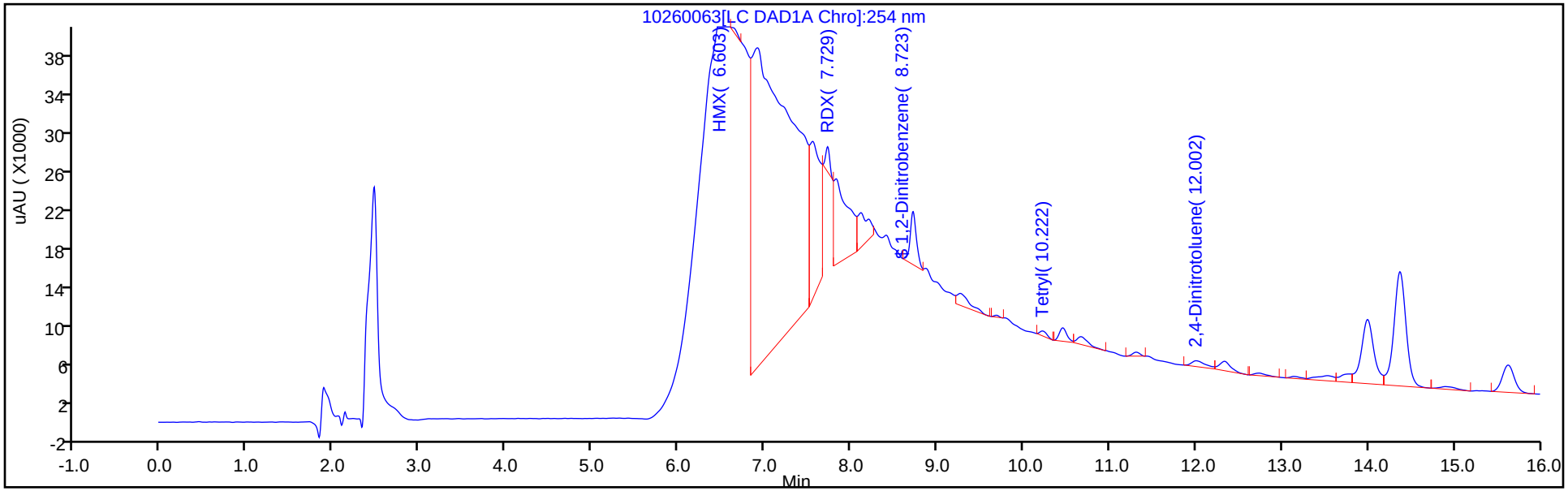
Report Date: 29-Oct-2018 11:14:30 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

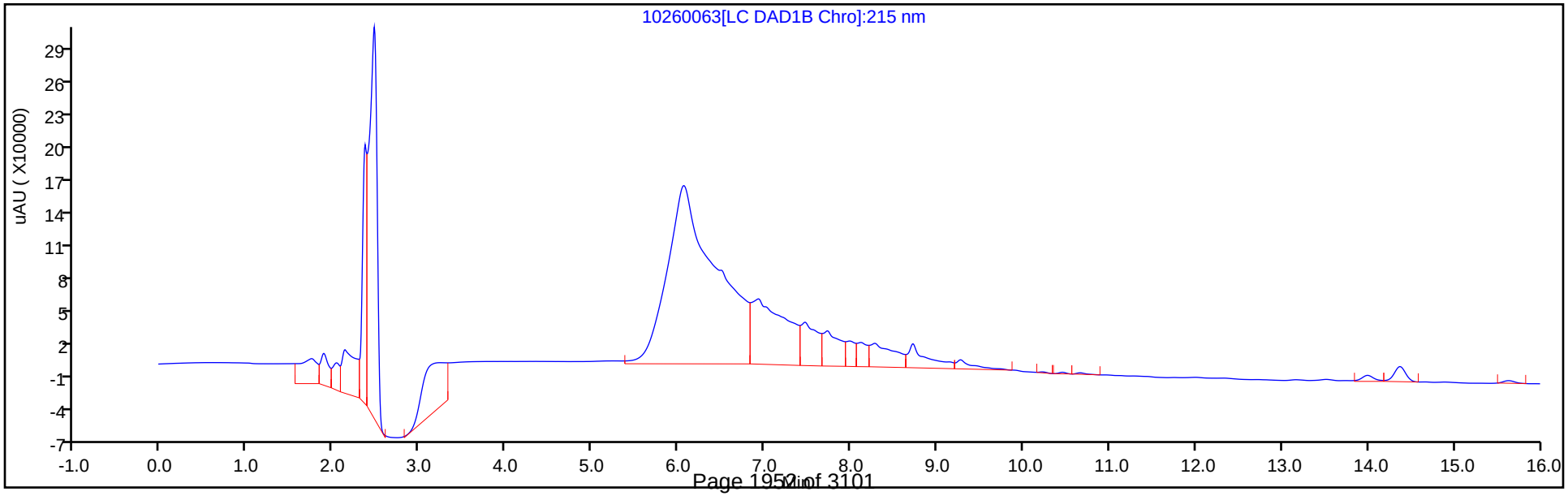
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260063.D

Injection Date:	27-Oct-2018 10:04:50	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	280-115950-F-5-B	Lab Sample ID:	280-115950-5	Worklist Smp#:	63
Client ID:	RQLmw-008-181001-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	63
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260063.D
Lims ID: 280-115950-F-5-B
Client ID: RQLmw-008-181001-GW
Sample Type: Client
Inject. Date: 27-Oct-2018 10:04:50 ALS Bottle#: 63 Worklist Smp#: 63
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-F-5-B
Misc. Info.: 280-0075517-063
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2018 11:14:20 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK002

First Level Reviewer: fiedlerh Date: 29-Oct-2018 11:12:38

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.2162	108.09

Manual Integration/User Assign Peak Report

TestAmerica Denver

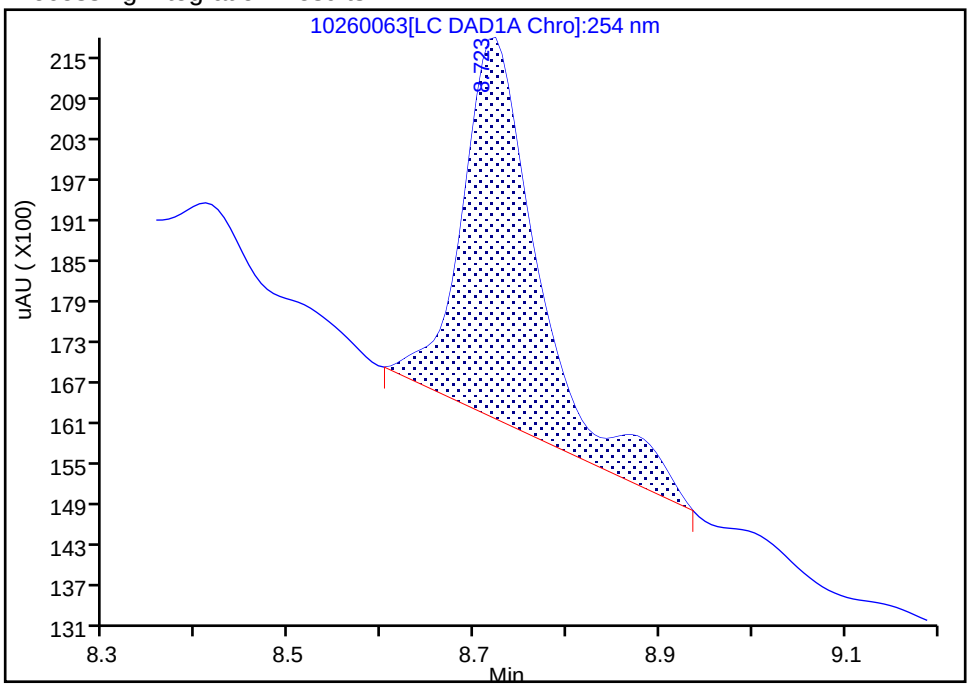
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260063.D				
Injection Date:	27-Oct-2018 10:04:50	Instrument ID:	CHHPLC_X3		
Lims ID:	280-115950-F-5-B	Lab Sample ID:	280-115950-5		
Client ID:	RQLmw-008-181001-GW				
Operator ID:	hkf	ALS Bottle#:	63	Worklist Smp#:	63
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

$ 7 1,2-Dinitrobenzene, CAS: 528-29-0

Signal: 1

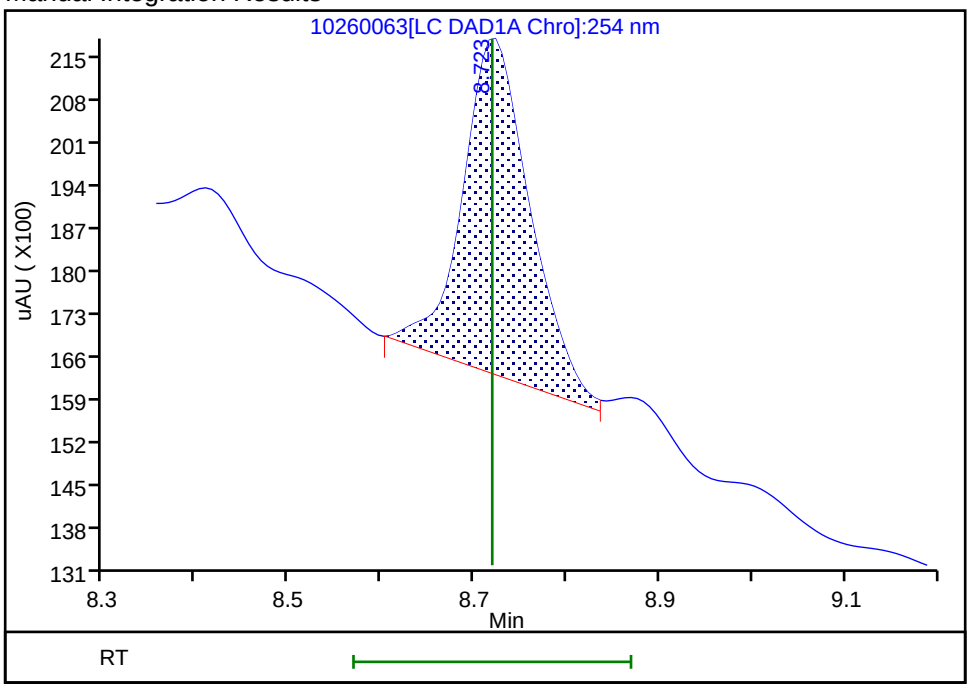
Processing Integration Results

RT: 8.72
Area: 32585
Amount: 0.253132
Amount Units: ug/mL



Manual Integration Results

RT: 8.72
Area: 27827
Amount: 0.216170
Amount Units: ug/mL



Reviewer: fiedlerh, 29-Oct-2018 11:12:15

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

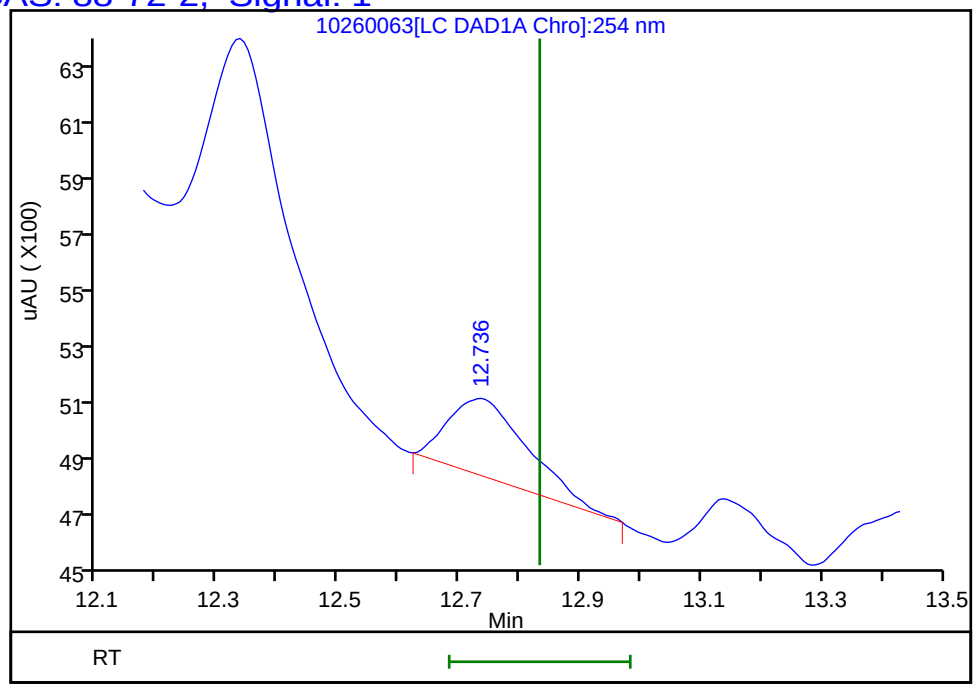
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260063.D				
Injection Date:	27-Oct-2018 10:04:50	Instrument ID:	CHHPLC_X3		
Lims ID:	280-115950-F-5-B	Lab Sample ID:	280-115950-5		
Client ID:	RQLmw-008-181001-GW				
Operator ID:	hkf	ALS Bottle#:	63	Worklist Smp#:	63
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

19 o-Nitrotoluene, CAS: 88-72-2, Signal: 1

RT: 12.74
Response: 2408
Amount: 0.018211



Reviewer: fiedlerh, 29-Oct-2018 11:12:38
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

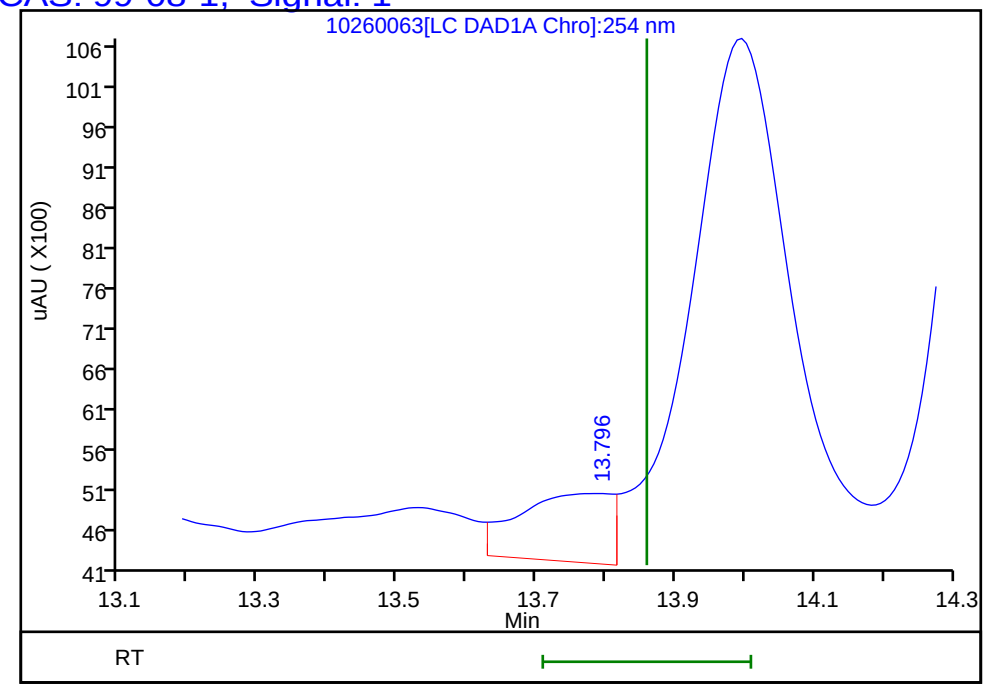
TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260063.D

Injection Date:	27-Oct-2018 10:04:50	Instrument ID:	CHHPLC_X3		
Lims ID:	280-115950-F-5-B	Lab Sample ID:	280-115950-5		
Client ID:	RQLmw-008-181001-GW				
Operator ID:	hkf	ALS Bottle#:	63	Worklist Smp#:	63
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

21 m-Nitrotoluene, CAS: 99-08-1, Signal: 1

RT: 13.80
Response: 7812
Amount: 0.052744



Reviewer: fiedlerh, 29-Oct-2018 11:12:38
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

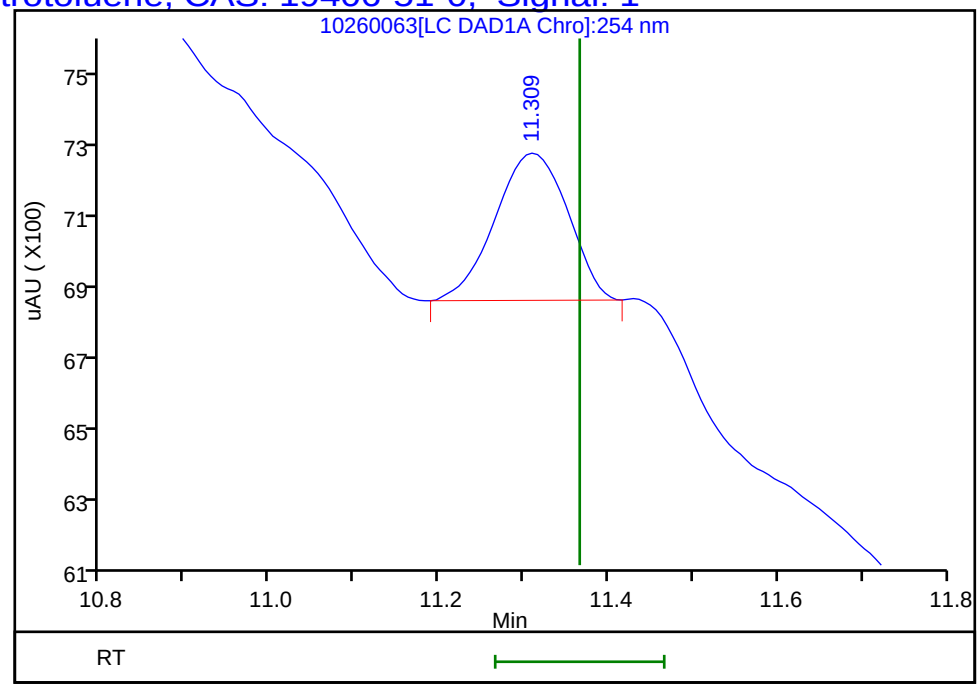
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260063.D				
Injection Date:	27-Oct-2018 10:04:50	Instrument ID:	CHHPLC_X3		
Lims ID:	280-115950-F-5-B	Lab Sample ID:	280-115950-5		
Client ID:	RQLmw-008-181001-GW				
Operator ID:	hkf	ALS Bottle#:	63	Worklist Smp#:	63
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

15 4-Amino-2,6-dinitrotoluene, CAS: 19406-51-0, Signal: 1

RT: 11.31
Response: 2430
Amount: 0.014683



Reviewer: fiedlerh, 29-Oct-2018 11:12:38
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

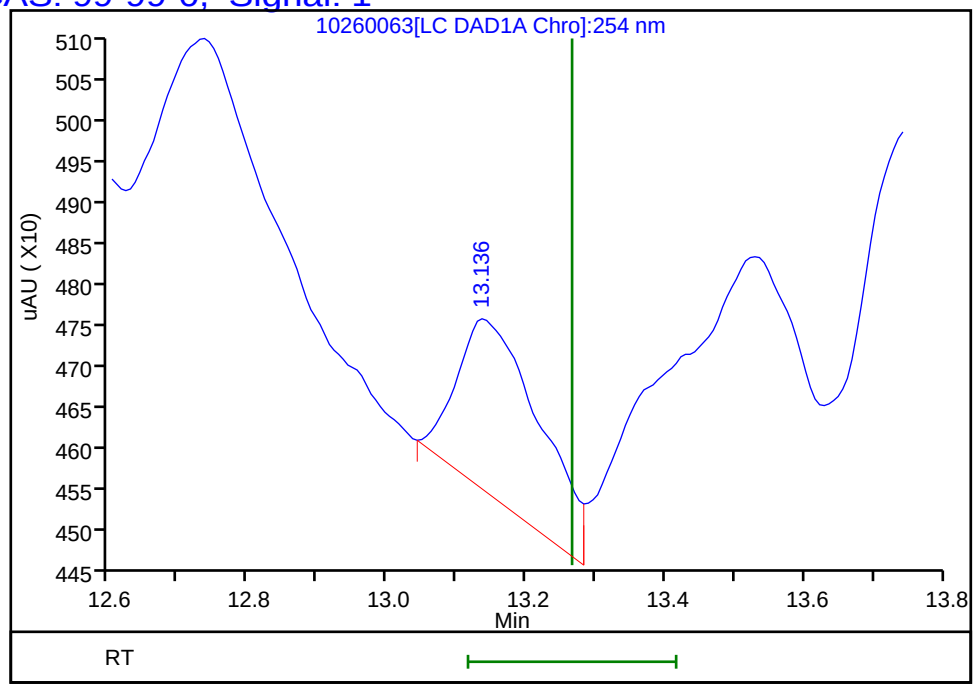
User Disabled Compound Report

TestAmerica Denver

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260063.D				
Injection Date:	27-Oct-2018 10:04:50	Instrument ID:	CHHPLC_X3		
Lims ID:	280-115950-F-5-B	Lab Sample ID:	280-115950-5		
Client ID:	RQLmw-008-181001-GW				
Operator ID:	hkf	ALS Bottle#:	63	Worklist Smp#:	63
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

20 p-Nitrotoluene, CAS: 99-99-0, Signal: 1

RT: 13.14
Response: 1803
Amount: 0.015864



Reviewer: fiedlerh, 29-Oct-2018 11:12:38
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

TestAmerica Denver

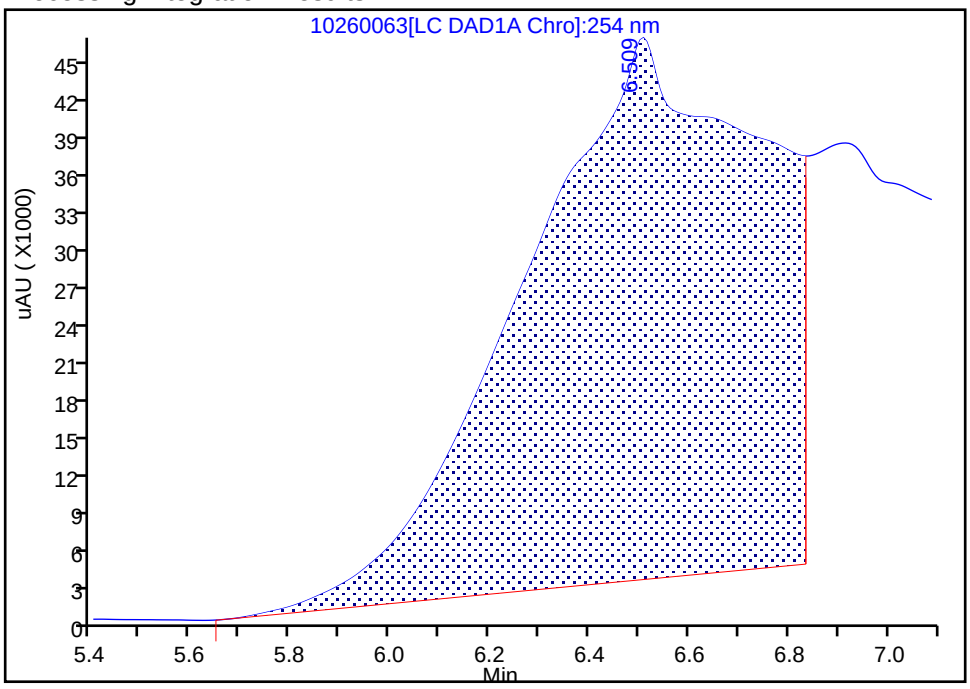
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260063.D				
Injection Date:	27-Oct-2018 10:04:50	Instrument ID:	CHHPLC_X3		
Lims ID:	280-115950-F-5-B	Lab Sample ID:	280-115950-5		
Client ID:	RQLmw-008-181001-GW				
Operator ID:	hkf	ALS Bottle#:	63	Worklist Smp#:	63
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 HMX, CAS: 2691-41-0

Signal: 1

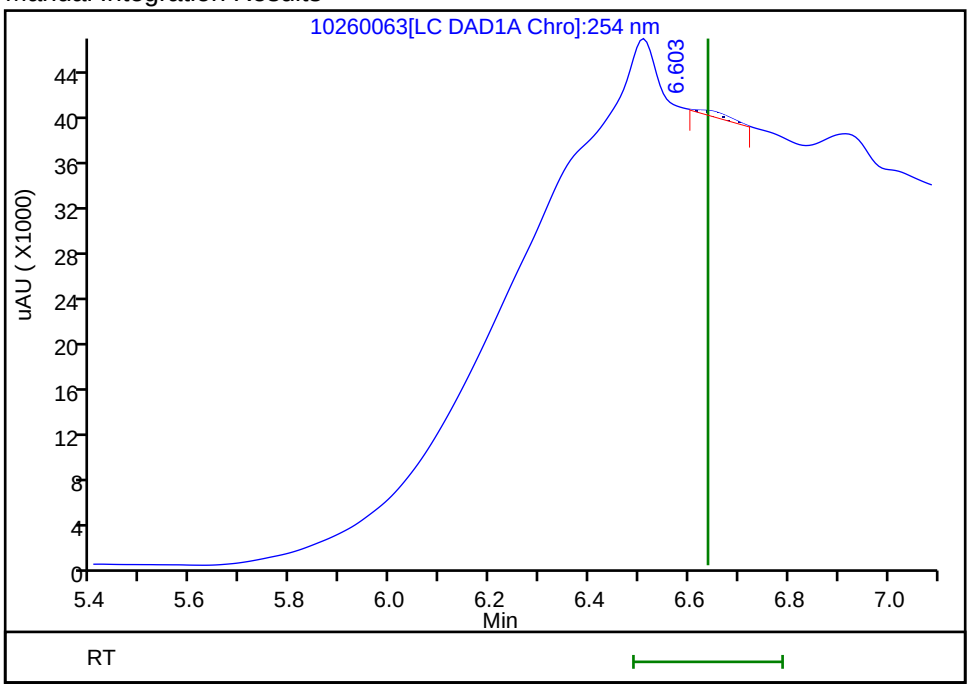
Processing Integration Results

RT: 6.51
Area: 1444315
Amount: 17.002829
Amount Units: ug/mL



Manual Integration Results

RT: 6.60
Area: 2150
Amount: 0.025310
Amount Units: ug/mL



Reviewer: fiedlerh, 29-Oct-2018 11:12:00

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

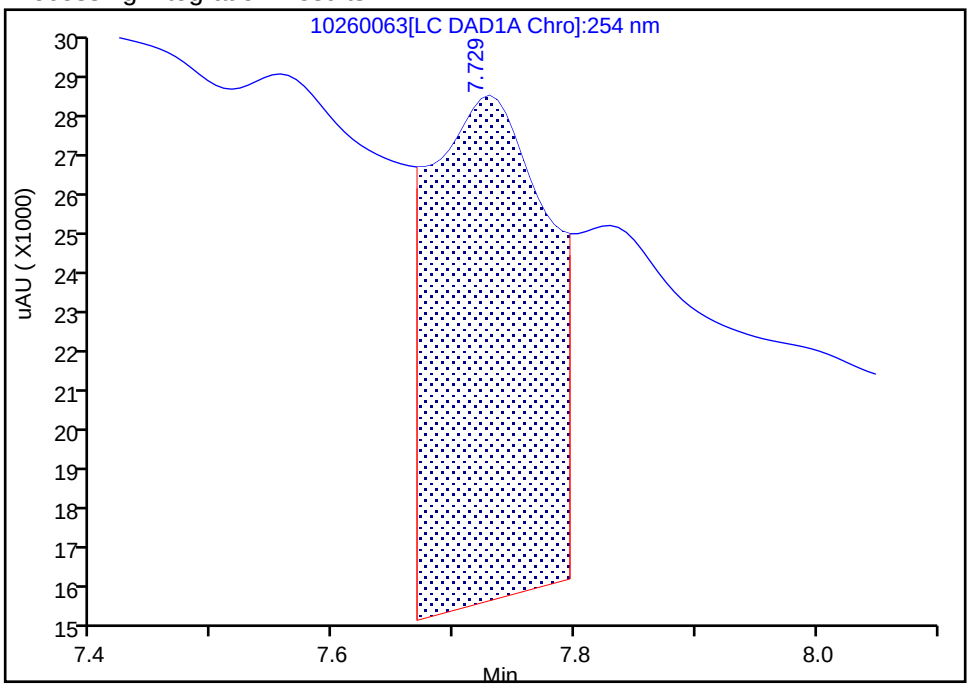
Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260063.D				
Injection Date:	27-Oct-2018 10:04:50	Instrument ID:	CHHPLC_X3		
Lims ID:	280-115950-F-5-B	Lab Sample ID:	280-115950-5		
Client ID:	RQLmw-008-181001-GW				
Operator ID:	hkf	ALS Bottle#:	63	Worklist Smp#:	63
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 RDX, CAS: 121-82-4

Signal: 1

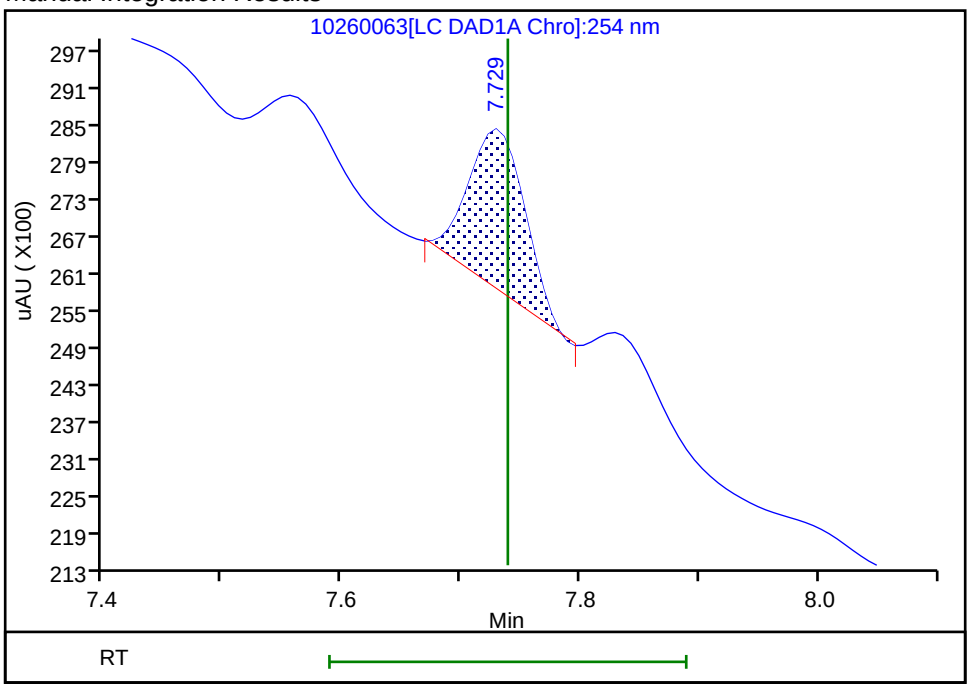
Processing Integration Results

RT: 7.73
Area: 85816
Amount: 0.820599
Amount Units: ug/mL



Manual Integration Results

RT: 7.73
Area: 8410
Amount: 0.080419
Amount Units: ug/mL



Reviewer: fiedlerh, 29-Oct-2018 11:12:06

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: RQLmw-008-181001-GW | Lab Sample ID: 280-115950-5

Matrix: Water | Lab File ID: 10290055.D

Analysis Method: 8330B | Date Collected: 10/22/2018 10:05

Extraction Method: 3535 | Date Extracted: 10/24/2018 12:14

Sample wt/vol: 474.3(mL) | Date Analyzed: 10/30/2018 17:44

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435336 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
121-14-2	2,4-Dinitrotoluene	0.21	U Q	0.42	0.21	0.088
121-82-4	*RDX*	*0.39*	*Q B J1*	*0.21*	0.13	*0.055*
479-45-8	Tetryl	0.21	U M Q	0.25	0.21	0.084

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	81	*Q*	83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\10290055.D
Lims ID: 280-115950-F-5-B
Client ID: RQLmw-008-181001-GW
Sample Type: Client
Inject. Date: 30-Oct-2018 17:44:01 ALS Bottle#: 55 Worklist Smp#: 55
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-115950-F-5-B
Misc. Info.: 280-0075570-055
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 31-Oct-2018 14:39:10 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0316

First Level Reviewer: fiedlerh Date: 31-Oct-2018 14:06:07

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	5 HMX	1	7.068	7.116	-0.048	5707	0.0299	
	7 RDX	1	9.201	9.183	0.018	8903	0.0370	
	8 Nitrobenzene	1		12.123			ND	
$	9 1,2-Dinitrobenzene	1	13.101	13.123	-0.022	49846	0.1614	
	12 Nitroglycerin	2		15.623			ND	
	11 1,3-Dinitrobenzene	1		15.669			ND	
	13 o-Nitrotoluene	1		16.436			ND	
	14 p-Nitrotoluene	1	16.801	16.769	0.032	198043	0.8398	
	15 4-Amino-2,6-dinitrotoluene	1		17.176			ND	
	16 m-Nitrotoluene	1		17.676			ND	U
	17 2-Amino-4,6-dinitrotoluene	1		18.209			ND	
	18 1,3,5-Trinitrobenzene	1		18.963			ND	
	19 2,6-Dinitrotoluene	1		19.776			ND	
	20 2,4-Dinitrotoluene	1	20.348	20.343	0.005	2340	0.003717	
	21 Tetryl	1		23.669			ND	U
	22 2,4,6-Trinitrotoluene	1		24.683			ND	
	23 PETN	2		25.103			ND	U

QC Flag Legend

Review Flags
U - Marked Undetected

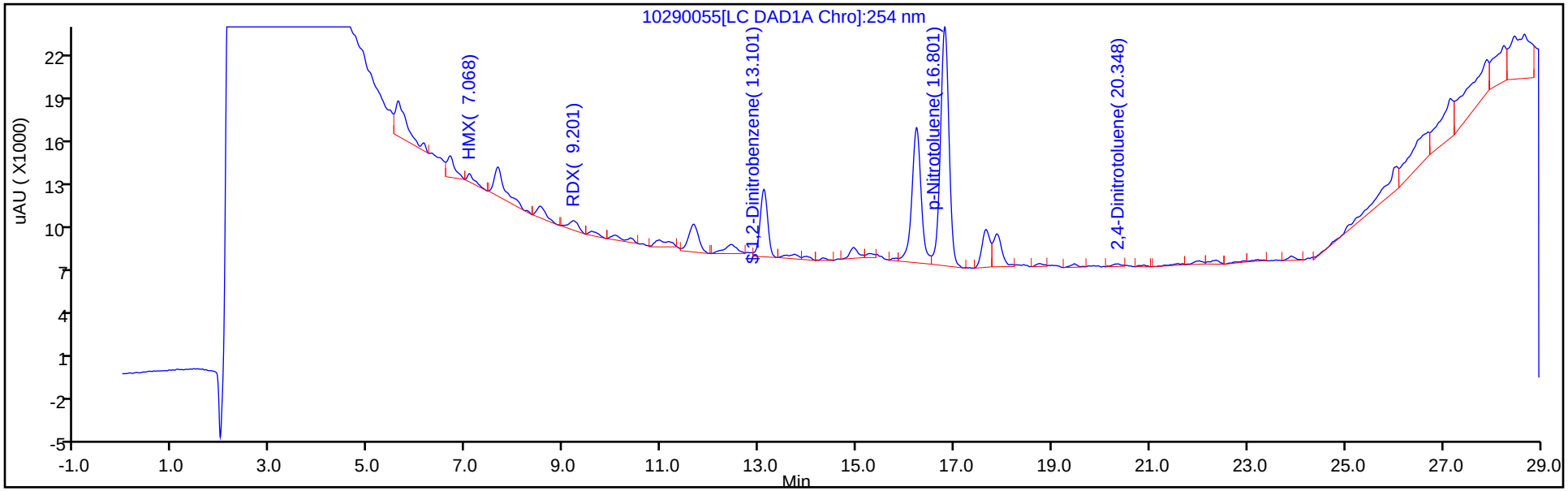
Report Date: 31-Oct-2018 14:39:12 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

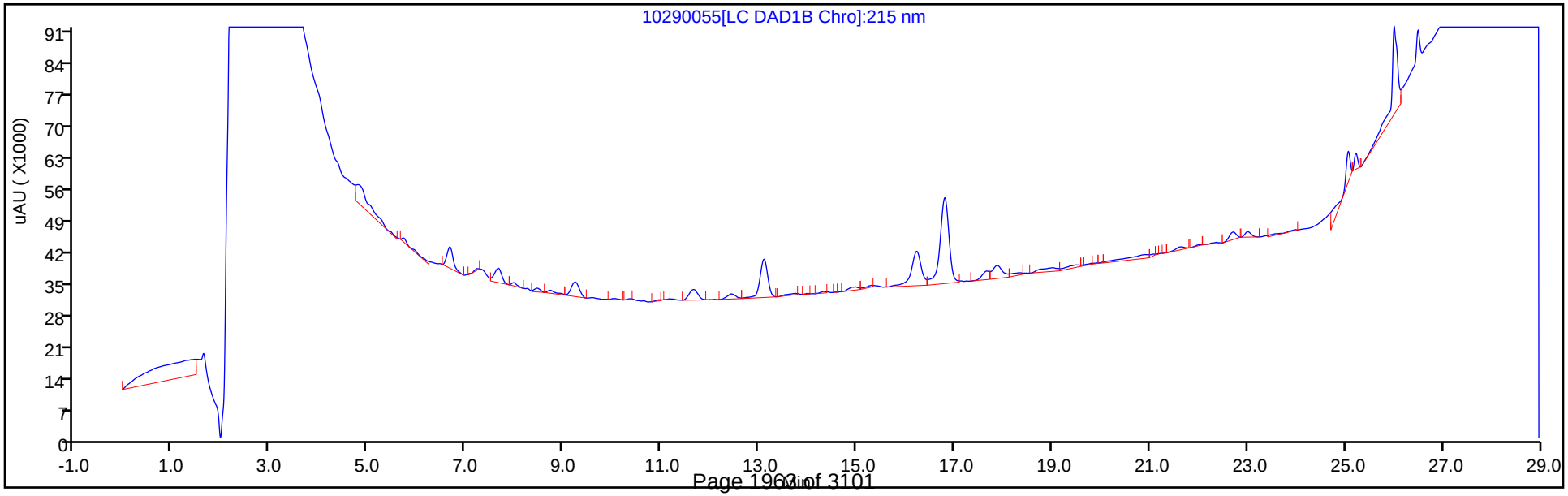
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\10290055.D

Injection Date:	30-Oct-2018 17:44:01	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	280-115950-F-5-B	Lab Sample ID:	280-115950-5	Worklist Smp#:	55
Client ID:	RQLmw-008-181001-GW				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	55
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\10290055.D				
Lims ID:	280-115950-F-5-B				
Client ID:	RQLmw-008-181001-GW				
Sample Type:	Client				
Inject. Date:	30-Oct-2018 17:44:01	ALS Bottle#:	55	Worklist Smp#:	55
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-115950-F-5-B				
Misc. Info.:	280-0075570-055				
Operator ID:	HKF	Instrument ID:	CHHPLC_G2_LUNA		
Method:	\\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\G2_8330_Luna.m				
Limit Group:	GCSV - 8330				
Last Update:	31-Oct-2018 14:39:10	Calib Date:	14-Oct-2018 01:43:13		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D				
Column 1 :	Luna-Phenyl hexyl (4.60 mm)		Det: LC DAD1A, 254 nm		
Process Host:	CTX0316				
First Level Reviewer: fiedlerh		Date:	31-Oct-2018 14:06:07		

Compound	Amount Added	Amount Recovered	% Rec.
$ 9 1,2-Dinitrobenzene	0.2000	0.1614	80.69

User Disabled Compound Report

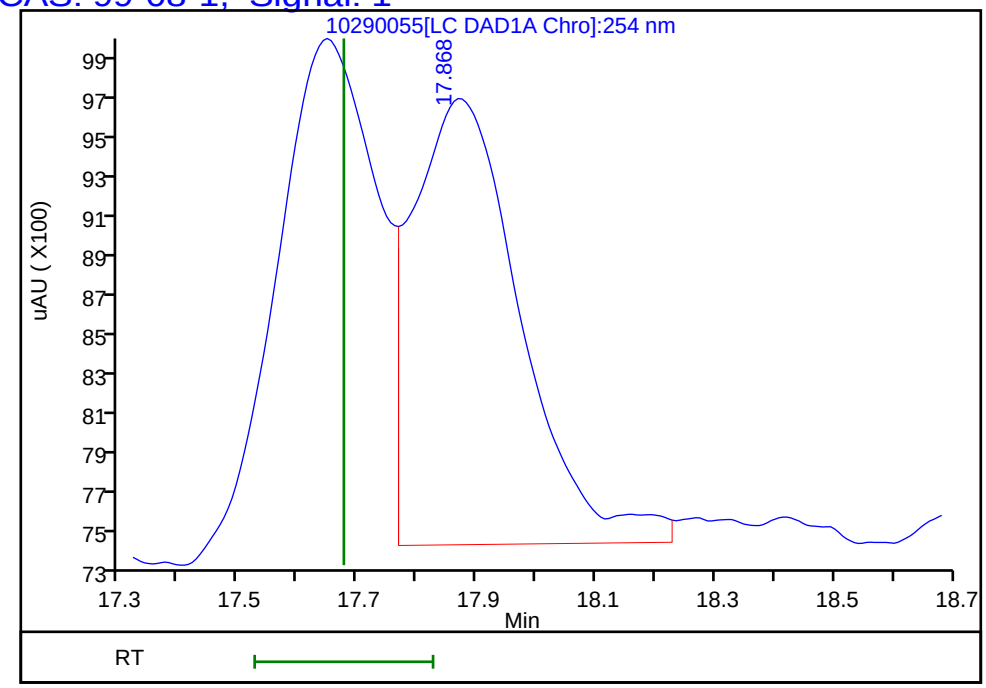
TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\10290055.D

Injection Date:	30-Oct-2018 17:44:01	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	280-115950-F-5-B	Lab Sample ID:	280-115950-5		
Client ID:	RQLmw-008-181001-GW				
Operator ID:	HKF	ALS Bottle#:	55	Worklist Smp#:	55
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

16 m-Nitrotoluene, CAS: 99-08-1, Signal: 1

RT: 17.87
Response: 27814
Amount: 0.088913



Reviewer: fiedlerh, 31-Oct-2018 14:06:07

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

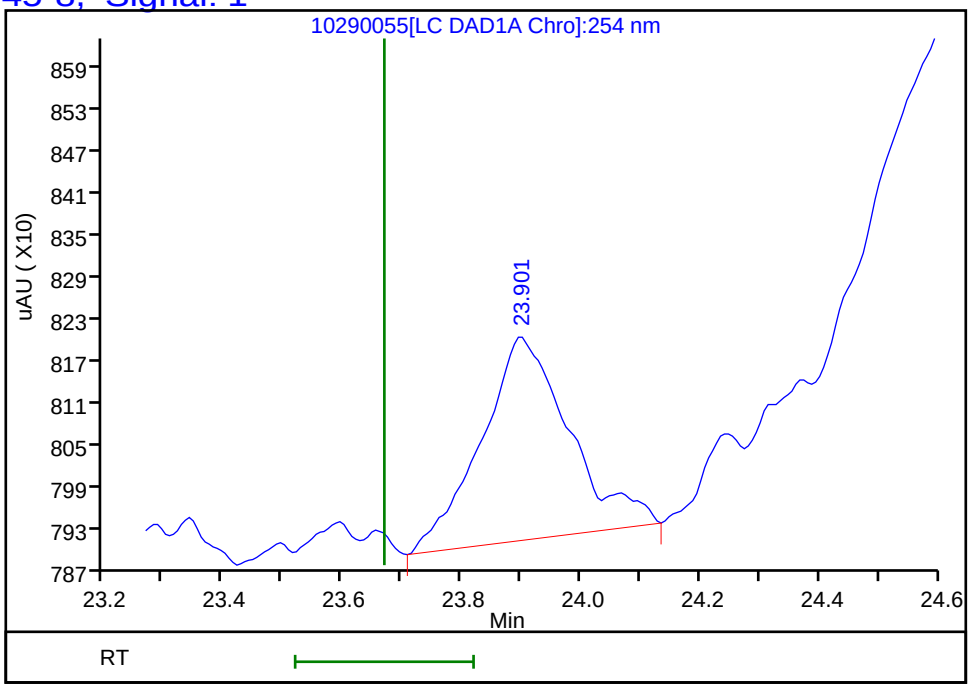
TestAmerica Denver

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\10290055.D

Injection Date:	30-Oct-2018 17:44:01	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	280-115950-F-5-B	Lab Sample ID:	280-115950-5		
Client ID:	RQLmw-008-181001-GW				
Operator ID:	HKF	ALS Bottle#:	55	Worklist Smp#:	55
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

21 Tetryl, CAS: 479-45-8, Signal: 1

RT: 23.90
Response: 2972
Amount: 0.007619



Reviewer: fiedlerh, 31-Oct-2018 14:06:07
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 433312

SDG No.:

Instrument ID: CHHPLC_G2_LUNA GC Column: Luna-phenyl ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:23 Calibration End Date: 10/13/2018 20:28 Calibration ID: 33987

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-433312/14	10130014.D
Level 2	IC 280-433312/13	10130013.D
Level 3	IC 280-433312/12	10130012.D
Level 4	IC 280-433312/11	10130011.D
Level 5	IC 280-433312/10	10130010.D
Level 6	IC 280-433312/9	10130009.D
Level 7	IC 280-433312/8	10130008.D
Level 8	IC 280-433312/7	10130007.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8			RT WINDOW	AVG RT
Picric acid	6.216	6.184	6.146	6.109	6.081	6.046	6.016	5.925			5.931 - 6.231	6.090
HMX	7.143	7.151	7.146	7.149	7.148	7.146	7.142	7.112			6.998 - 7.298	7.142
RDX	9.223	9.224	9.219	9.222	9.221	9.219	9.209	9.165			9.071 - 9.371	9.213
Nitrobenzene	12.156	12.164	12.152	12.155	12.161	12.159	12.156	12.105			12.011 - 12.311	12.151
3,5-Dinitroaniline	15.123	15.124	15.106	15.115	15.114	15.119	15.102	15.065			14.964 - 15.264	15.109
Nitroglycerin	15.676	15.671	15.652	15.662	15.667	15.672	15.662	15.639			15.517 - 15.817	15.663
1,3-Dinitrobenzene	15.723	15.717	15.699	15.708	15.707	15.712	15.702	15.672			15.557 - 15.857	15.705
2-Nitrotoluene	16.496	16.477	16.472	16.475	16.474	16.486	16.469	16.445			16.324 - 16.624	16.474
4-Nitrotoluene	16.816	16.817	16.799	16.808	16.814	16.819	16.802	16.779			16.664 - 16.964	16.807
4-Amino-2,6-dinitrotoluene	17.223	17.224	17.212	17.215	17.221	17.232	17.209	17.185			17.071 - 17.371	17.215
3-Nitrotoluene	17.736	17.717	17.712	17.715	17.721	17.732	17.709	17.692			17.571 - 17.871	17.717
2-Amino-4,6-dinitrotoluene	18.263	18.257	18.246	18.255	18.254	18.266	18.242	18.219			18.104 - 18.404	18.250
1,3,5-Trinitrobenzene	19.029	19.004	19.006	19.015	19.021	19.026	19.009	18.999			18.871 - 19.171	19.014
2,6-Dinitrotoluene	19.843	19.831	19.826	19.828	19.834	19.839	19.816	19.805			19.684 - 19.984	19.828
2,4-Dinitrotoluene	20.403	20.391	20.386	20.388	20.394	20.406	20.382	20.372			20.244 - 20.544	20.390
Tetryl	23.723	23.717	23.712	23.722	23.721	23.733	23.716	23.705			23.571 - 23.871	23.719
2,4,6-Trinitrotoluene	24.749	24.737	24.726	24.735	24.734	24.746	24.729	24.719			24.584 - 24.884	24.734
PETN	25.149	25.137	25.132	25.142	25.141	25.153	25.142	25.145			24.991 - 25.291	25.143
1,2-Dinitrobenzene	13.163	13.171	13.152	13.162	13.161	13.166	13.162	13.119			13.011 - 13.311	13.157

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 433312

SDG No.:

Instrument ID: CHHPLC_G2_LUNA GC Column: Luna-phenyl ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:23 Calibration End Date: 10/13/2018 20:28 Calibration ID: 33987

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-433312/14	10130014.D
Level 2	IC 280-433312/13	10130013.D
Level 3	IC 280-433312/12	10130012.D
Level 4	IC 280-433312/11	10130011.D
Level 5	IC 280-433312/10	10130010.D
Level 6	IC 280-433312/9	10130009.D
Level 7	IC 280-433312/8	10130008.D
Level 8	IC 280-433312/7	10130007.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Picric acid	171900 183938	166760 179361	172570 177638	172416 179654	Ave		175529.616				3.2		20.0			
HMX	199500 189950	198220 188601	192540 186821	182328 189027	Ave		190873.454				3.0		20.0			
RDX	251100 237575	260020 230794	253530 228937	229536 233050	Ave		240567.786				5.2		20.0			
Nitrobenzene	470010 422997	477285 422314	440908 419976	409361 429277	Ave		436516.002				5.6		20.0			
3,5-Dinitroaniline	477750 504128	602240 488930	510910 487326	497264 503471	Lin2	103.308102	507848.792							0.9920		0.9900
Nitroglycerin	200635 199362	190858 195888	192800 194216	189582 198979	Ave		195289.833				2.1		20.0			
1,3-Dinitrobenzene	704895 694755	785275 682920	685225 676187	665459 686642	Ave		697669.613				5.3		20.0			
2-Nitrotoluene	274526 272378	304786 269873	264068 267766	268439 275564	Ave		274674.932				4.6		20.0			
4-Nitrotoluene	251594 237627	241474 235252	221205 233701	227833 237861	Ave		235818.321				3.8		20.0			
4-Amino-2,6-dinitrotoluene	306331 332395	357707 326268	319641 322613	320431 329183	Ave		326821.167				4.5		20.0			
3-Nitrotoluene	340139 306315	347390 302886	304044 299820	296247 305753	Ave		312824.221				6.2		20.0			
2-Amino-4,6-dinitrotoluene	501645 481209	534158 470825	468325 464267	464726 473093	Ave		482280.863				5.0		20.0			
1,3,5-Trinitrobenzene	501150 508803	577980 497797	504350 487319	495332 496662	Ave		508674.030				5.6		20.0			
2,6-Dinitrotoluene	316152 323447	395135 317916	337358 309942	314357 317060	Ave		328920.875				8.5		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 433312

SDG No.:

Instrument ID: CHHPLC_G2_LUNA GC Column: Luna-phenyl ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:23 Calibration End Date: 10/13/2018 20:28 Calibration ID: 33987

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
2,4-Dinitrotoluene	639870 631008	681557 619394	624820 608339	610575 621414	Ave		629622.213				3.7		20.0			
Tetryl	410800 393685	375200 385803	396050 399636	373136 386502	Ave		390101.482				3.2		20.0			
2,4,6-Trinitrotoluene	412849 471564	418426 465556	437380 461238	446526 471262	Ave		448100.146				5.2		20.0			
PETN	126430 148941	134988 146351	138138 145351	140480 145491	Ave		140771.306				5.3		20.0			
1,2-Dinitrobenzene	324000 308248	313640 300927	311970 299781	306840 305599	Ave		308875.605				2.5		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 433312

SDG No.:

Instrument ID: CHHPLC_G2_LUNA GC Column: Luna-phenyl ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:23 Calibration End Date: 10/13/2018 20:28 Calibration ID: 33987

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-433312/14	10130014.D
Level 2	IC 280-433312/13	10130013.D
Level 3	IC 280-433312/12	10130012.D
Level 4	IC 280-433312/11	10130011.D
Level 5	IC 280-433312/10	10130010.D
Level 6	IC 280-433312/9	10130009.D
Level 7	IC 280-433312/8	10130008.D
Level 8	IC 280-433312/7	10130007.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Picric acid	Ave	3438 125553	8338 177638	17257 449135	43104	73575	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
HMX	Ave	3990 132021	9911 186821	19254 472568	45582	75980	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
RDX	Ave	5022 161556	13001 228937	25353 582625	57384	95030	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
Nitrobenzene	Ave	9419 296211	23912 420816	44179 1075338	102545	169537	0.0200 0.701	0.0501 1.00	0.100 2.51	0.251	0.401
3,5-Dinitroaniline	Lin2	9555 342251	30112 487326	51091 1258678	124316	201651	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
Nitroglycerin	Ave	40127 1371216	95429 1942160	192800 4974464	473954	797446	0.200 7.00	0.500 10.0	1.00 25.0	2.50	4.00
1,3-Dinitrobenzene	Ave	14112 478522	39303 676863	68591 1718321	166531	278180	0.0200 0.701	0.0501 1.00	0.100 2.50	0.250	0.400
2-Nitrotoluene	Ave	5507 189478	15285 268569	26486 690977	67311	109278	0.0201 0.702	0.0502 1.00	0.100 2.51	0.251	0.401
4-Nitrotoluene	Ave	5052 165335	12122 234636	22209 597031	57186	95431	0.0201 0.703	0.0502 1.00	0.100 2.51	0.251	0.402
4-Amino-2,6-dinitrotoluene	Ave	6145 229073	17939 323581	32060 825426	80348	133357	0.0201 0.702	0.0502 1.00	0.100 2.51	0.251	0.401
3-Nitrotoluene	Ave	6830 212868	17439 301019	30526 767440	74358	123016	0.0201 0.703	0.0502 1.00	0.100 2.51	0.251	0.402
2-Amino-4,6-dinitrotoluene	Ave	10063 330566	26788 465660	46973 1186280	116530	193061	0.0201 0.702	0.0502 1.00	0.100 2.51	0.251	0.401
1,3,5-Trinitrobenzene	Ave	10023 348458	28899 487319	50435 1241654	123833	203521	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
2,6-Dinitrotoluene	Ave	6342 223209	19816 310872	33837 795029	78825	129767	0.0201 0.702	0.0502 1.00	0.100 2.51	0.251	0.401
2,4-Dinitrotoluene	Ave	12823 434443	34146 609556	62607 1556642	152949	252908	0.0200 0.701	0.0501 1.00	0.100 2.51	0.251	0.401

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 433312

SDG No.:

Instrument ID: CHHPLC_G2_LUNA GC Column: Luna-phenyl ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/13/2018 16:23 Calibration End Date: 10/13/2018 20:28 Calibration ID: 33987

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Tetryl	Ave	8216 270062	18760 399636	39605 966255	93284	157474	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
2,4,6-Trinitrotoluene	Ave	8290 327193	21005 463083	43913 1182867	112078	189380	0.0201 0.703	0.0502 1.00	0.100 2.51	0.251	0.402
PETN	Ave	25286 1024457	67494 1453506	138138 3637280	351201	595765	0.200 7.00	0.500 10.0	1.00 25.0	2.50	4.00
1,2-Dinitrobenzene	Ave	6480 210649	15682 299781	31197 763998	76710	123299	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400

Curve Type Legend:

Ave = Average
Lin2 = Linear 1/conc^2

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130007.D
Lims ID: IC FULL LV 8
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 13-Oct-2018 16:23:32 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC FULL LV 8
Misc. Info.: 280-0075057-007
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:02:54 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 13-Oct-2018 17:35:45

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.412	4.401	0.011	1237396	2.50	2.83	
3 2,4-diamino-6-nitrotoluene	1	4.992	4.954	0.038	537898	2.50	1.94	
4 2,4,6-Trinitrophenol	1	5.925	6.081	-0.156	449135	2.50	2.56	
5 HMX	1	7.112	7.148	-0.036	472568	2.50	2.48	
7 RDX	1	9.165	9.221	-0.056	582625	2.50	2.42	
8 Nitrobenzene	1	12.105	12.161	-0.056	1075338	2.51	2.46	
$ 9 1,2-Dinitrobenzene	1	13.119	13.161	-0.042	763998	2.50	2.47	
10 3,5-Dinitroaniline	1	15.065	15.114	-0.049	1258678	2.50	2.48	
12 Nitroglycerin	2	15.639	15.667	-0.028	4974464	25.0	25.5	
11 1,3-Dinitrobenzene	1	15.672	15.707	-0.035	1718321	2.50	2.46	
13 o-Nitrotoluene	1	16.445	16.474	-0.029	690977	2.51	2.52	
14 p-Nitrotoluene	1	16.779	16.814	-0.035	597031	2.51	2.53	
15 4-Amino-2,6-dinitrotoluene	1	17.185	17.221	-0.036	825426	2.51	2.53	
16 m-Nitrotoluene	1	17.692	17.721	-0.029	767440	2.51	2.45	
17 2-Amino-4,6-dinitrotoluene	1	18.219	18.254	-0.035	1186280	2.51	2.46	
18 1,3,5-Trinitrobenzene	1	18.999	19.021	-0.022	1241654	2.50	2.44	
19 2,6-Dinitrotoluene	1	19.805	19.834	-0.029	795029	2.51	2.42	
20 2,4-Dinitrotoluene	1	20.372	20.394	-0.022	1556642	2.51	2.47	
21 Tetryl	1	23.705	23.721	-0.016	966255	2.50	2.48	
22 2,4,6-Trinitrotoluene	1	24.719	24.734	-0.015	1182867	2.51	2.64	
23 PETN	2	25.145	25.141	0.004	3637280	25.0	25.8	

Reagents:

8330IntermStk_00056 Amount Added: 125.00 Units: uL
8330_ADDs_00017 Amount Added: 125.00 Units: uL

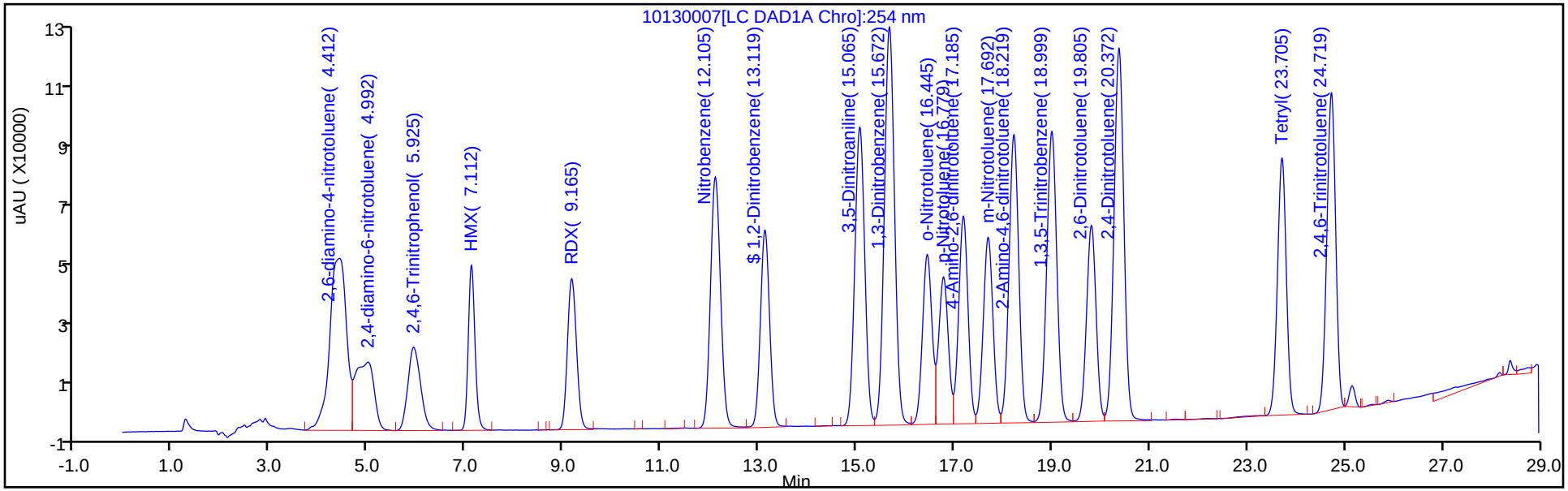
Report Date: 14-Oct-2018 14:02:55 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

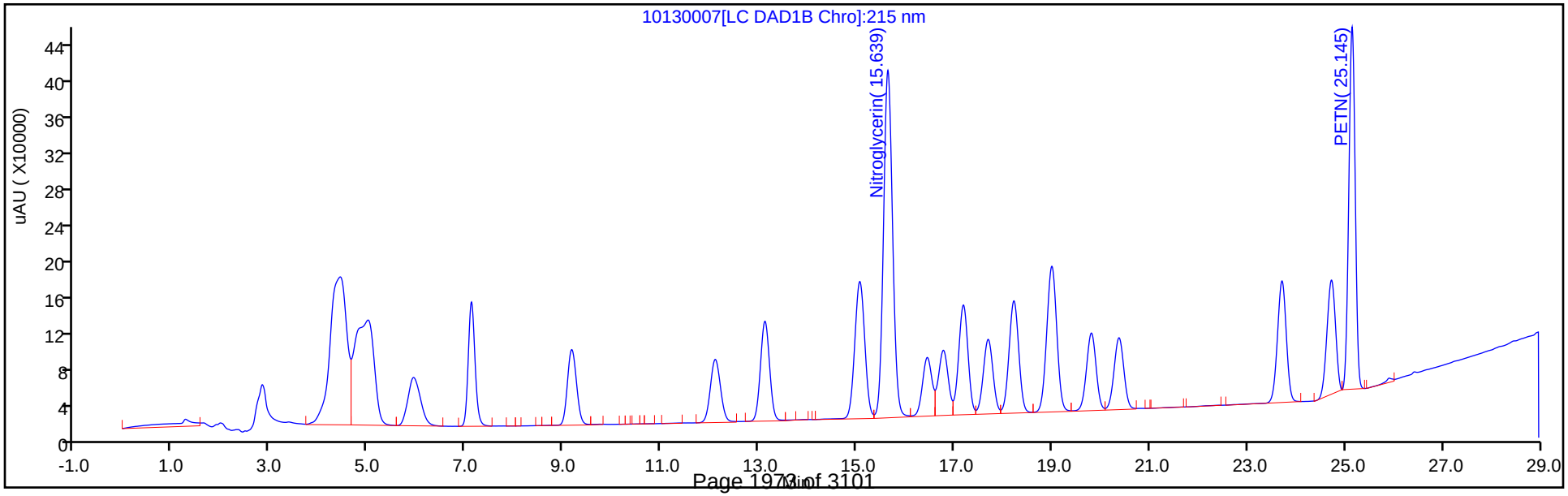
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130007.D

Injection Date:	13-Oct-2018 16:23:32	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	IC FULL LV 8			Worklist Smp#:	7
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Report Date: 14-Oct-2018 14:02:56 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130008.D
Lims ID: IC FULL LV 7
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 13-Oct-2018 16:58:36 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC FULL LV 7
Misc. Info.: 280-0075057-008
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:02:56 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 13-Oct-2018 17:35:58

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.382	4.401	-0.019	425871	1.00	0.9729	
3 2,4-diamino-6-nitrotoluene	1	4.989	4.954	0.035	257257	1.00	0.9265	M
4 2,4,6-Trinitrophenol	1	6.016	6.081	-0.065	177638	1.00	1.01	
5 HMX	1	7.142	7.148	-0.006	186821	1.00	0.9788	
7 RDX	1	9.209	9.221	-0.012	228937	1.00	0.9517	
8 Nitrobenzene	1	12.156	12.161	-0.005	420816	1.00	0.9640	
$ 9 1,2-Dinitrobenzene	1	13.162	13.161	0.001	299781	1.00	0.9706	
10 3,5-Dinitroaniline	1	15.102	15.114	-0.012	487326	1.00	0.9594	
12 Nitroglycerin	2	15.662	15.667	-0.005	1942160	10.0	9.95	
11 1,3-Dinitrobenzene	1	15.702	15.707	-0.005	676863	1.00	0.9702	
13 o-Nitrotoluene	1	16.469	16.474	-0.005	268569	1.00	0.9778	
14 p-Nitrotoluene	1	16.802	16.814	-0.012	234636	1.00	0.99	
15 4-Amino-2,6-dinitrotoluene	1	17.209	17.221	-0.012	323581	1.00	0.99	
16 m-Nitrotoluene	1	17.709	17.721	-0.012	301019	1.00	0.9623	
17 2-Amino-4,6-dinitrotoluene	1	18.242	18.254	-0.012	465660	1.00	0.9655	
18 1,3,5-Trinitrobenzene	1	19.009	19.021	-0.012	487319	1.00	0.9580	
19 2,6-Dinitrotoluene	1	19.816	19.834	-0.018	310872	1.00	0.9451	
20 2,4-Dinitrotoluene	1	20.382	20.394	-0.012	609556	1.00	0.9681	
21 Tetryl	1	23.716	23.721	-0.005	399636	1.00	1.02	
22 2,4,6-Trinitrotoluene	1	24.729	24.734	-0.005	463083	1.00	1.03	
23 PETN	2	25.142	25.141	0.001	1453506	10.0	10.3	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00056	Amount Added:	50.00	Units: uL
8330_ADDs_00017	Amount Added:	50.00	Units: uL

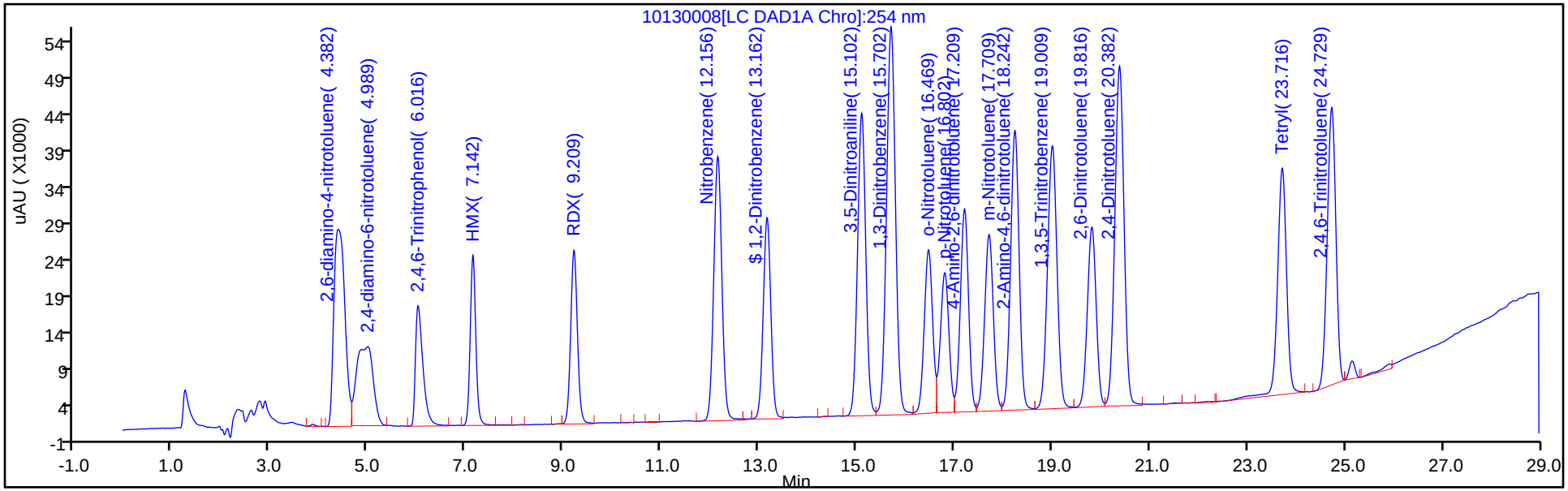
Report Date: 14-Oct-2018 14:02:56 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

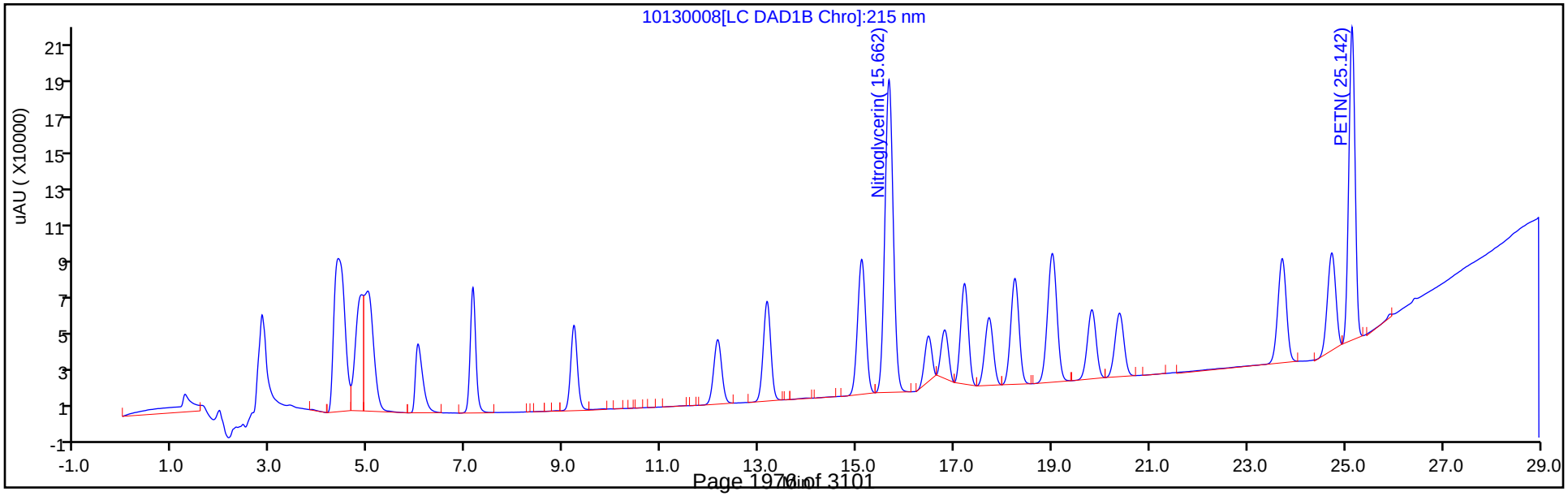
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130008.D

Injection Date:	13-Oct-2018 16:58:36	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	IC FULL LV 7			Worklist Smp#:	8
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130009.D
Lims ID: IC FULL LV 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 13-Oct-2018 17:33:35 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC FULL LV 6
Misc. Info.: 280-0075057-009
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:02:58 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 14-Oct-2018 13:54:06

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.393	4.401	-0.008	298705	0.7000	0.6824	
3 2,4-diamino-6-nitrotoluene	1	4.986	4.954	0.032	184732	0.7000	0.6653	M
4 2,4,6-Trinitrophenol	1	6.046	6.081	-0.035	125553	0.7000	0.7153	
5 HMX	1	7.146	7.148	-0.002	132021	0.7000	0.6917	
7 RDX	1	9.219	9.221	-0.002	161556	0.7000	0.6716	
8 Nitrobenzene	1	12.159	12.161	-0.002	296211	0.7014	0.6786	
$ 9 1,2-Dinitrobenzene	1	13.166	13.161	0.005	210649	0.7000	0.6820	
10 3,5-Dinitroaniline	1	15.119	15.114	0.005	342251	0.7000	0.6737	
12 Nitroglycerin	2	15.672	15.667	0.005	1371216	7.00	7.02	
11 1,3-Dinitrobenzene	1	15.712	15.707	0.005	478522	0.7007	0.6859	
13 o-Nitrotoluene	1	16.486	16.474	0.012	189478	0.7021	0.6898	
14 p-Nitrotoluene	1	16.819	16.814	0.005	165335	0.7028	0.7011	
15 4-Amino-2,6-dinitrotoluene	1	17.232	17.221	0.011	229073	0.7021	0.7009	
16 m-Nitrotoluene	1	17.732	17.721	0.011	212868	0.7028	0.6805	
17 2-Amino-4,6-dinitrotoluene	1	18.266	18.254	0.012	330566	0.7021	0.6854	
18 1,3,5-Trinitrobenzene	1	19.026	19.021	0.005	348458	0.7000	0.6850	
19 2,6-Dinitrotoluene	1	19.839	19.834	0.005	223209	0.7021	0.6786	
20 2,4-Dinitrotoluene	1	20.406	20.394	0.012	434443	0.7014	0.6900	
21 Tetryl	1	23.733	23.721	0.012	270062	0.7000	0.6923	
22 2,4,6-Trinitrotoluene	1	24.746	24.734	0.012	327193	0.7028	0.7302	
23 PETN	2	25.153	25.141	0.012	1024457	7.00	7.28	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00056	Amount Added:	35.00	Units: uL
8330_ADDs_00017	Amount Added:	35.00	Units: uL

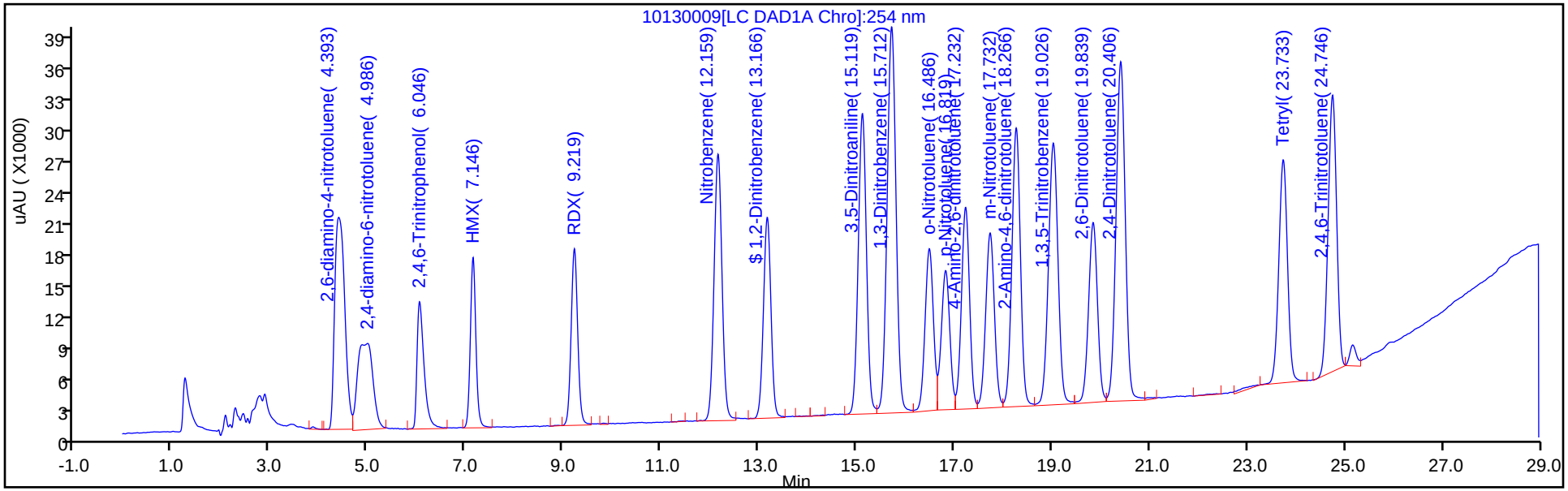
Report Date: 14-Oct-2018 14:02:58 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

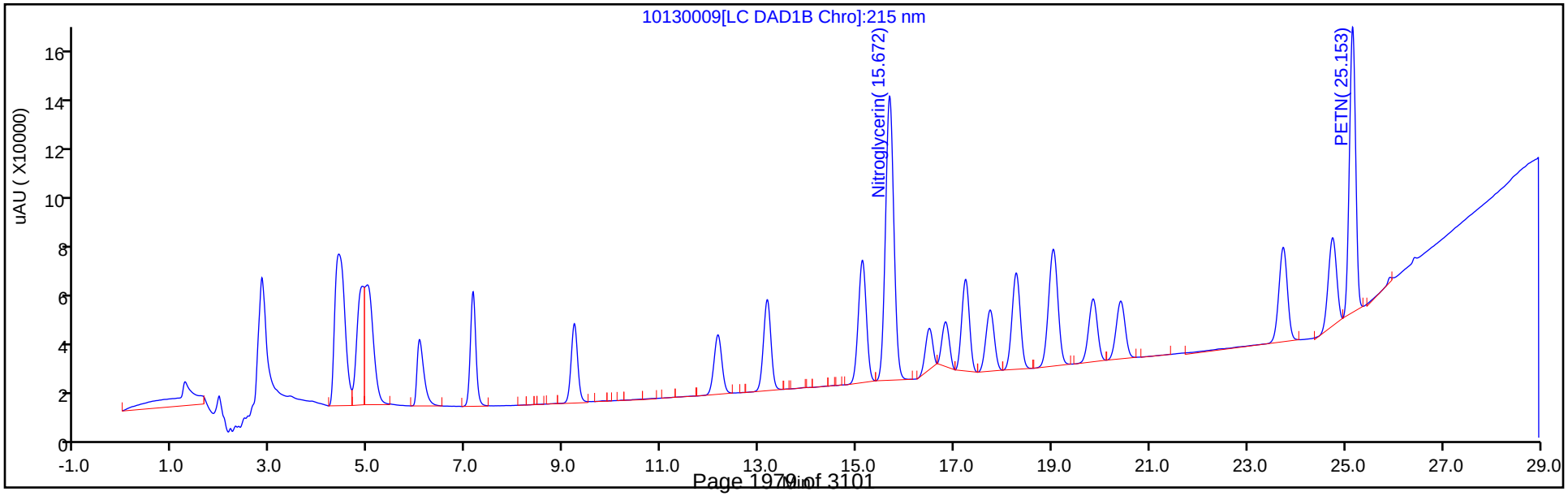
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130009.D

Injection Date:	13-Oct-2018 17:33:35	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	IC FULL LV 6			Worklist Smp#:	9
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130010.D
Lims ID: IC FULL LV 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 13-Oct-2018 18:08:37 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC FULL LV 5
Misc. Info.: 280-0075057-010
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:02:59 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 14-Oct-2018 13:52:11

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.401	4.401	0.000	175386	0.4000	0.4007	
3 2,4-diamino-6-nitrotoluene	1	4.954	4.954	0.000	108740	0.4000	0.3916	
4 2,4,6-Trinitrophenol	1	6.081	6.081	0.000	73575	0.4000	0.4192	
5 HMX	1	7.148	7.148	0.000	75980	0.4000	0.3981	
7 RDX	1	9.221	9.221	0.000	95030	0.4000	0.3950	
8 Nitrobenzene	1	12.161	12.161	0.000	169537	0.4008	0.3884	
$ 9 1,2-Dinitrobenzene	1	13.161	13.161	0.000	123299	0.4000	0.3992	
10 3,5-Dinitroaniline	1	15.114	15.114	0.000	201651	0.4000	0.3969	
12 Nitroglycerin	2	15.667	15.667	0.000	797446	4.00	4.08	
11 1,3-Dinitrobenzene	1	15.707	15.707	0.000	278180	0.4004	0.3987	
13 o-Nitrotoluene	1	16.474	16.474	0.000	109278	0.4012	0.3978	
14 p-Nitrotoluene	1	16.814	16.814	0.000	95431	0.4016	0.4047	
15 4-Amino-2,6-dinitrotoluene	1	17.221	17.221	0.000	133357	0.4012	0.4080	
16 m-Nitrotoluene	1	17.721	17.721	0.000	123016	0.4016	0.3932	
17 2-Amino-4,6-dinitrotoluene	1	18.254	18.254	0.000	193061	0.4012	0.4003	
18 1,3,5-Trinitrobenzene	1	19.021	19.021	0.000	203521	0.4000	0.4001	
19 2,6-Dinitrotoluene	1	19.834	19.834	0.000	129767	0.4012	0.3945	
20 2,4-Dinitrotoluene	1	20.394	20.394	0.000	252908	0.4008	0.4017	
21 Tetryl	1	23.721	23.721	0.000	157474	0.4000	0.4037	M
22 2,4,6-Trinitrotoluene	1	24.734	24.734	0.000	189380	0.4016	0.4226	
23 PETN	2	25.141	25.141	0.000	595765	4.00	4.23	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00056	Amount Added:	20.00	Units: uL
8330_ADDs_00017	Amount Added:	20.00	Units: uL

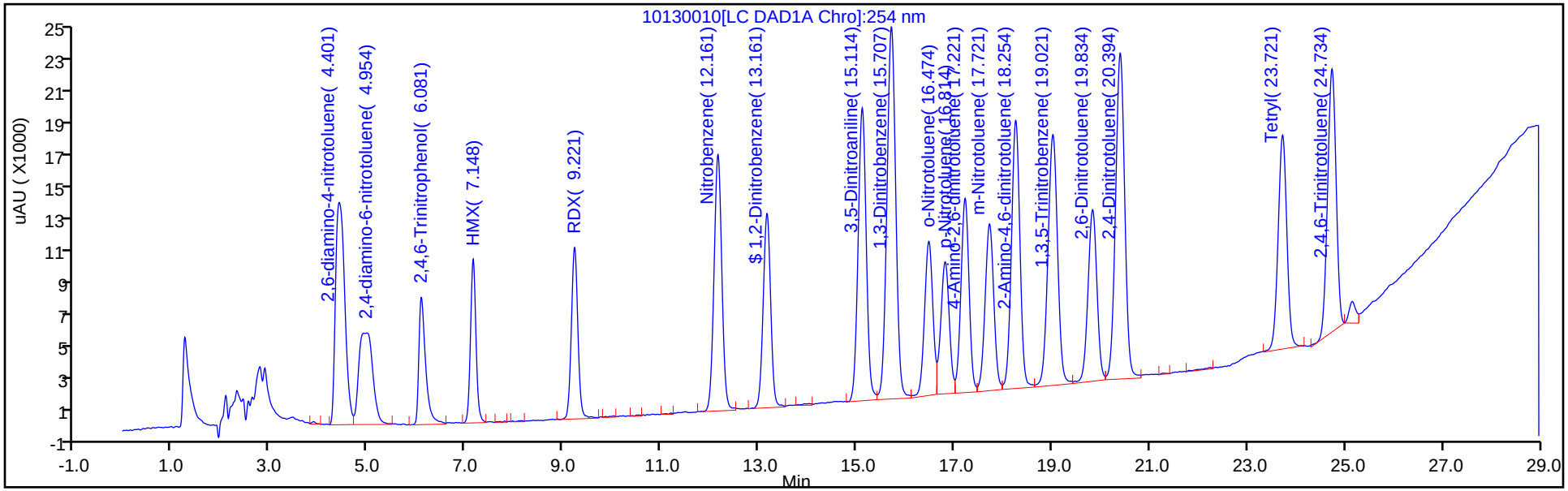
Report Date: 14-Oct-2018 14:02:59 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

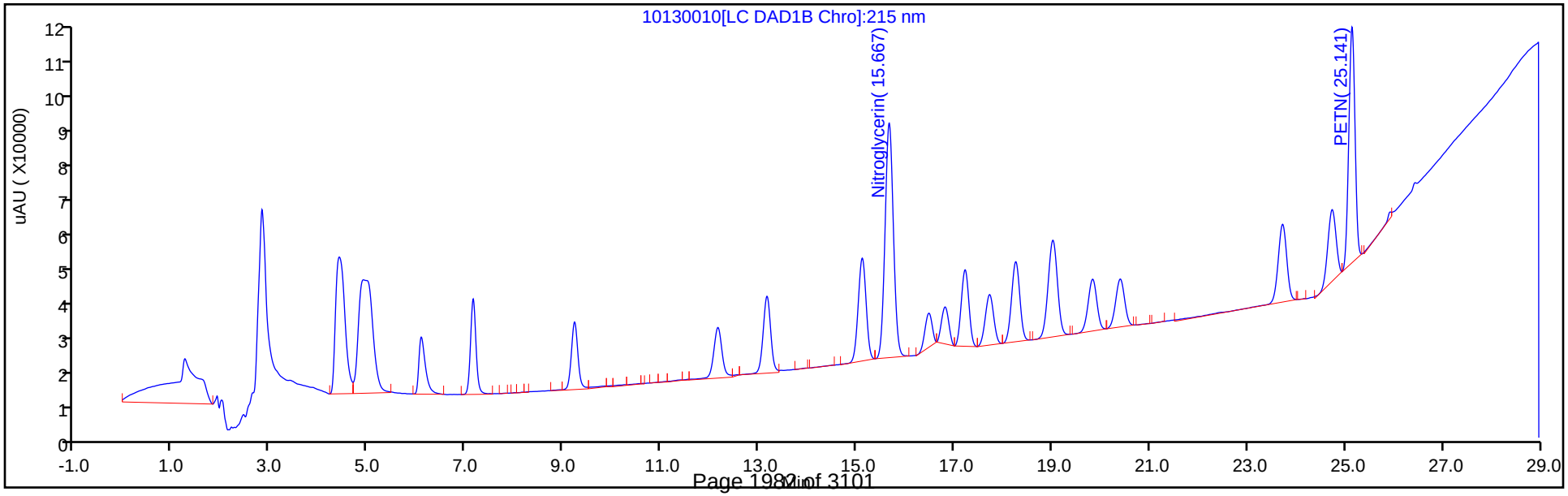
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130010.D

Injection Date:	13-Oct-2018 18:08:37	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	IC FULL LV 5			Worklist Smp#:	10
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

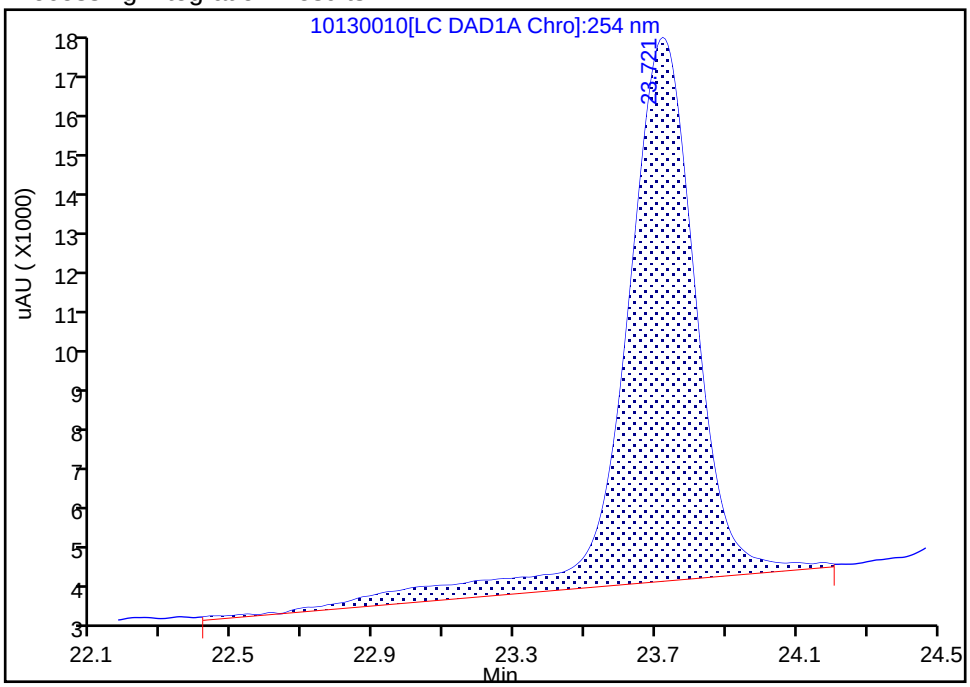
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130010.D
Injection Date: 13-Oct-2018 18:08:37 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 5
Client ID:
Operator ID: HKF ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

21 Tetryl, CAS: 479-45-8

Signal: 1

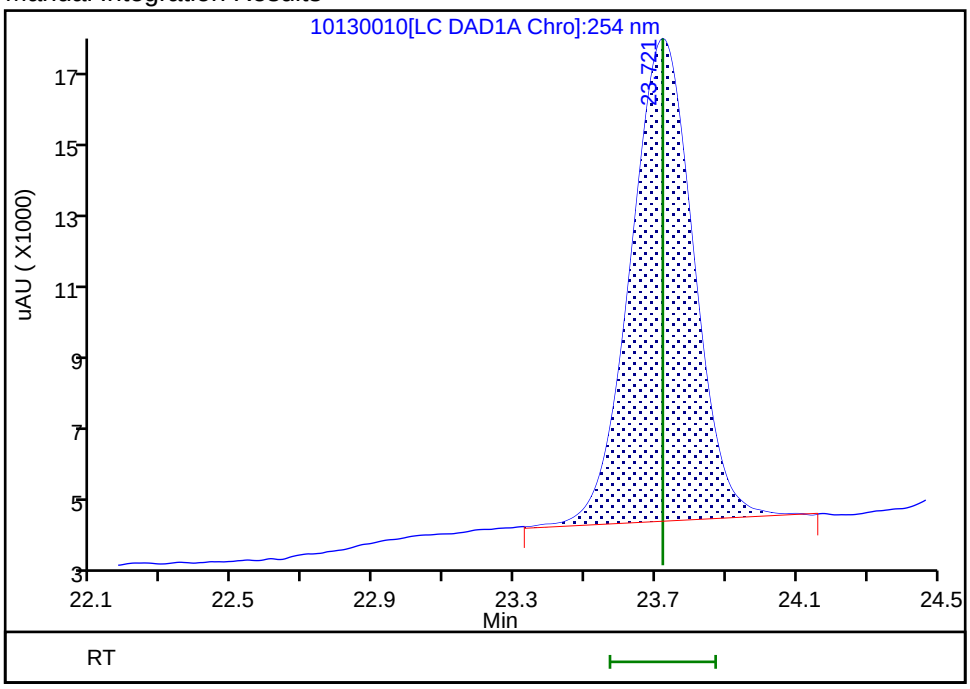
Processing Integration Results

RT: 23.72
Area: 180826
Amount: 0.437266
Amount Units: ug/ml



Manual Integration Results

RT: 23.72
Area: 157474
Amount: 0.403674
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:52:09
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130011.D
Lims ID: IC FULL LV 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 13-Oct-2018 18:43:36 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC FULL LV 4
Misc. Info.: 280-0075057-011
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:03:00 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 14-Oct-2018 13:51:39

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.409	4.401	0.008	106496	0.2500	0.2433	
3 2,4-diamino-6-nitrotoluene	1	4.955	4.954	0.001	67339	0.2500	0.2425	
4 2,4,6-Trinitrophenol	1	6.109	6.081	0.028	43104	0.2500	0.2456	
5 HMX	1	7.149	7.148	0.001	45582	0.2500	0.2388	
7 RDX	1	9.222	9.221	0.001	57384	0.2500	0.2385	
8 Nitrobenzene	1	12.155	12.161	-0.006	102545	0.2505	0.2349	
$ 9 1,2-Dinitrobenzene	1	13.162	13.161	0.001	76710	0.2500	0.2484	
10 3,5-Dinitroaniline	1	15.115	15.114	0.001	124316	0.2500	0.2446	
12 Nitroglycerin	2	15.662	15.667	-0.005	473954	2.50	2.43	
11 1,3-Dinitrobenzene	1	15.708	15.707	0.001	166531	0.2503	0.2387	
13 o-Nitrotoluene	1	16.475	16.474	0.001	67311	0.2508	0.2451	
14 p-Nitrotoluene	1	16.808	16.814	-0.006	57186	0.2510	0.2425	
15 4-Amino-2,6-dinitrotoluene	1	17.215	17.221	-0.006	80348	0.2508	0.2458	
16 m-Nitrotoluene	1	17.715	17.721	-0.006	74358	0.2510	0.2377	
17 2-Amino-4,6-dinitrotoluene	1	18.255	18.254	0.001	116530	0.2508	0.2416	
18 1,3,5-Trinitrobenzene	1	19.015	19.021	-0.006	123833	0.2500	0.2434	
19 2,6-Dinitrotoluene	1	19.828	19.834	-0.006	78825	0.2508	0.2396	
20 2,4-Dinitrotoluene	1	20.388	20.394	-0.006	152949	0.2505	0.2429	
21 Tetryl	1	23.722	23.721	0.001	93284	0.2500	0.2391	M
22 2,4,6-Trinitrotoluene	1	24.735	24.734	0.001	112078	0.2510	0.2501	
23 PETN	2	25.142	25.141	0.001	351201	2.50	2.49	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00056	Amount Added:	12.50	Units: uL
8330_ADDs_00017	Amount Added:	12.50	Units: uL

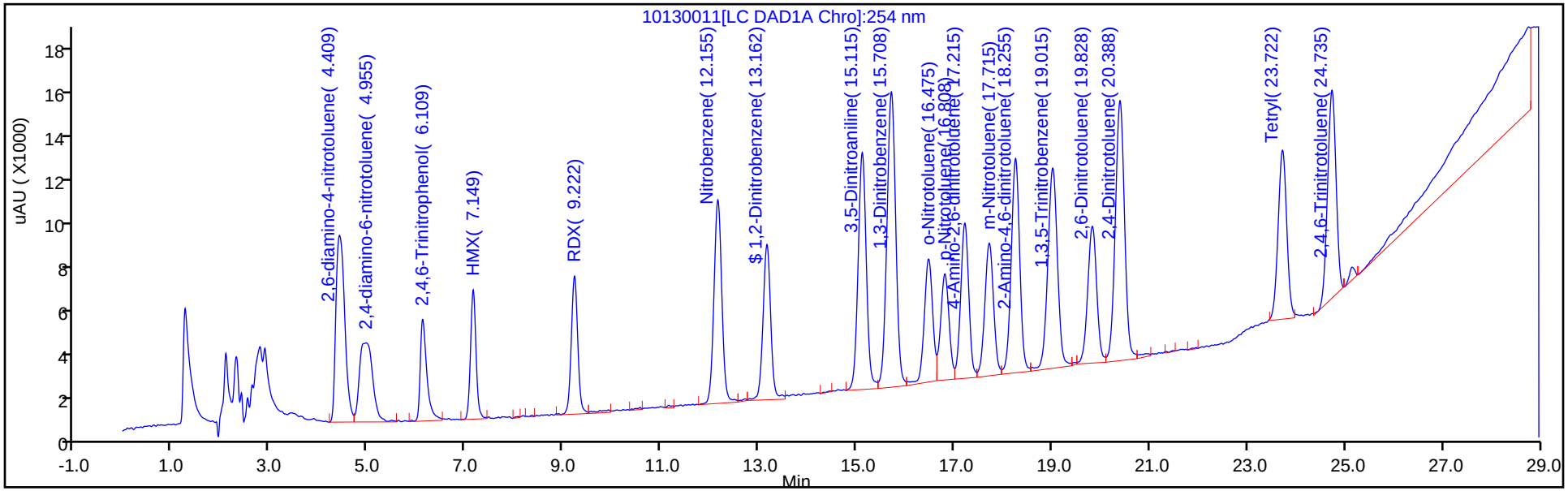
Report Date: 14-Oct-2018 14:03:01 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

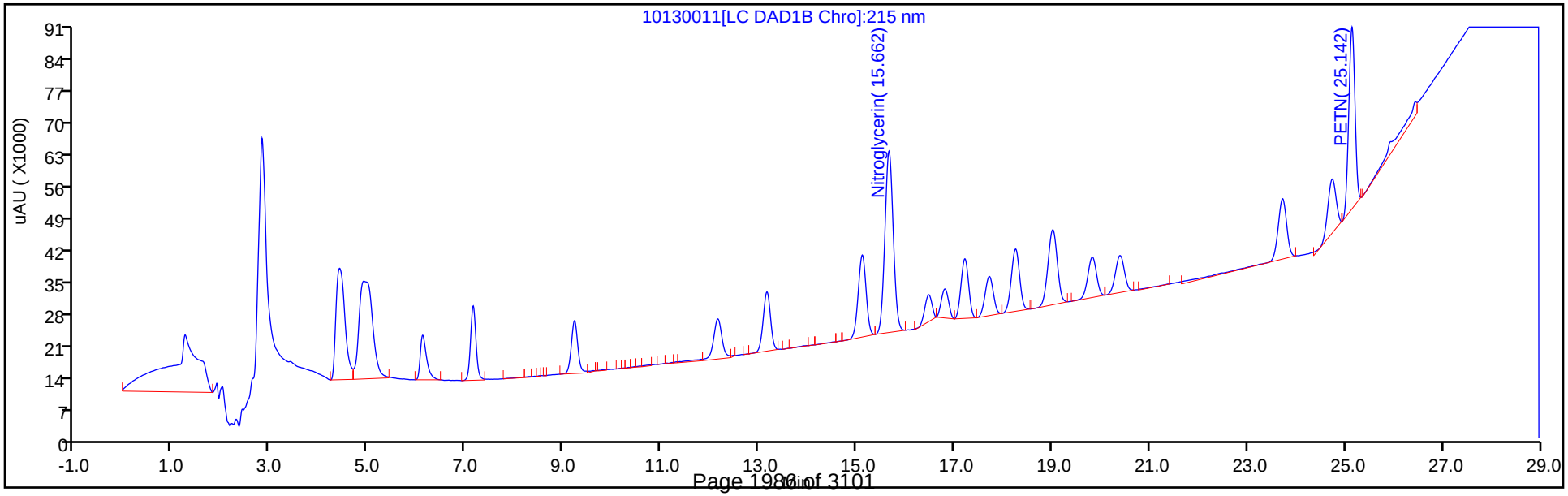
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130011.D

Injection Date:	13-Oct-2018 18:43:36	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	IC FULL LV 4			Worklist Smp#:	11
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

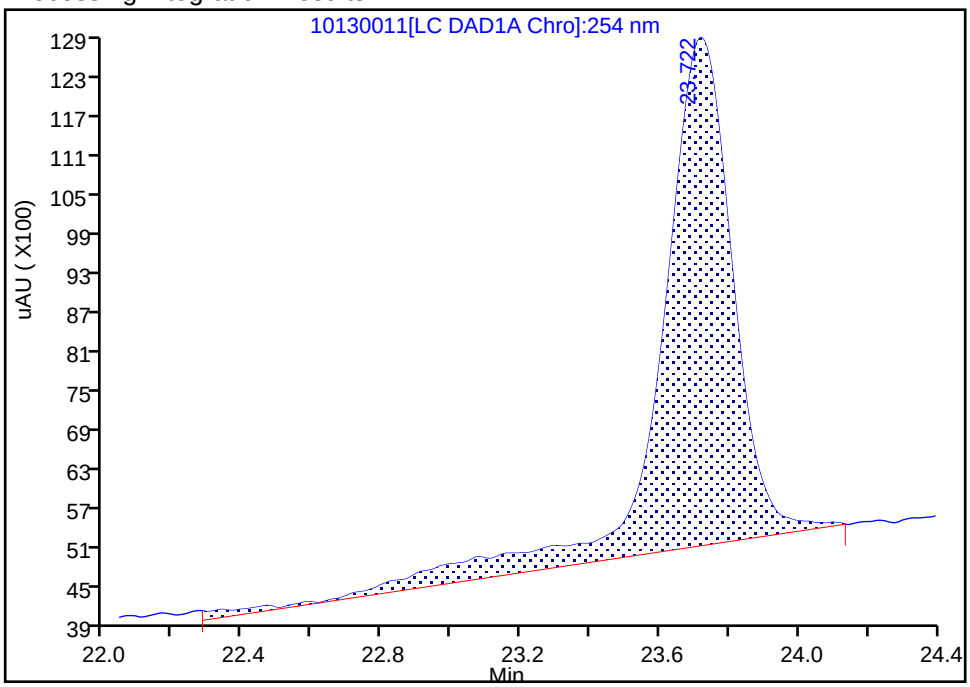
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130011.D
Injection Date: 13-Oct-2018 18:43:36 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 4
Client ID:
Operator ID: HKF ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

21 Tetryl, CAS: 479-45-8

Signal: 1

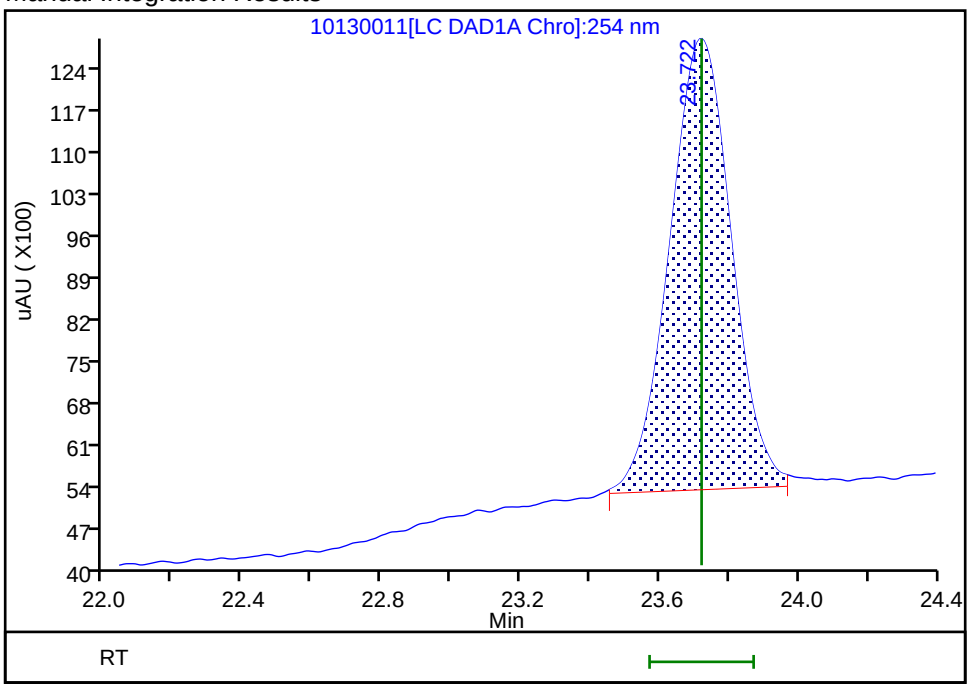
Processing Integration Results

RT: 23.72
Area: 112926
Amount: 0.252081
Amount Units: ug/ml



Manual Integration Results

RT: 23.72
Area: 93284
Amount: 0.239128
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:51:56
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130012.D
Lims ID: IC FULL LV 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 13-Oct-2018 19:18:34 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC FULL LV 3
Misc. Info.: 280-0075057-012
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:03:02 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 14-Oct-2018 13:58:31

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.412	4.401	0.011	42512	0.1000	0.0971	
3 2,4-diamino-6-nitrotoluene	1	4.952	4.954	-0.002	27847	0.1000	0.1003	
4 2,4,6-Trinitrophenol	1	6.146	6.081	0.065	17257	0.1000	0.0983	
5 HMX	1	7.146	7.148	-0.002	19254	0.1000	0.1009	
7 RDX	1	9.219	9.221	-0.002	25353	0.1000	0.1054	
8 Nitrobenzene	1	12.152	12.161	-0.009	44179	0.1002	0.1012	
$ 9 1,2-Dinitrobenzene	1	13.152	13.161	-0.009	31197	0.1000	0.1010	
10 3,5-Dinitroaniline	1	15.106	15.114	-0.008	51091	0.1000	0.1004	
12 Nitroglycerin	2	15.652	15.667	-0.015	192800	1.00	0.9873	
11 1,3-Dinitrobenzene	1	15.699	15.707	-0.008	68591	0.1001	0.0983	
13 o-Nitrotoluene	1	16.472	16.474	-0.002	26486	0.1003	0.0964	
14 p-Nitrotoluene	1	16.799	16.814	-0.015	22209	0.1004	0.0942	
15 4-Amino-2,6-dinitrotoluene	1	17.212	17.221	-0.009	32060	0.1003	0.0981	
16 m-Nitrotoluene	1	17.712	17.721	-0.009	30526	0.1004	0.0976	
17 2-Amino-4,6-dinitrotoluene	1	18.246	18.254	-0.008	46973	0.1003	0.0974	
18 1,3,5-Trinitrobenzene	1	19.006	19.021	-0.015	50435	0.1000	0.0991	
19 2,6-Dinitrotoluene	1	19.826	19.834	-0.008	33837	0.1003	0.1029	
20 2,4-Dinitrotoluene	1	20.386	20.394	-0.008	62607	0.1002	0.0994	
21 Tetryl	1	23.712	23.721	-0.009	39605	0.1000	0.1015	
22 2,4,6-Trinitrotoluene	1	24.726	24.734	-0.008	43913	0.1004	0.0980	
23 PETN	2	25.132	25.141	-0.009	138138	1.00	0.9813	

Reagents:

8330IntermStk_00056 Amount Added: 5.00 Units: uL
8330_ADDs_00017 Amount Added: 5.00 Units: uL

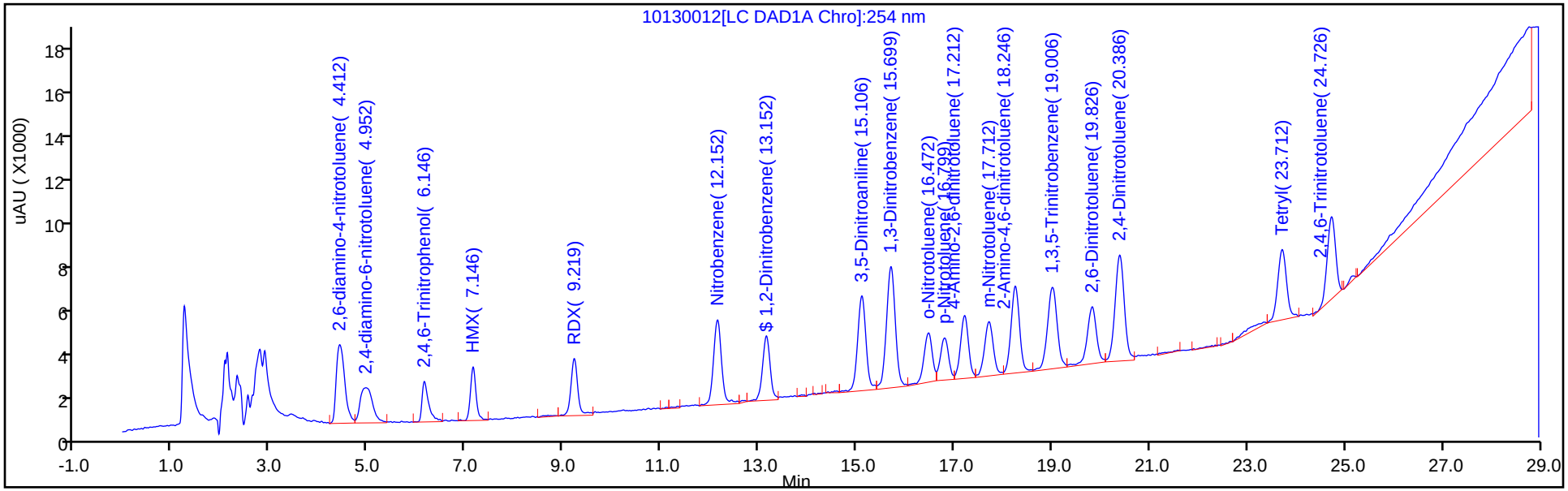
Report Date: 14-Oct-2018 14:03:02 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

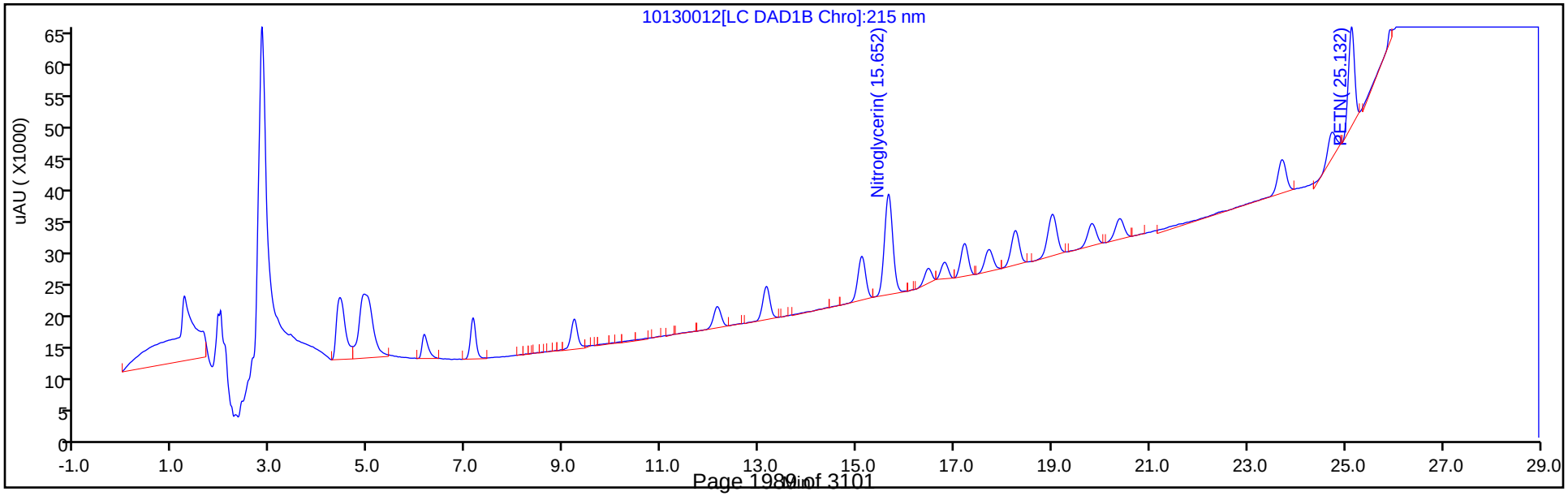
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130012.D

Injection Date:	13-Oct-2018 19:18:34	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	IC FULL LV 3			Worklist Smp#:	12
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130013.D
Lims ID: IC FULL LV 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 13-Oct-2018 19:53:30 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC FULL LV 2
Misc. Info.: 280-0075057-013
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:03:03 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 14-Oct-2018 13:52:44

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.411	4.401	0.010	20884	0.0500	0.0477	
3 2,4-diamino-6-nitrotoluene	1	4.924	4.954	-0.030	15317	0.0500	0.0552	
4 2,4,6-Trinitrophenol	1	6.184	6.081	0.103	8338	0.0500	0.0475	
5 HMX	1	7.151	7.148	0.003	9911	0.0500	0.0519	
7 RDX	1	9.224	9.221	0.003	13001	0.0500	0.0540	
8 Nitrobenzene	1	12.164	12.161	0.003	23912	0.0501	0.0548	
$ 9 1,2-Dinitrobenzene	1	13.171	13.161	0.010	15682	0.0500	0.0508	
10 3,5-Dinitroaniline	1	15.124	15.114	0.010	30112	0.0500	0.0591	
12 Nitroglycerin	2	15.671	15.667	0.004	95429	0.5000	0.4887	
11 1,3-Dinitrobenzene	1	15.717	15.707	0.010	39303	0.0501	0.0563	
13 o-Nitrotoluene	1	16.477	16.474	0.003	15285	0.0502	0.0556	
14 p-Nitrotoluene	1	16.817	16.814	0.003	12122	0.0502	0.0514	
15 4-Amino-2,6-dinitrotoluene	1	17.224	17.221	0.003	17939	0.0502	0.0549	
16 m-Nitrotoluene	1	17.717	17.721	-0.004	17439	0.0502	0.0557	
17 2-Amino-4,6-dinitrotoluene	1	18.257	18.254	0.003	26788	0.0502	0.0555	
18 1,3,5-Trinitrobenzene	1	19.004	19.021	-0.017	28899	0.0500	0.0568	
19 2,6-Dinitrotoluene	1	19.831	19.834	-0.003	19816	0.0502	0.0602	
20 2,4-Dinitrotoluene	1	20.391	20.394	-0.003	34146	0.0501	0.0542	
21 Tetryl	1	23.717	23.721	-0.004	18760	0.0500	0.0481	M
22 2,4,6-Trinitrotoluene	1	24.737	24.734	0.003	21005	0.0502	0.0469	M
23 PETN	2	25.137	25.141	-0.004	67494	0.5000	0.4795	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00056	Amount Added:	2.50	Units: uL
8330_ADDs_00017	Amount Added:	2.50	Units: uL

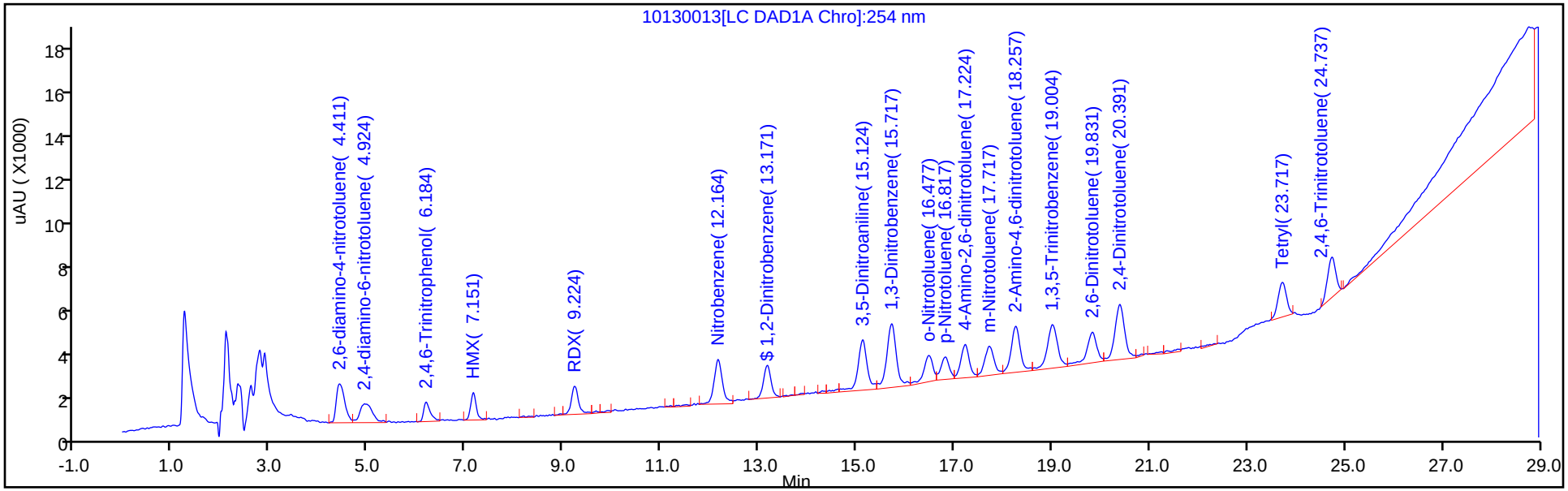
Report Date: 14-Oct-2018 14:03:04 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

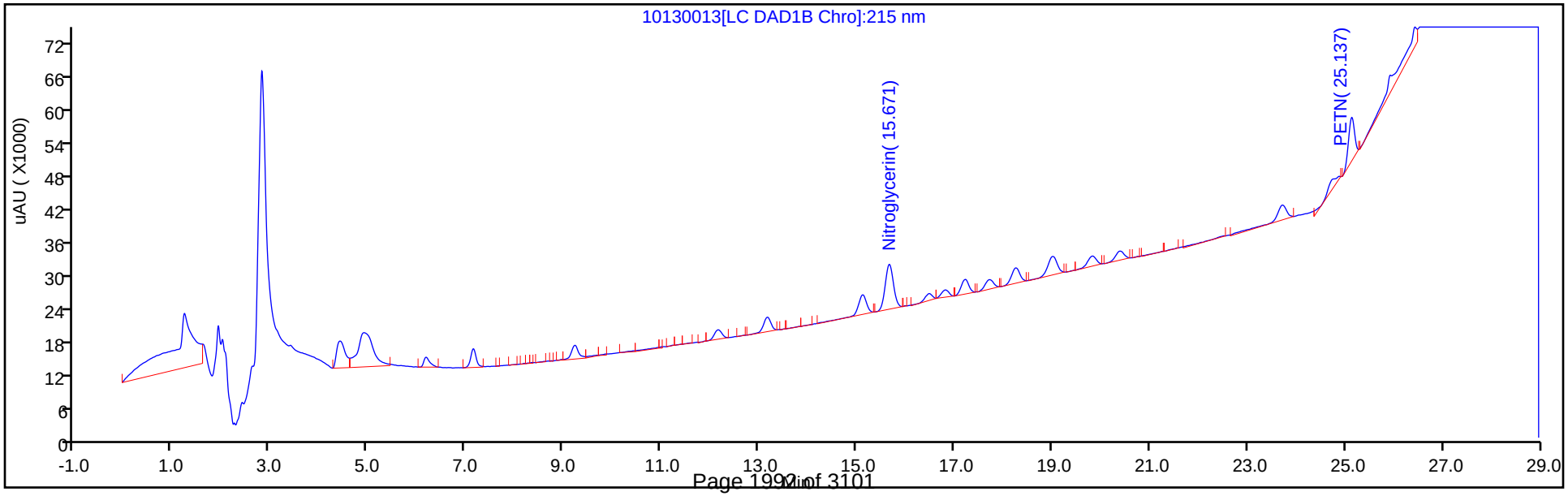
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130013.D

Injection Date:	13-Oct-2018 19:53:30	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	IC FULL LV 2			Worklist Smp#:	13
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

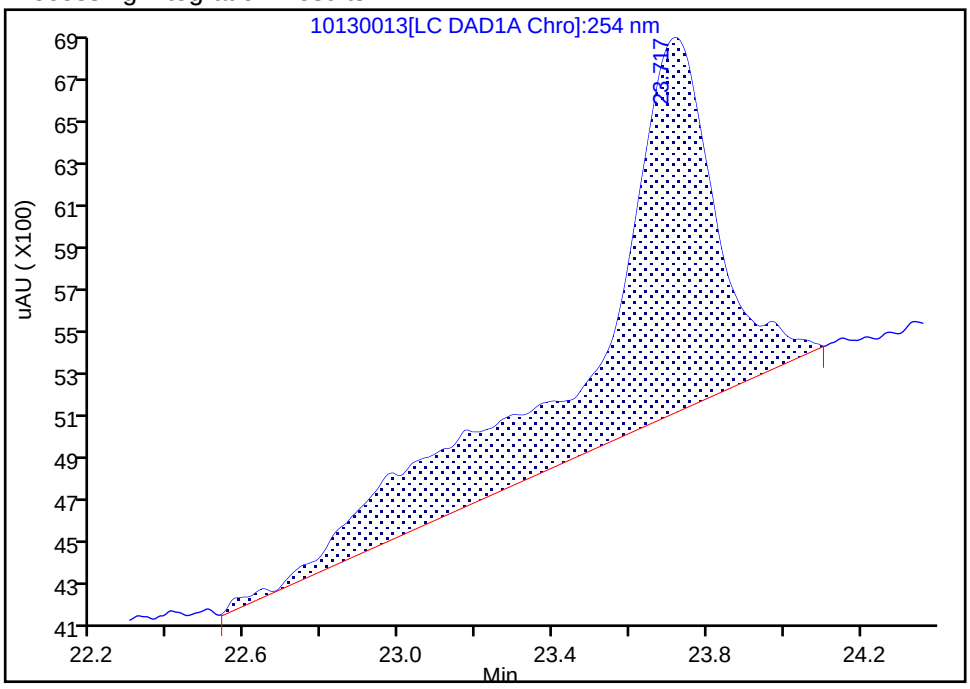
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130013.D
Injection Date: 13-Oct-2018 19:53:30 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 2
Client ID:
Operator ID: HKF ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

21 Tetryl, CAS: 479-45-8

Signal: 1

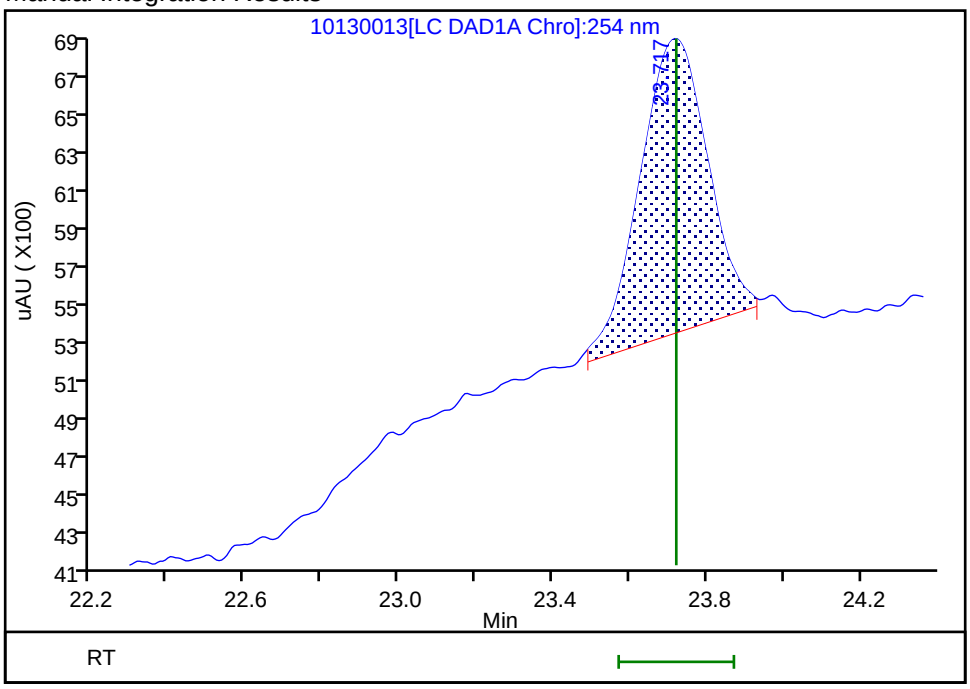
Processing Integration Results

RT: 23.72
Area: 38693
Amount: 0.058611
Amount Units: ug/ml



Manual Integration Results

RT: 23.72
Area: 18760
Amount: 0.048090
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:58:23
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

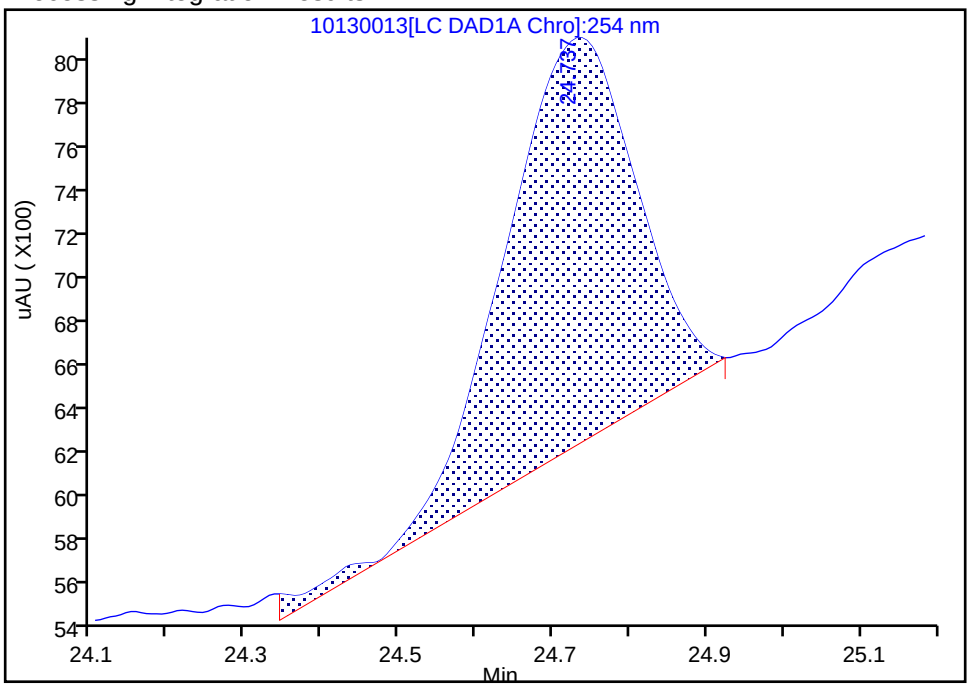
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130013.D				
Injection Date:	13-Oct-2018 19:53:30	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	IC FULL LV 2				
Client ID:					
Operator ID:	HKF	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

22 2,4,6-Trinitrotoluene, CAS: 118-96-7

Signal: 1

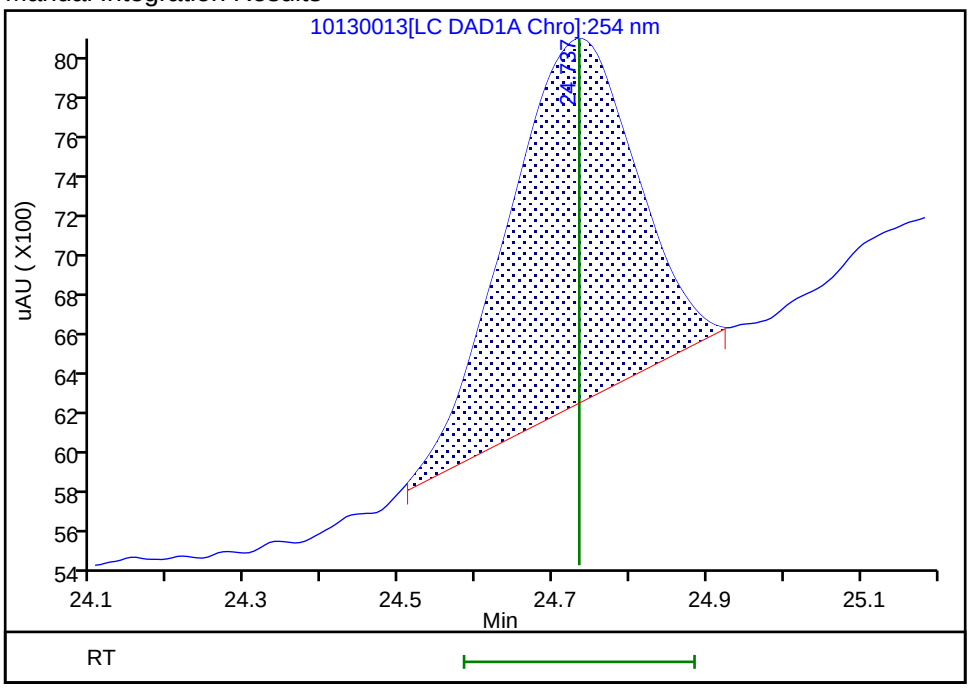
Processing Integration Results

RT: 24.74
Area: 21827
Amount: 0.048489
Amount Units: ug/ml



Manual Integration Results

RT: 24.74
Area: 21005
Amount: 0.046876
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:58:16

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Lims ID: IC FULL LV 1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 13-Oct-2018 20:28:27 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC FULL LV 1
Misc. Info.: 280-0075057-014
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:03:04 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 14-Oct-2018 13:53:15

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.409	4.401	0.008	8941	0.0200	0.0204	
3 2,4-diamino-6-nitrotoluene	1	4.923	4.954	-0.031	7182	0.0200	0.0259	
4 2,4,6-Trinitrophenol	1	6.216	6.081	0.135	3438	0.0200	0.0196	
5 HMX	1	7.143	7.148	-0.005	3990	0.0200	0.0209	M
7 RDX	1	9.223	9.221	0.002	5022	0.0200	0.0209	M
8 Nitrobenzene	1	12.156	12.161	-0.005	9419	0.0200	0.0216	M
$ 9 1,2-Dinitrobenzene	1	13.163	13.161	0.002	6480	0.0200	0.0210	M
10 3,5-Dinitroaniline	1	15.123	15.114	0.009	9555	0.0200	0.0186	M
12 Nitroglycerin	2	15.676	15.667	0.009	40127	0.2000	0.2055	
11 1,3-Dinitrobenzene	1	15.723	15.707	0.016	14112	0.0200	0.0202	M
13 o-Nitrotoluene	1	16.496	16.474	0.022	5507	0.0201	0.0200	M
14 p-Nitrotoluene	1	16.816	16.814	0.002	5052	0.0201	0.0214	M
15 4-Amino-2,6-dinitrotoluene	1	17.223	17.221	0.002	6145	0.0201	0.0188	M
16 m-Nitrotoluene	1	17.736	17.721	0.015	6830	0.0201	0.0218	M
17 2-Amino-4,6-dinitrotoluene	1	18.263	18.254	0.009	10063	0.0201	0.0209	M
18 1,3,5-Trinitrobenzene	1	19.029	19.021	0.008	10023	0.0200	0.0197	
19 2,6-Dinitrotoluene	1	19.843	19.834	0.009	6342	0.0201	0.0193	M
20 2,4-Dinitrotoluene	1	20.403	20.394	0.009	12823	0.0200	0.0204	
21 Tetryl	1	23.723	23.721	0.002	8216	0.0200	0.0211	M
22 2,4,6-Trinitrotoluene	1	24.749	24.734	0.015	8290	0.0201	0.0185	M
23 PETN	2	25.149	25.141	0.008	25286	0.2000	0.1796	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00056	Amount Added:	1.00	Units: uL
8330_ADDs_00017	Amount Added:	1.00	Units: uL

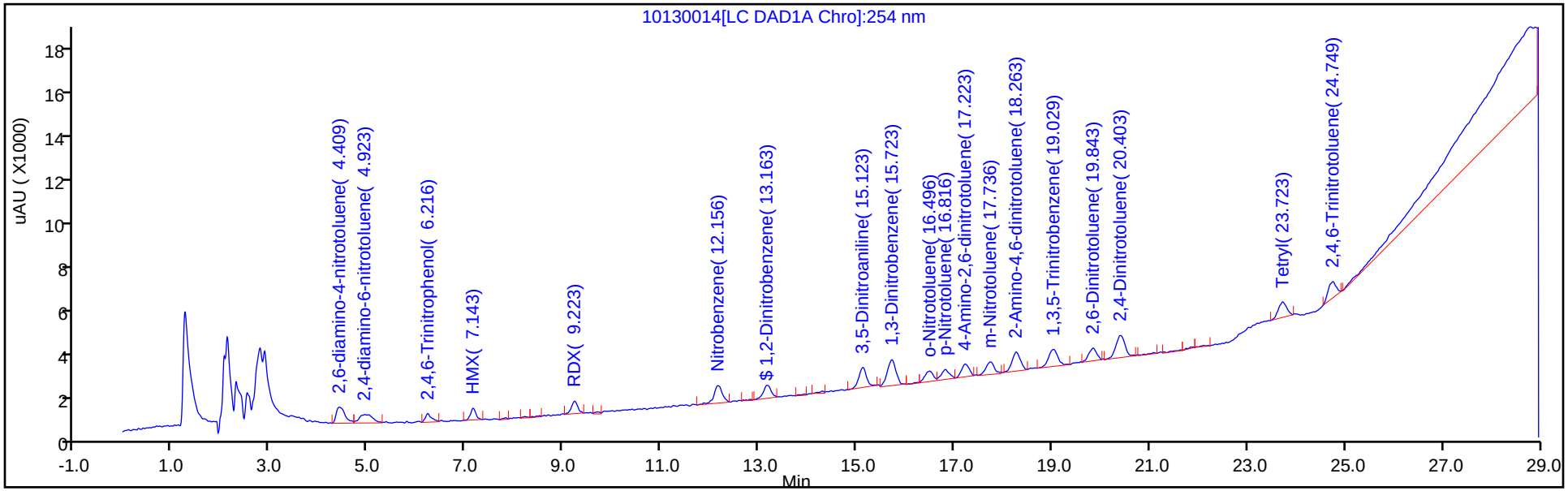
Report Date: 14-Oct-2018 14:03:05 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

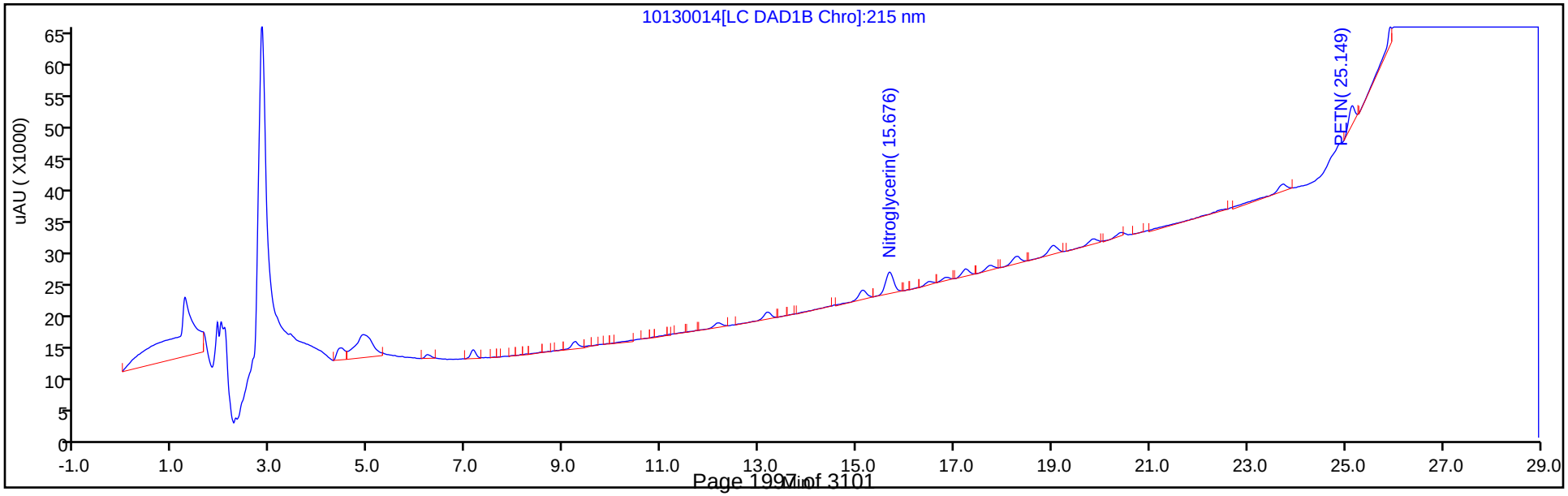
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D

Injection Date:	13-Oct-2018 20:28:27	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	IC FULL LV 1			Worklist Smp#:	14
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Manual Integration/User Assign Peak Report

TestAmerica Denver

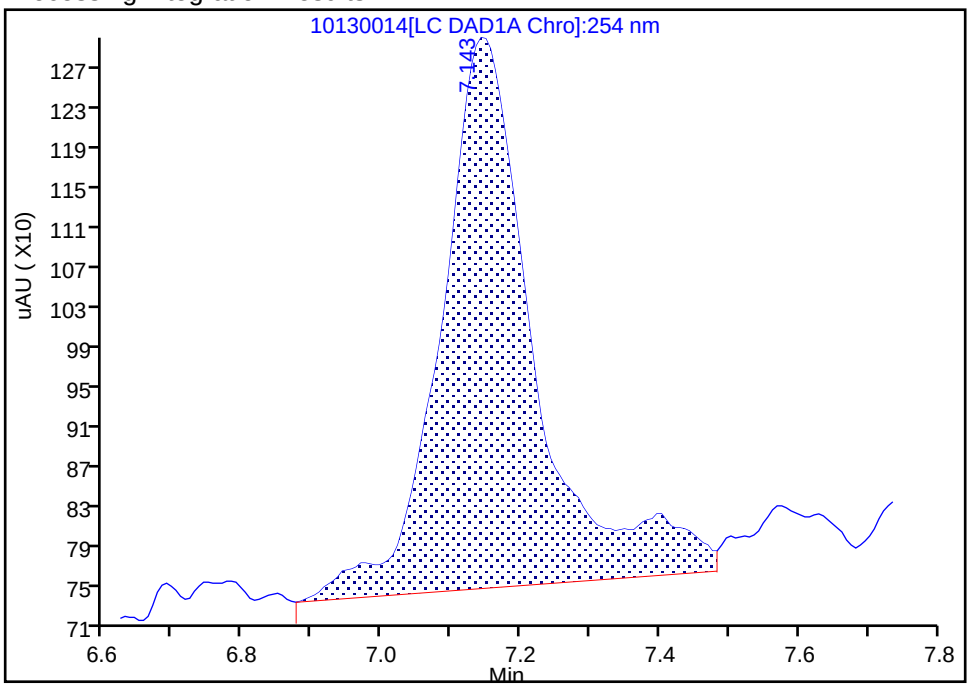
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

5 HMX, CAS: 2691-41-0

Signal: 1

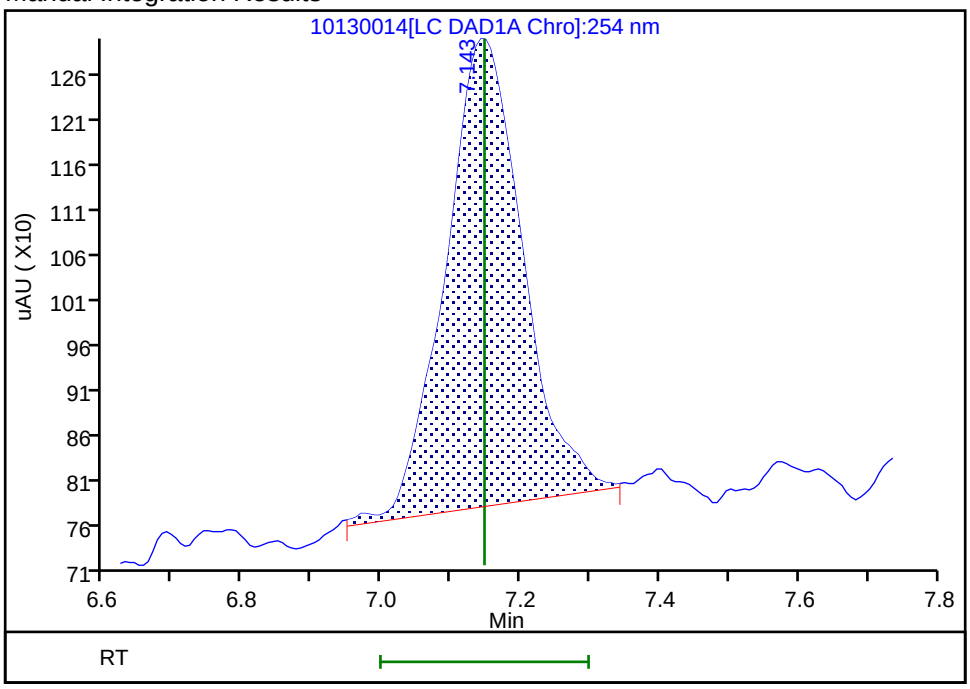
Processing Integration Results

RT: 7.14
Area: 5193
Amount: 0.026175
Amount Units: ug/ml



Manual Integration Results

RT: 7.14
Area: 3990
Amount: 0.020904
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:55:04
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

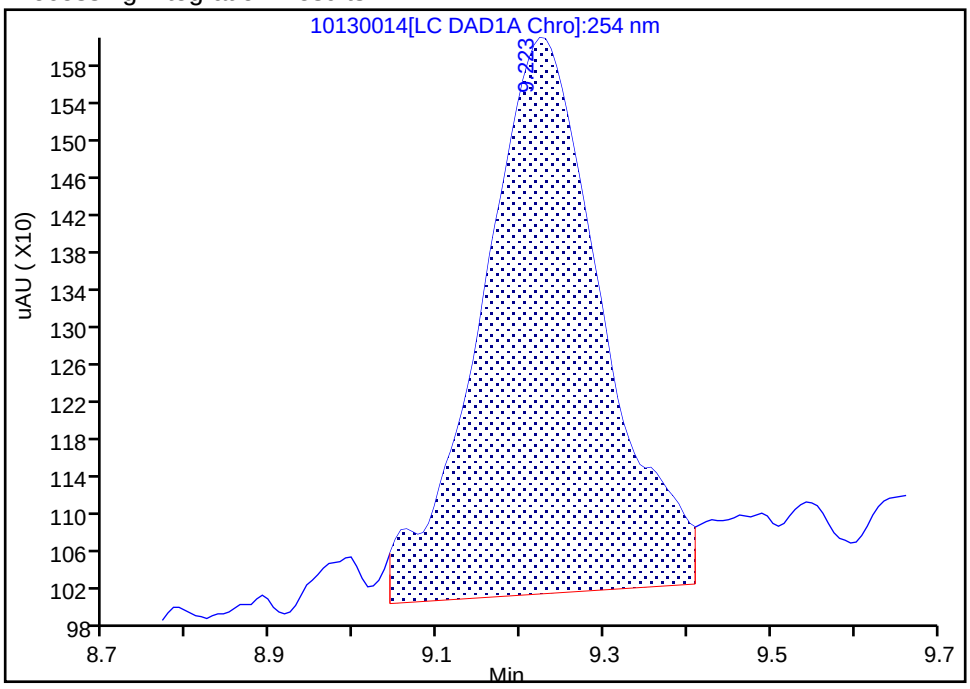
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

7 RDX, CAS: 121-82-4

Signal: 1

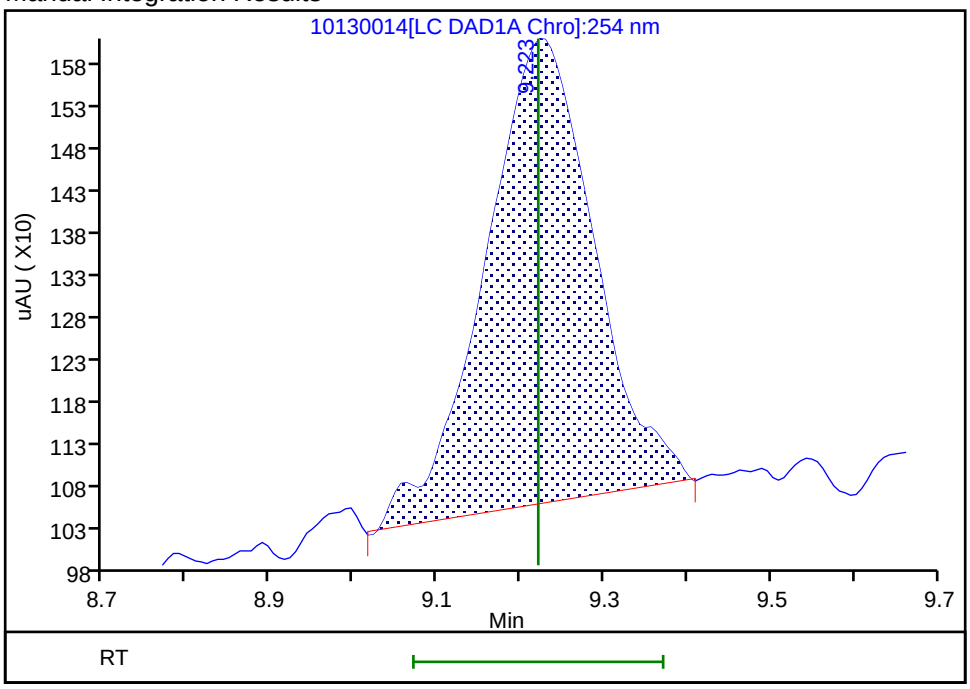
Processing Integration Results

RT: 9.22
Area: 6007
Amount: 0.024347
Amount Units: ug/ml



Manual Integration Results

RT: 9.22
Area: 5022
Amount: 0.020876
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:56:29
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

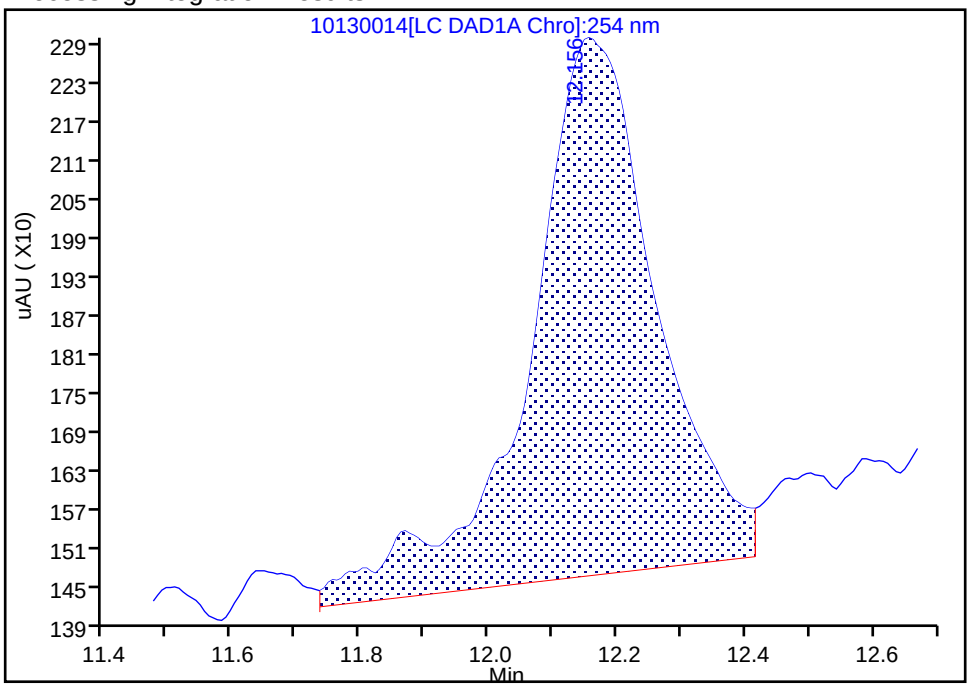
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

8 Nitrobenzene, CAS: 98-95-3

Signal: 1

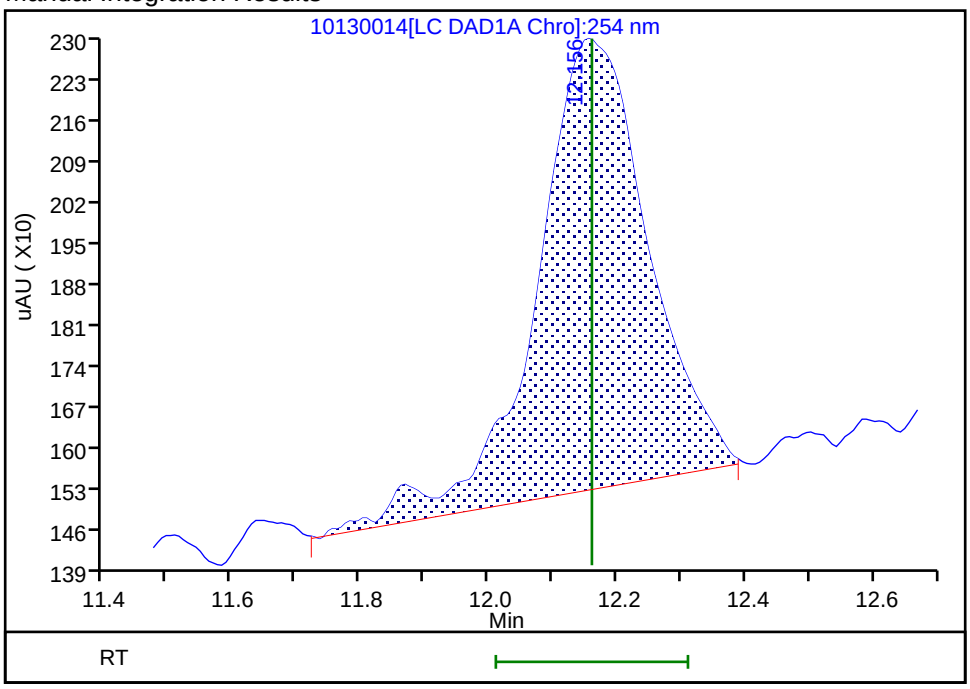
Processing Integration Results

RT: 12.16
Area: 11615
Amount: 0.025799
Amount Units: ug/ml



Manual Integration Results

RT: 12.16
Area: 9419
Amount: 0.021578
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:56:37
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

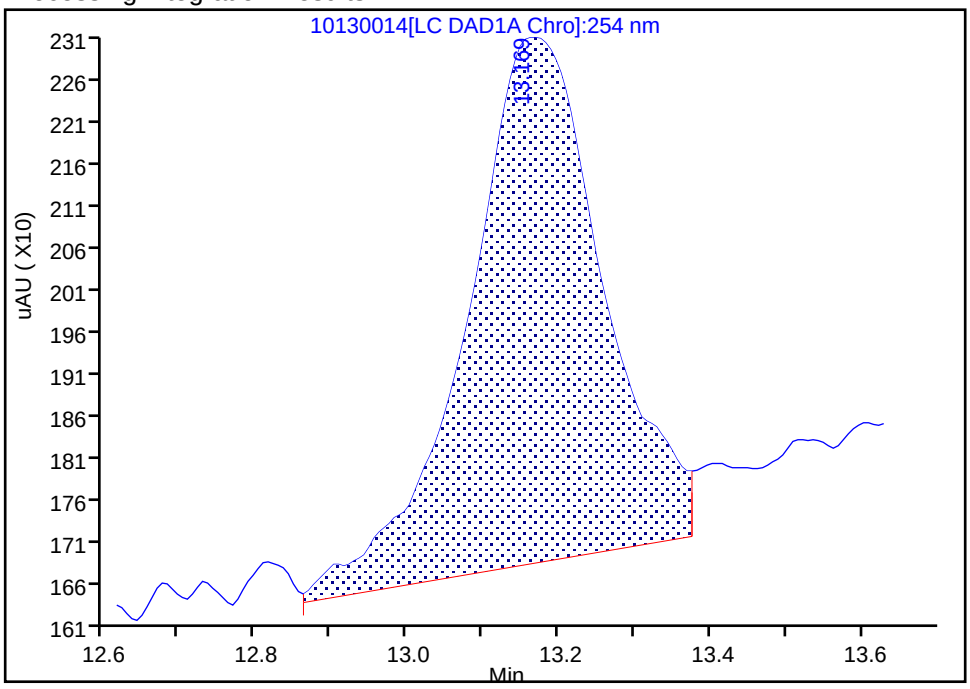
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D				
Injection Date:	13-Oct-2018 20:28:27	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	IC FULL LV 1				
Client ID:					
Operator ID:	HKF	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

$ 9 1,2-Dinitrobenzene, CAS: 528-29-0

Signal: 1

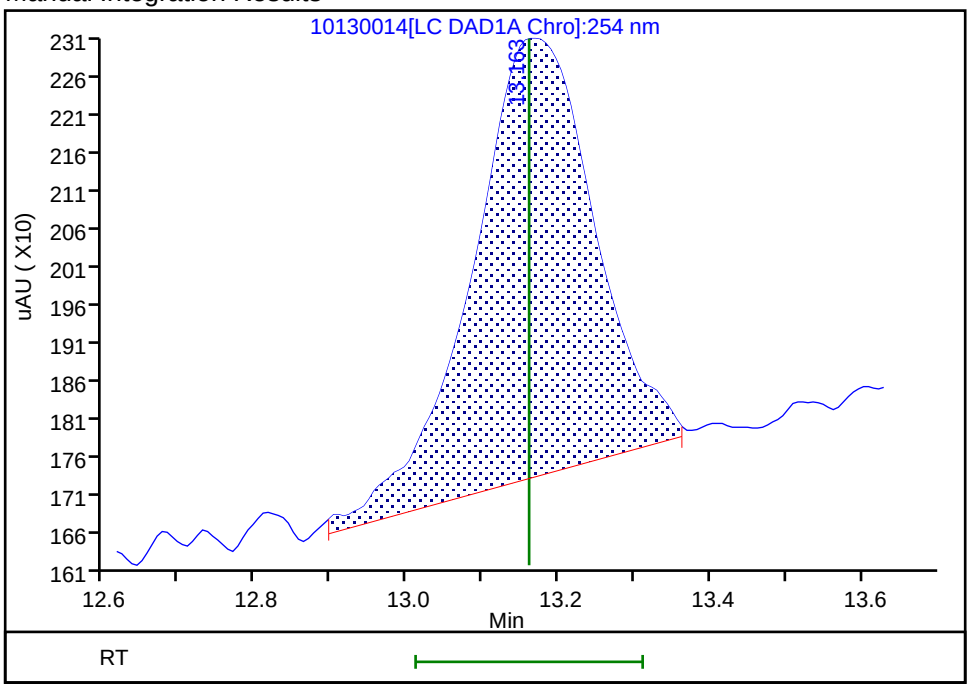
Processing Integration Results

RT: 13.17
Area: 7789
Amount: 0.024567
Amount Units: ug/ml



Manual Integration Results

RT: 13.16
Area: 6480
Amount: 0.020979
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:58:03

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

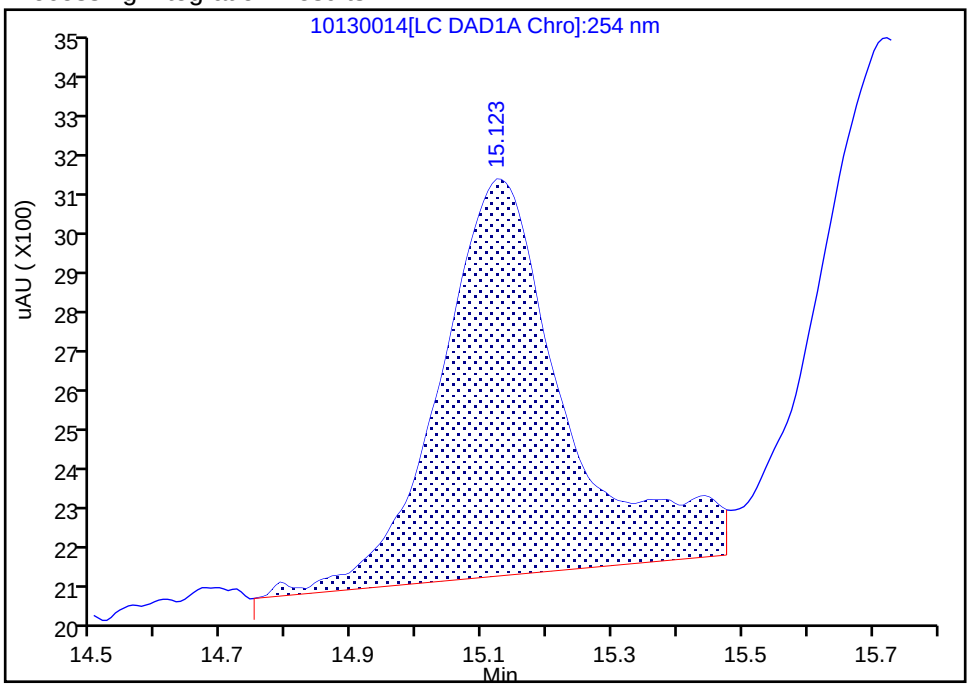
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D				
Injection Date:	13-Oct-2018 20:28:27	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	IC FULL LV 1				
Client ID:					
Operator ID:	HKF	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

10 3,5-Dinitroaniline, CAS: 618-87-1

Signal: 1

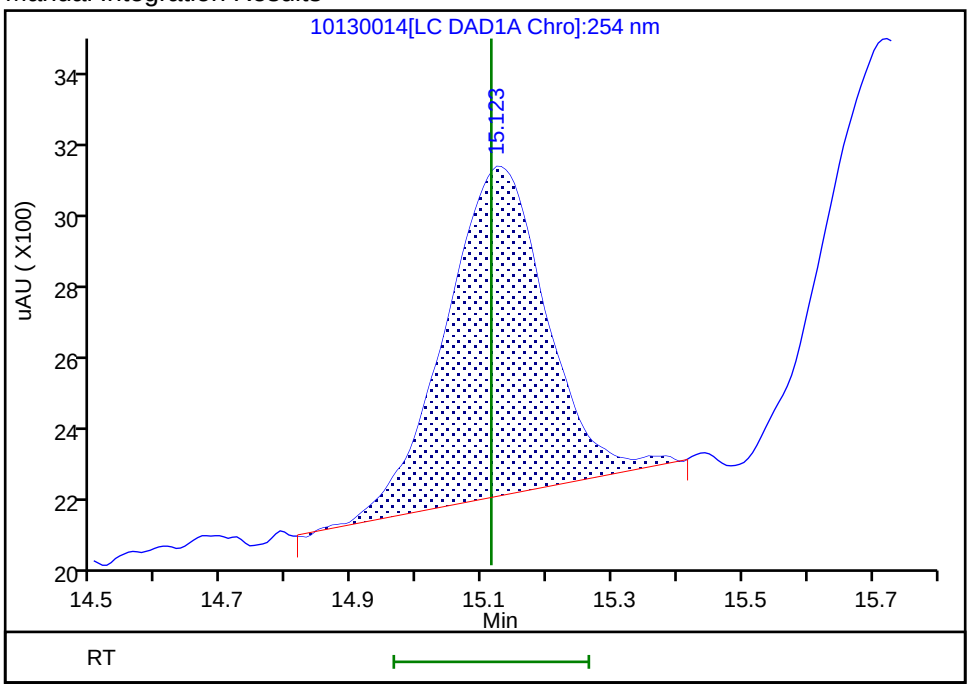
Processing Integration Results

RT: 15.12
Area: 12844
Amount: 0.019446
Amount Units: ug/ml



Manual Integration Results

RT: 15.12
Area: 9555
Amount: 0.018611
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:56:41
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

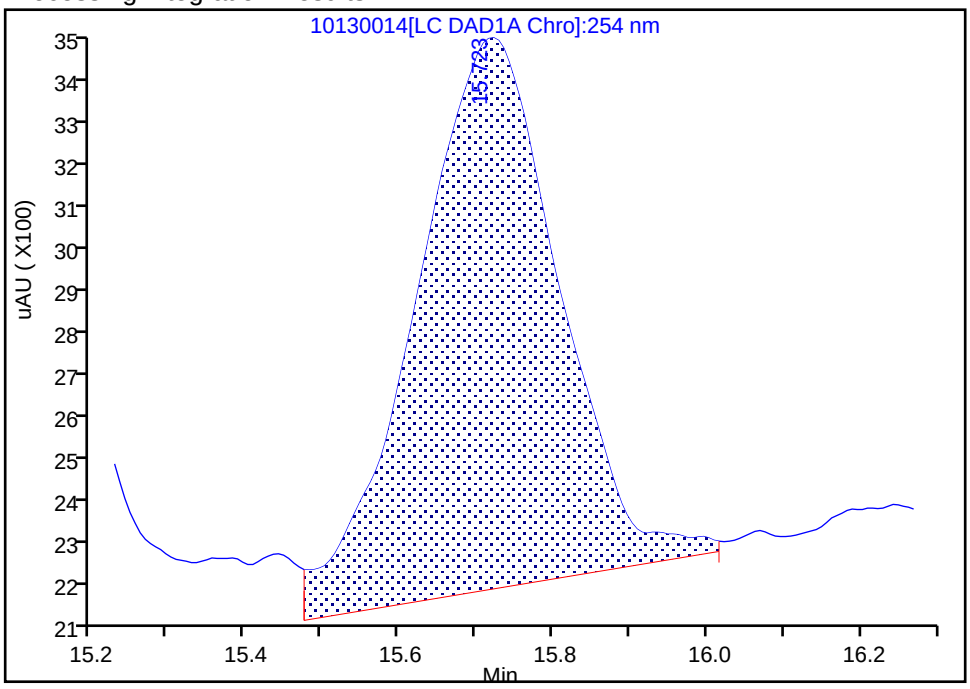
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

11 1,3-Dinitrobenzene, CAS: 99-65-0

Signal: 1

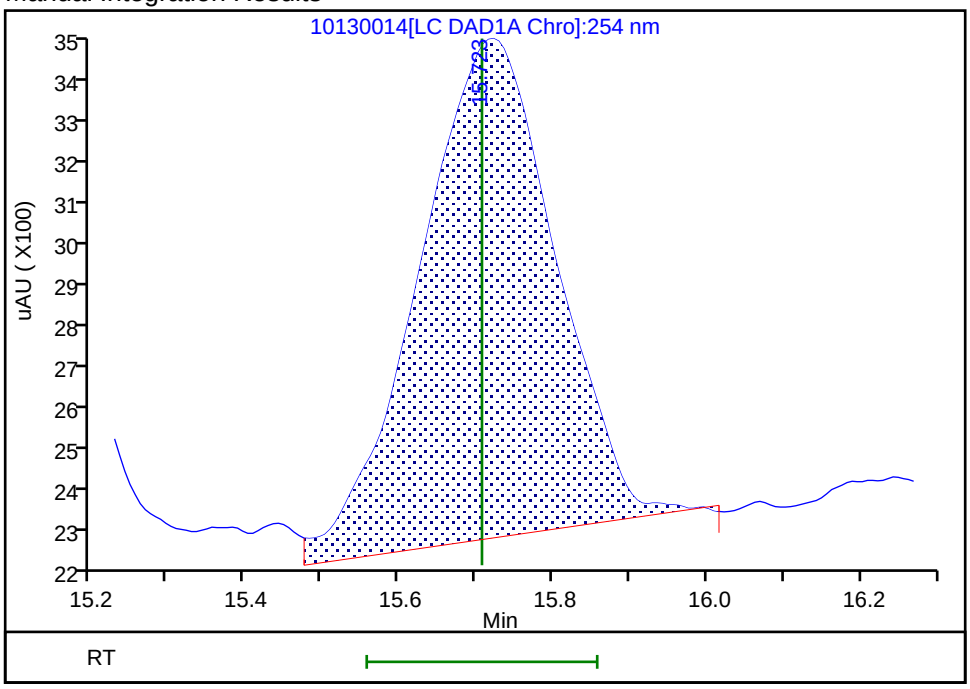
Processing Integration Results

RT: 15.72
Area: 15457
Amount: 0.021892
Amount Units: ug/ml



Manual Integration Results

RT: 15.72
Area: 14112
Amount: 0.020227
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:53:10
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

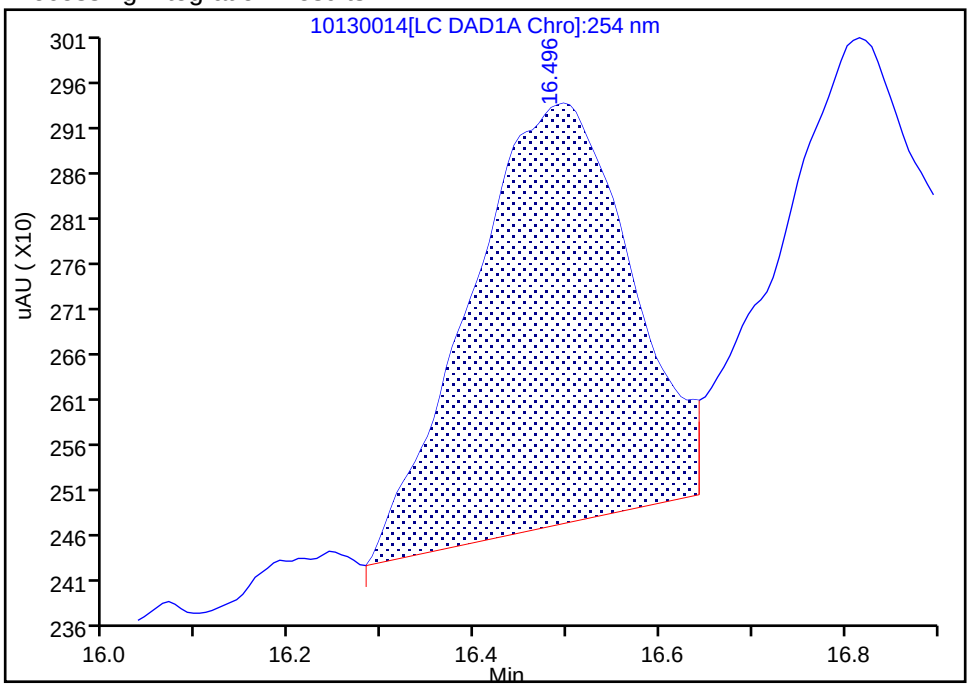
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

13 o-Nitrotoluene, CAS: 88-72-2

Signal: 1

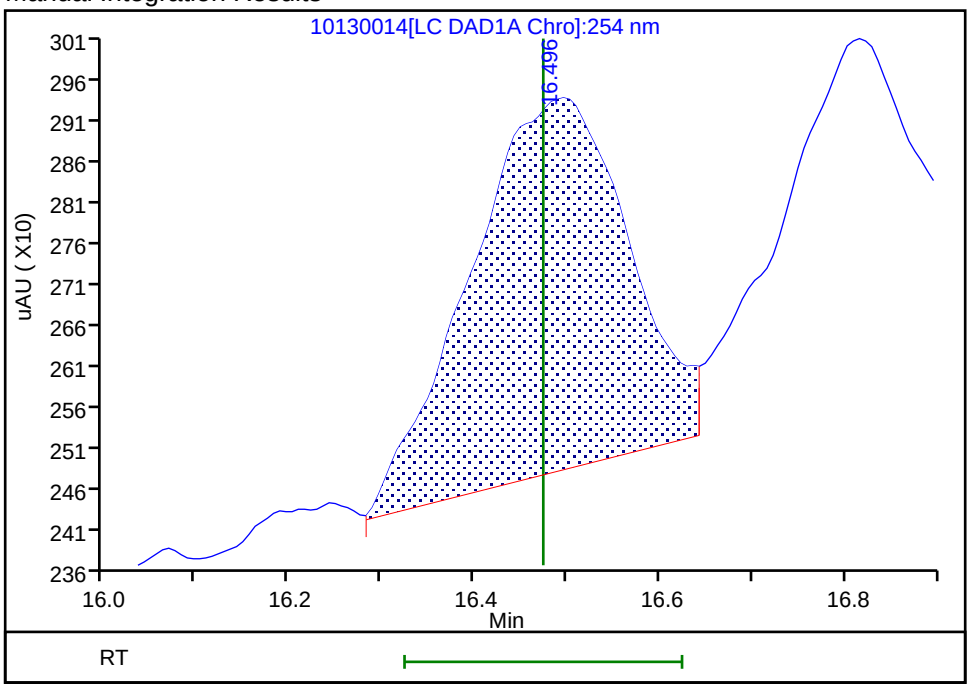
Processing Integration Results

RT: 16.50
Area: 5669
Amount: 0.020563
Amount Units: ug/ml



Manual Integration Results

RT: 16.50
Area: 5507
Amount: 0.020049
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:57:01
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

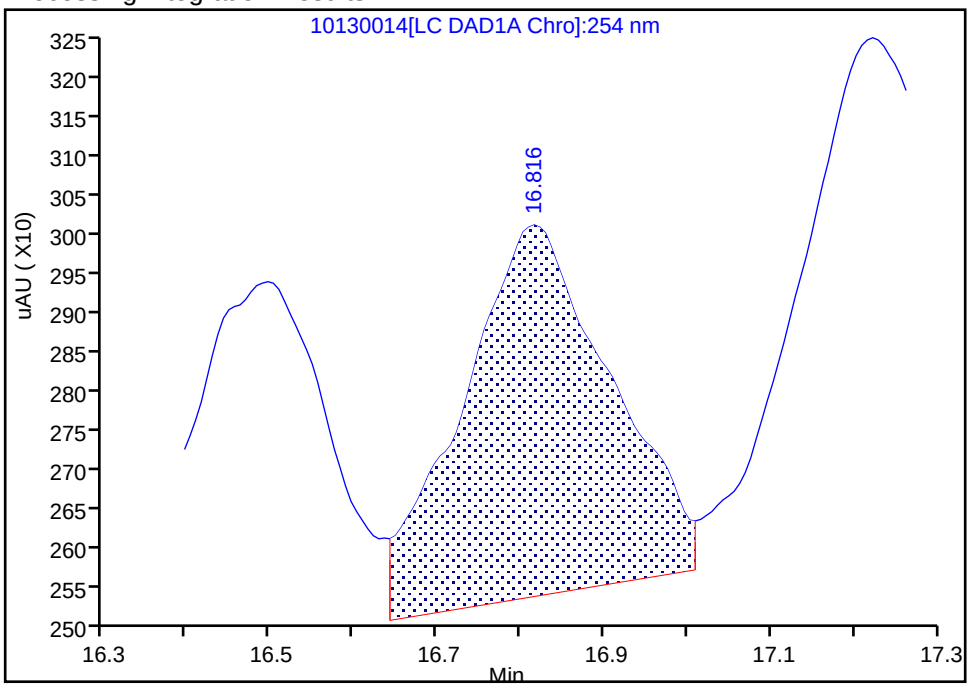
Data File:	\\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D				
Injection Date:	13-Oct-2018 20:28:27	Instrument ID:	CHHPLC_G2_LUNA		
Lims ID:	IC FULL LV 1				
Client ID:					
Operator ID:	HKF	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC DAD1A, 254 nm		

14 p-Nitrotoluene, CAS: 99-99-0

Signal: 1

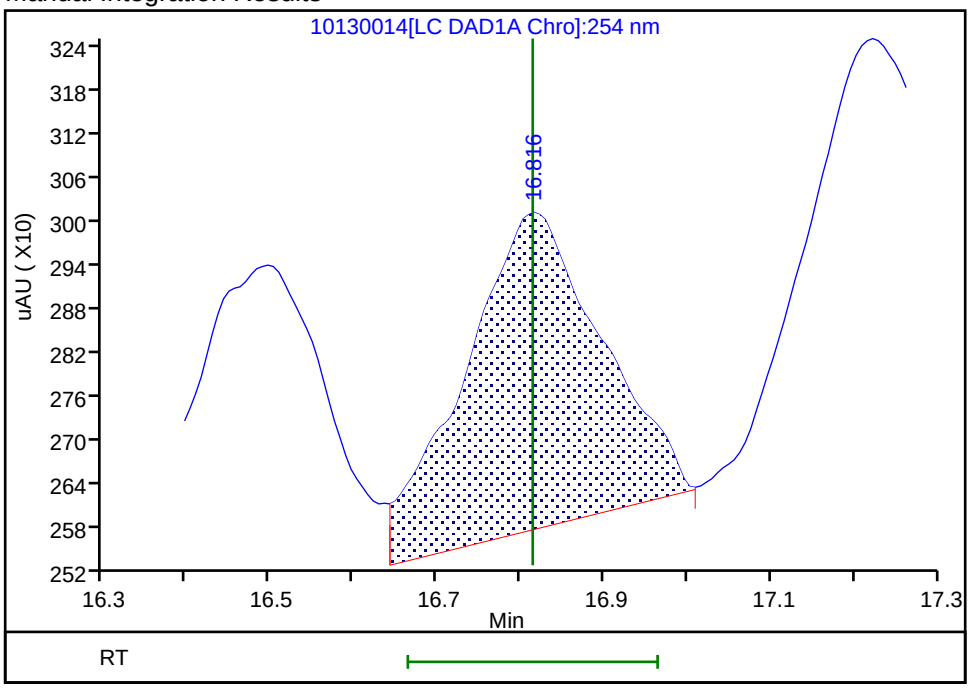
Processing Integration Results

RT: 16.82
Area: 5932
Amount: 0.024584
Amount Units: ug/ml



Manual Integration Results

RT: 16.82
Area: 5052
Amount: 0.021423
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:57:01
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

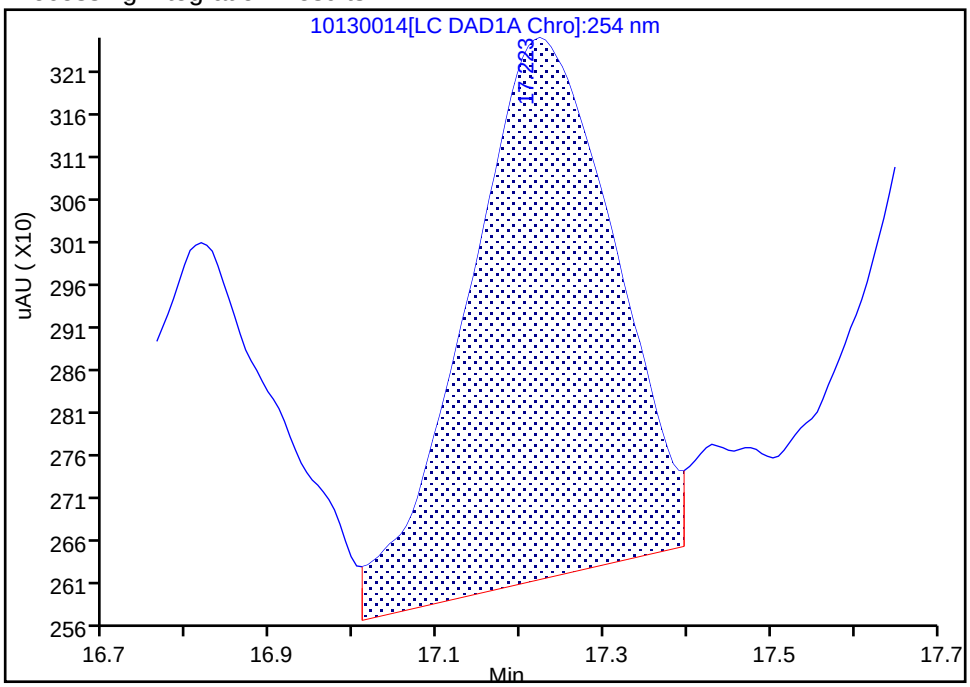
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

15 4-Amino-2,6-dinitrotoluene, CAS: 19406-51-0

Signal: 1

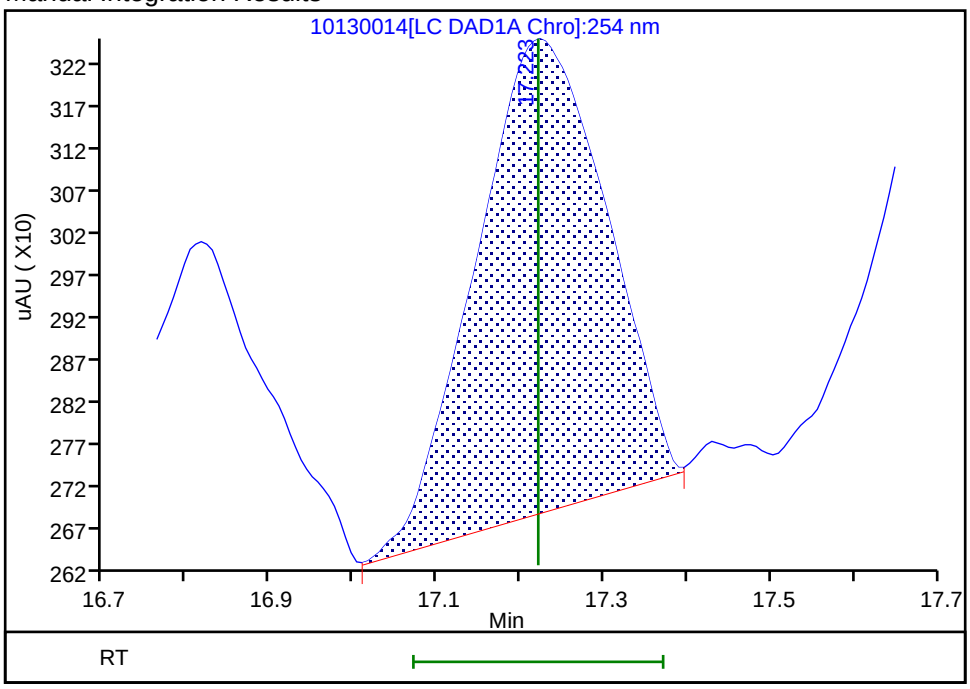
Processing Integration Results

RT: 17.22
Area: 7815
Amount: 0.023174
Amount Units: ug/ml



Manual Integration Results

RT: 17.22
Area: 6145
Amount: 0.018802
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:57:01
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

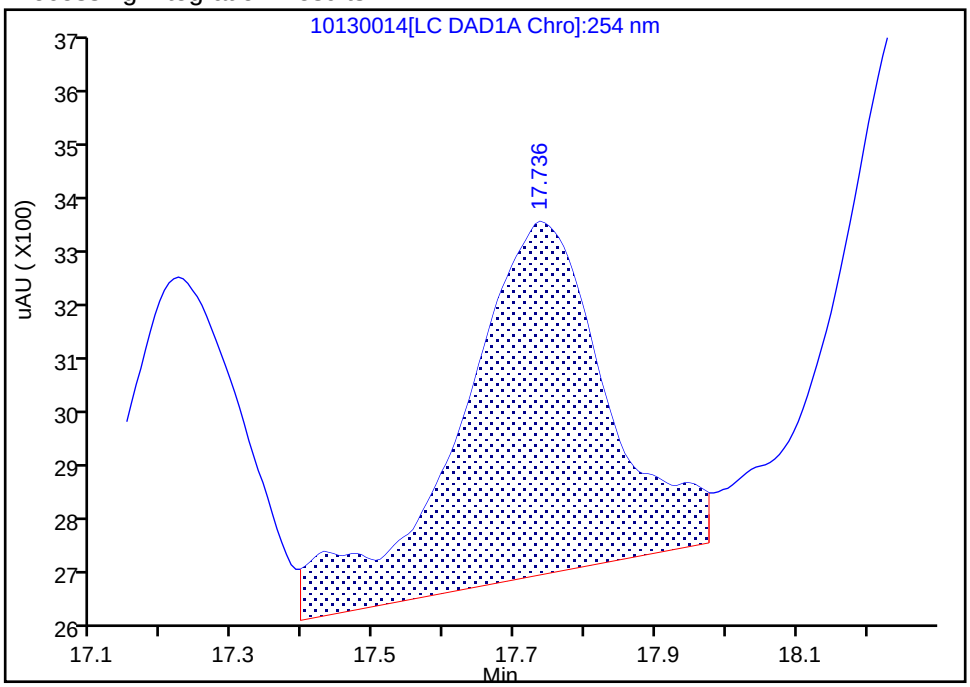
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

16 m-Nitrotoluene, CAS: 99-08-1

Signal: 1

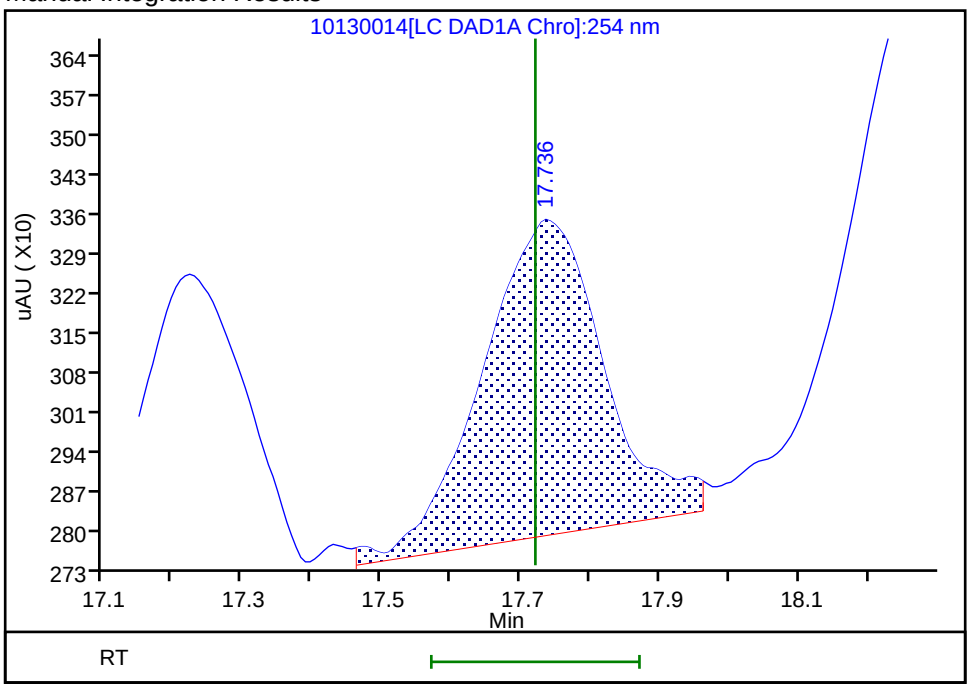
Processing Integration Results

RT: 17.74
Area: 9033
Amount: 0.027663
Amount Units: ug/ml



Manual Integration Results

RT: 17.74
Area: 6830
Amount: 0.021833
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:56:53
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

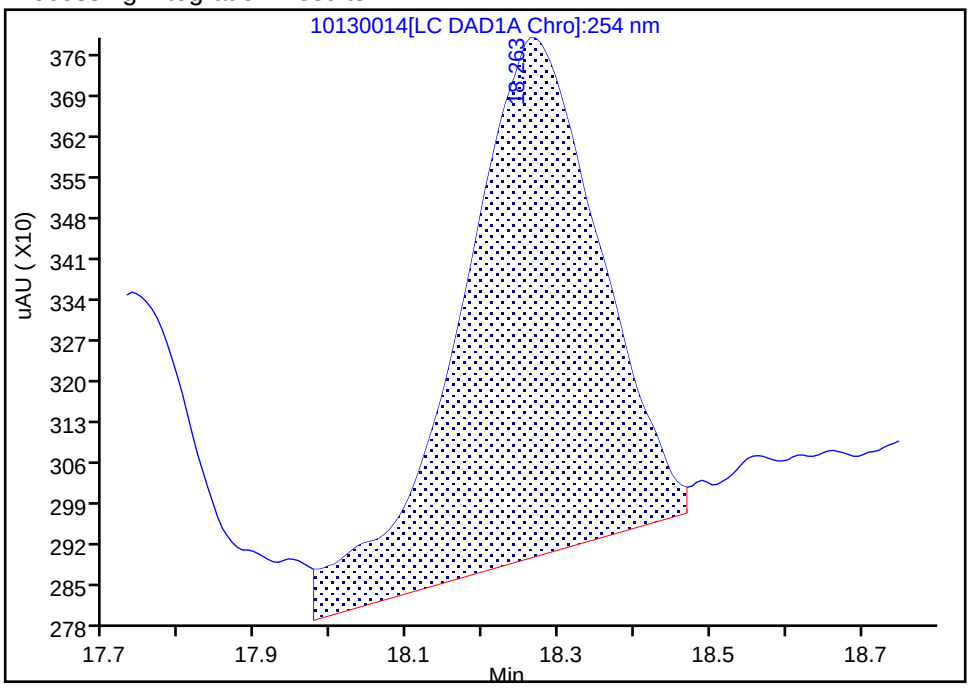
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

17 2-Amino-4,6-dinitrotoluene, CAS: 35572-78-2

Signal: 1

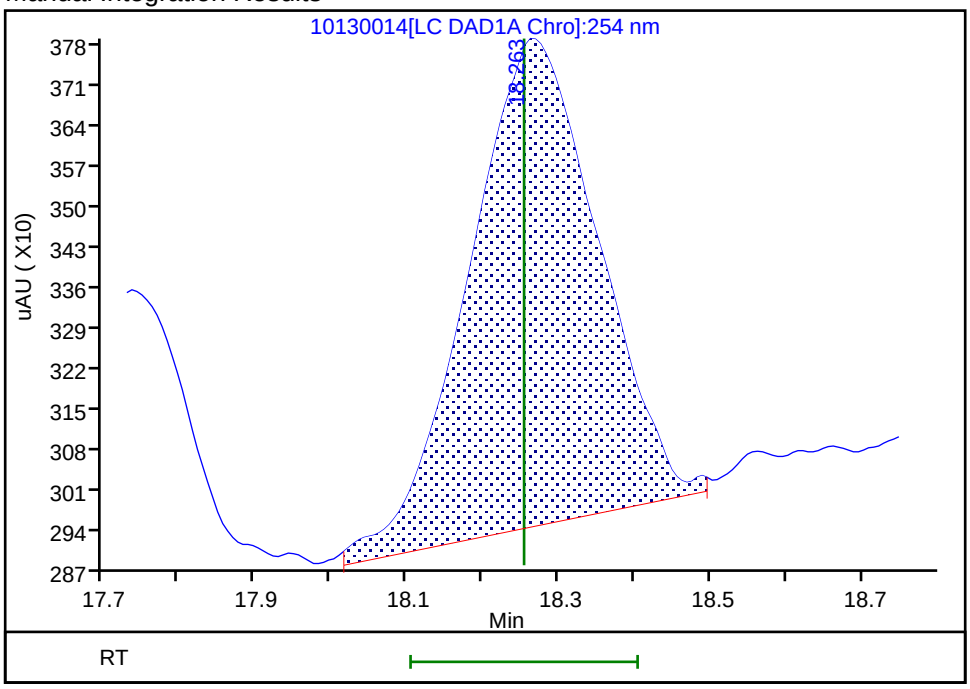
Processing Integration Results

RT: 18.26
Area: 11468
Amount: 0.023355
Amount Units: ug/ml



Manual Integration Results

RT: 18.26
Area: 10063
Amount: 0.020865
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:56:56
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

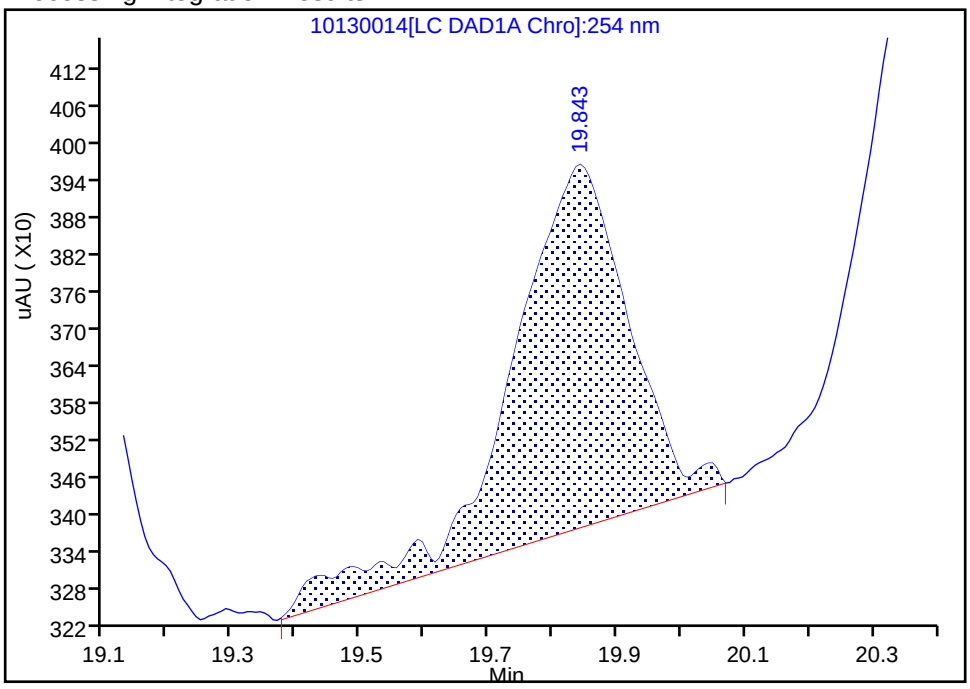
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

19 2,6-Dinitrotoluene, CAS: 606-20-2

Signal: 1

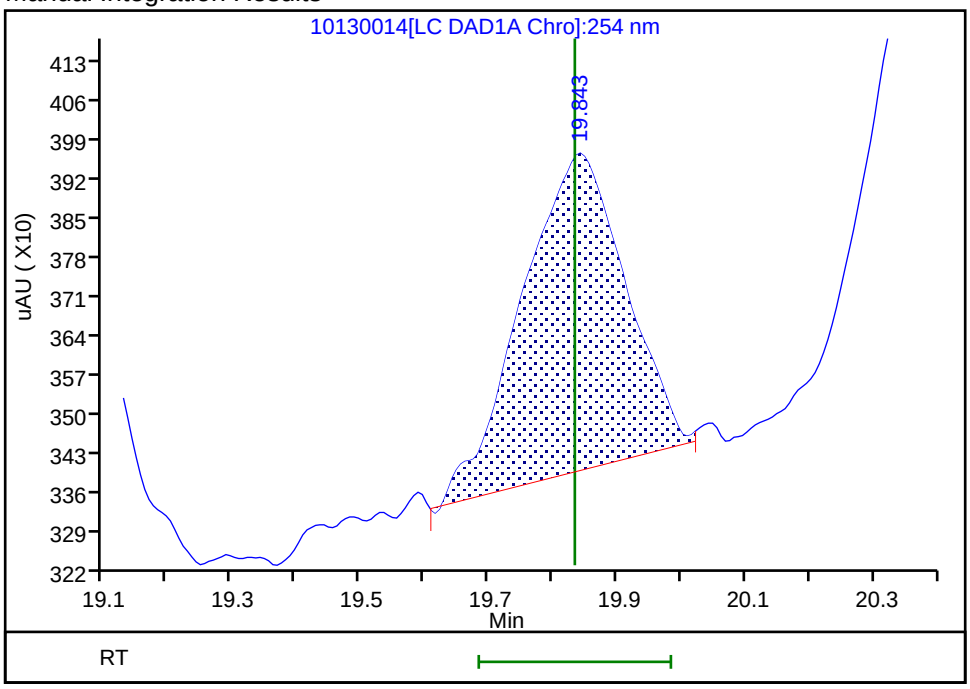
Processing Integration Results

RT: 19.84
Area: 7496
Amount: 0.022302
Amount Units: ug/ml



Manual Integration Results

RT: 19.84
Area: 6342
Amount: 0.019281
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:57:12
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

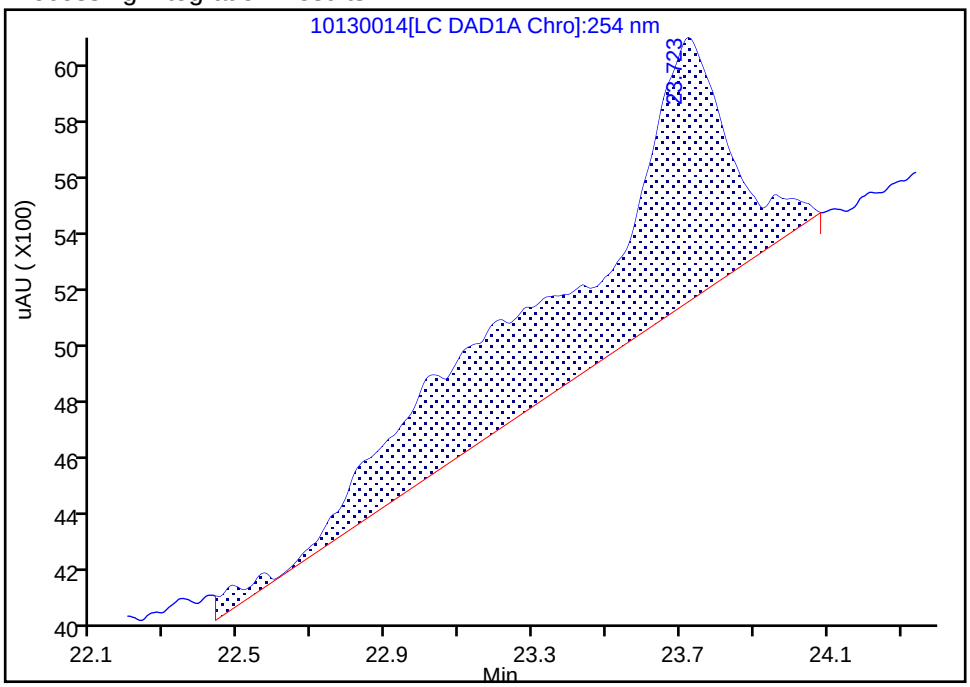
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

21 Tetryl, CAS: 479-45-8

Signal: 1

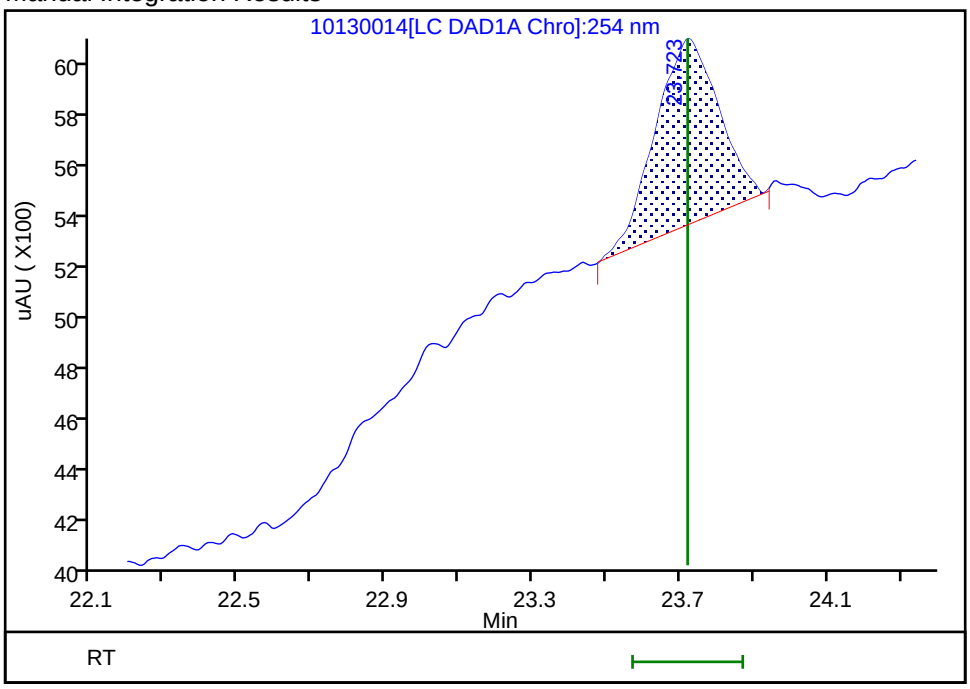
Processing Integration Results

RT: 23.72
Area: 27398
Amount: 0.052908
Amount Units: ug/ml



Manual Integration Results

RT: 23.72
Area: 8216
Amount: 0.021061
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:57:18
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

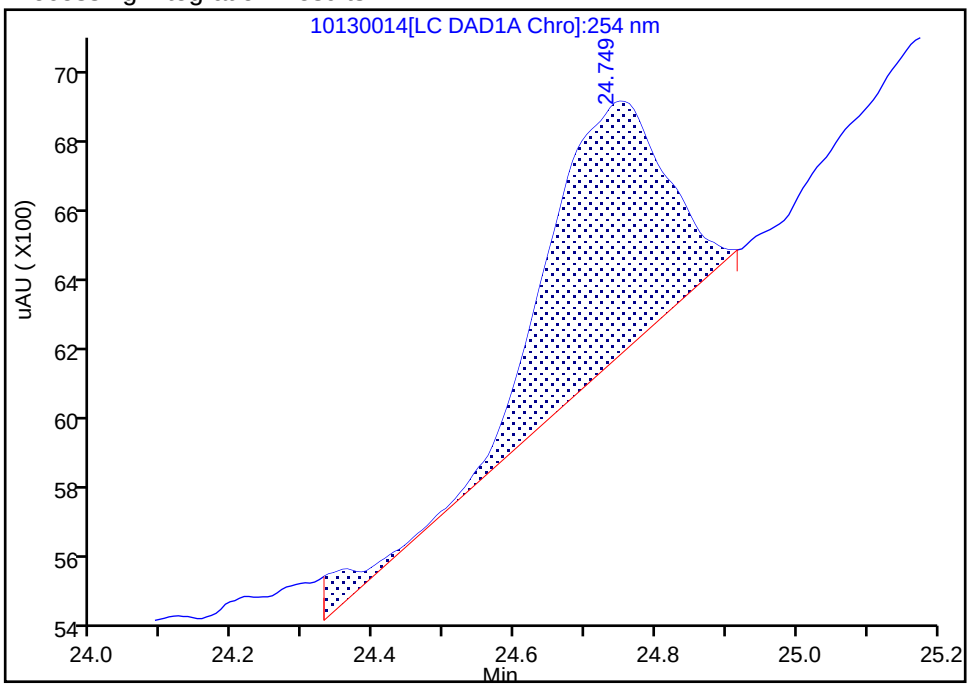
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC DAD1A, 254 nm

22 2,4,6-Trinitrotoluene, CAS: 118-96-7

Signal: 1

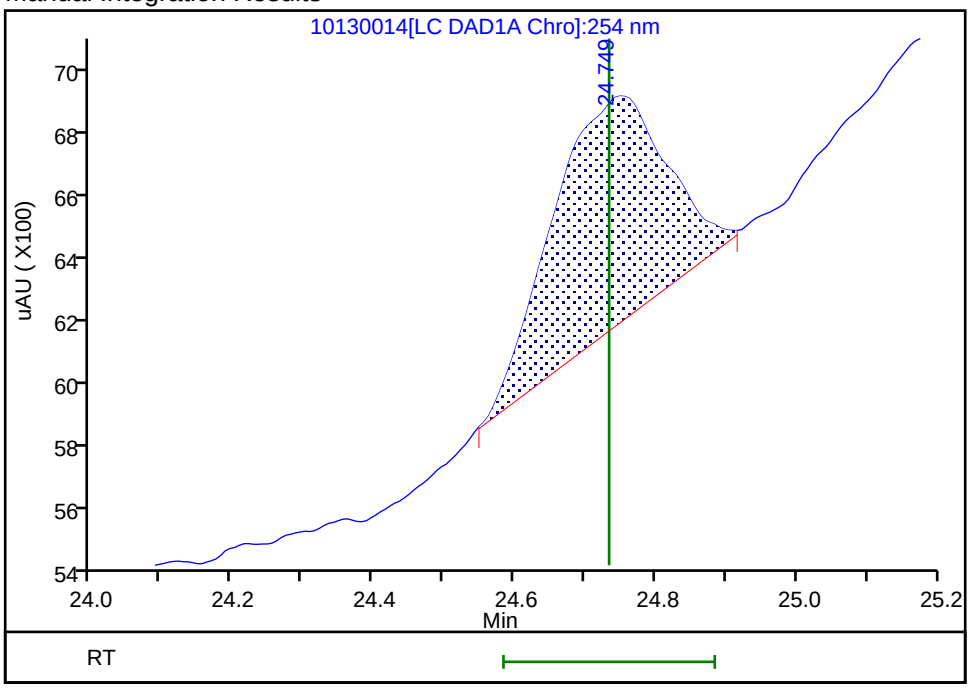
Processing Integration Results

RT: 24.75
Area: 8971
Amount: 0.019743
Amount Units: ug/ml



Manual Integration Results

RT: 24.75
Area: 8290
Amount: 0.018500
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:57:24
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Denver

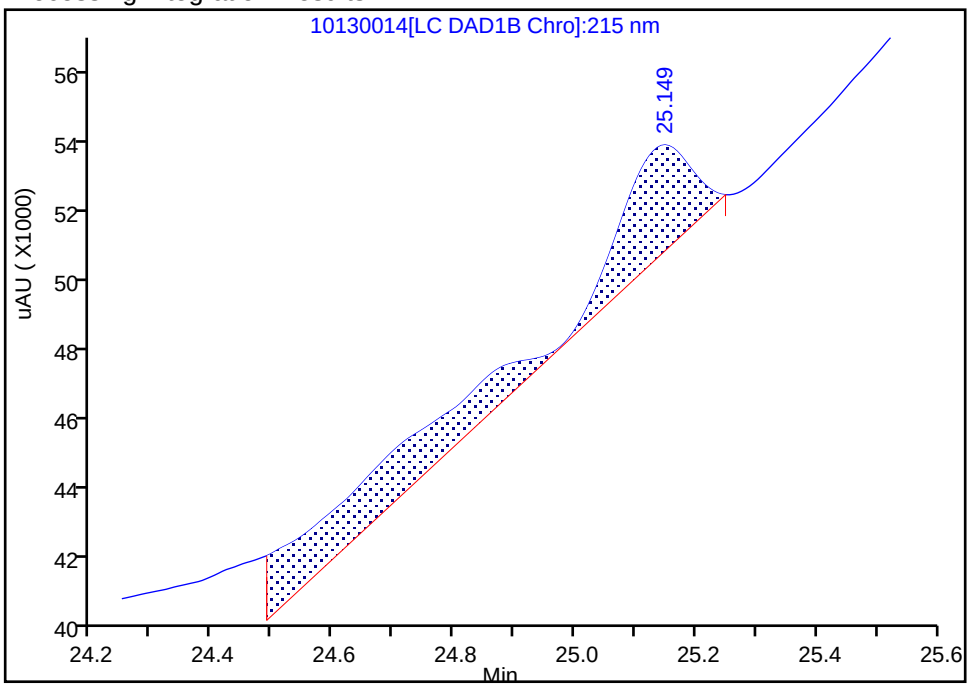
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D
Injection Date: 13-Oct-2018 20:28:27 Instrument ID: CHHPLC_G2_LUNA
Lims ID: IC FULL LV 1
Client ID:
Operator ID: HKF ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: G2_8330_Luna Limit Group: GCSV - 8330
Column: Detector LC DAD1B, 215 nm

23 PETN, CAS: 78-11-5

Signal: 1

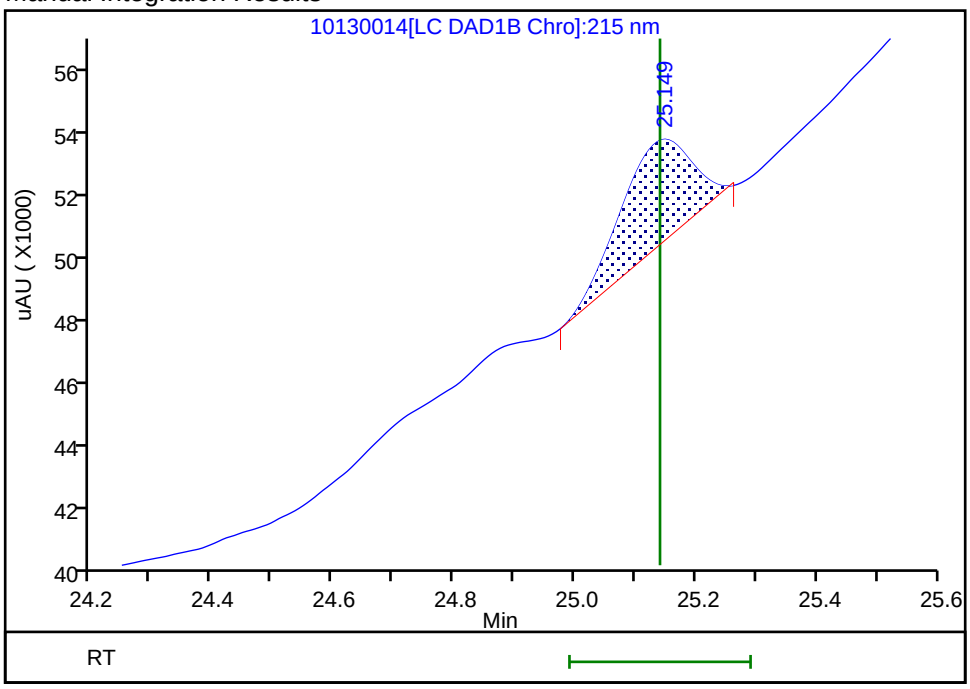
Processing Integration Results

RT: 25.15
Area: 58094
Amount: 0.293396
Amount Units: ug/ml



Manual Integration Results

RT: 25.15
Area: 25286
Amount: 0.179625
Amount Units: ug/ml



Reviewer: fiedlerh, 14-Oct-2018 13:57:29
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 415256

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2018 10:34 Calibration End Date: 05/18/2018 13:14 Calibration ID: 32415

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-415256/14	05180014.D
Level 2	IC 280-415256/13	05180013.D
Level 3	IC 280-415256/12	05180012.D
Level 4	IC 280-415256/11	05180011.D
Level 5	IC 280-415256/10	05180010.D
Level 6	IC 280-415256/9	05180009.D
Level 7	IC 280-415256/8	05180008.D
Level 8	IC 280-415256/7	05180007.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8			RT WINDOW	AVG RT
HMX	6.625	6.622	6.623	6.622	6.624	6.625	6.624	6.622			6.472 - 6.772	6.623
RDX	7.718	7.722	7.723	7.722	7.717	7.719	7.724	7.715			7.572 - 7.872	7.720
Picric acid	8.065	8.062	8.056	8.049	8.037	8.025	8.018	7.968			7.899 - 8.199	8.035
1,3,5-Trinitrobenzene	8.865	8.869	8.869	8.862	8.857	8.859	8.864	8.855			8.712 - 9.012	8.863
1,3-Dinitrobenzene	9.512	9.516	9.516	9.509	9.503	9.512	9.511	9.502			9.359 - 9.659	9.510
Nitrobenzene	9.898	9.902	9.902	9.895	9.890	9.892	9.898	9.888			9.745 - 10.045	9.896
Tetryl	10.218	10.216	10.216	10.209	10.210	10.212	10.211	10.208			10.059 - 10.359	10.213
Nitroglycerin	10.725	10.722	10.722	10.715	10.710	10.712	10.711	10.708			10.565 - 10.865	10.716
2,4,6-Trinitrotoluene	11.165	11.162	11.162	11.155	11.157	11.159	11.158	11.155			11.055 - 11.255	11.159
4-Amino-2,6-dinitrotoluene	11.318	11.316	11.322	11.315	11.310	11.312	11.311	11.308			11.215 - 11.415	11.314
2-Amino-4,6-dinitrotoluene	11.598	11.596	11.602	11.595	11.590	11.592	11.591	11.588			11.495 - 11.695	11.594
2,6-Dinitrotoluene	11.765	11.756	11.762	11.755	11.750	11.752	11.751	11.748			11.655 - 11.855	11.755
2,4-Dinitrotoluene	11.952	11.949	11.956	11.942	11.943	11.945	11.944	11.942			11.842 - 12.042	11.947
2-Nitrotoluene	12.785	12.789	12.789	12.782	12.777	12.785	12.778	12.775			12.632 - 12.932	12.783
4-Nitrotoluene	13.218	13.216	13.216	13.209	13.210	13.212	13.211	13.208			13.059 - 13.359	13.213
3-Nitrotoluene	13.812	13.809	13.809	13.802	13.797	13.799	13.798	13.795			13.652 - 13.952	13.803
PETN		14.916	14.916	14.909	14.910	14.905	14.904	14.895			14.759 - 15.059	14.908
1,2-Dinitrobenzene	8.705	8.702	8.703	8.702	8.697	8.699	8.704	8.695			8.552 - 8.852	8.701

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 415256

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2018 10:34 Calibration End Date: 05/18/2018 13:14 Calibration ID: 32415

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-415256/14	05180014.D
Level 2	IC 280-415256/13	05180013.D
Level 3	IC 280-415256/12	05180012.D
Level 4	IC 280-415256/11	05180011.D
Level 5	IC 280-415256/10	05180010.D
Level 6	IC 280-415256/9	05180009.D
Level 7	IC 280-415256/8	05180008.D
Level 8	IC 280-415256/7	05180007.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
HMX	80950 85940	83640 87649	81370 87246	83844 88926	Ave		84945.5714				3.5		20.0			
RDX	102150 107003	101000 105186	105630 105400	103860 106390	Ave		104577.327				2.0		20.0			
Picric acid	93950 80905	89880 82509	80500 84211	76192 86576	Ave		84340.3214				6.7		20.0			
1,3,5-Trinitrobenzene	202100 234028	227660 235761	222530 236230	227420 241536	Ave		228408.166				5.4		20.0			
1,3-Dinitrobenzene	277572 307465	303437 304447	303027 304477	298725 309038	Ave		301023.443				3.3		20.0			
Nitrobenzene	191717 200245	201876 200781	198214 198631	193980 204804	Ave		198780.920				2.1		20.0			
Tetryl	139850 166665	164520 170279	162800 170312	160332 172830	Ave		163448.446				6.4		20.0			
Nitroglycerin	59530 70785	65386 70242	68459 70136	68518 70507	Ave		67945.3646				5.6		20.0			
2,4,6-Trinitrotoluene	206026 213254	224442 215804	210707 214814	209992 220784	Ave		214477.993				2.8		20.0			
4-Amino-2,6-dinitrotoluene	173779 167448	169831 161815	164606 161970	161779 162780	Ave		165500.847				2.7		20.0			
2-Amino-4,6-dinitrotoluene	191376 201012	204327 198084	197906 202480	197823 202720	Ave		199465.924				2.1		20.0			
2,6-Dinitrotoluene	155783 152159	159342 155008	150588 150226	148247 153167	Ave		153065.012				2.3		20.0			
2,4-Dinitrotoluene	286926 302290	305649 297850	299481 296720	293297 303937	Ave		298268.777				2.0		20.0			
2-Nitrotoluene	137637 130803	137886 130219	132742 128507	127864 132138	Ave		132224.576				2.9		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 415256

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2018 10:34 Calibration End Date: 05/18/2018 13:14 Calibration ID: 32415

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
4-Nitrotoluene	117281 112786	117211 112420	114412 111061	110291 113768	Ave		113653.797				2.3		20.0			
3-Nitrotoluene	161604 145301	155100 144859	146165 142855	142582 146418	Ave		148110.392				4.5		20.0			
PETN	 76935	68194 76788	73842 76779	74512 77633	Ave		74954.8292				4.4		20.0			
1,2-Dinitrobenzene	113900 131463	133300 131203	126380 133312	125372 134889	Ave		128727.320				5.3		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 415256

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2018 10:34 Calibration End Date: 05/18/2018 13:14 Calibration ID: 32415

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-415256/14	05180014.D
Level 2	IC 280-415256/13	05180013.D
Level 3	IC 280-415256/12	05180012.D
Level 4	IC 280-415256/11	05180011.D
Level 5	IC 280-415256/10	05180010.D
Level 6	IC 280-415256/9	05180009.D
Level 7	IC 280-415256/8	05180008.D
Level 8	IC 280-415256/7	05180007.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
HMX	Ave	1619 61354	4182 87246	8137 222315	20961	34376	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
RDX	Ave	2043 73630	5050 105400	10563 265976	25965	42801	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
Picric acid	Ave	1879 57756	4494 84211	8050 216440	19048	32362	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
1,3,5-Trinitrobenzene	Ave	4042 165033	11383 236230	22253 603841	56855	93611	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
1,3-Dinitrobenzene	Ave	5557 213326	15187 304781	30333 773367	74756	123109	0.0200 0.701	0.0501 1.00	0.100 2.50	0.250	0.400
Nitrobenzene	Ave	3842 140828	10114 199028	19861 513035	48592	80258	0.0200 0.701	0.0501 1.00	0.100 2.51	0.251	0.401
Tetryl	Ave	2797 119195	8226 170312	16280 432075	40083	66666	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400
Nitroglycerin	Ave	11906 491693	32693 701363	68459 1762679	171294	283140	0.200 7.00	0.500 10.0	1.00 25.0	2.50	4.00
2,4,6-Trinitrotoluene	Ave	4137 151667	11267 215673	21155 554169	52708	85643	0.0201 0.703	0.0502 1.00	0.100 2.51	0.251	0.402
4-Amino-2,6-dinitrotoluene	Ave	3486 113610	8517 162456	16510 408172	40566	67180	0.0201 0.702	0.0502 1.00	0.100 2.51	0.251	0.401
2-Amino-4,6-dinitrotoluene	Ave	3839 139075	10247 203087	19850 508320	49604	80646	0.0201 0.702	0.0502 1.00	0.100 2.51	0.251	0.401
2,6-Dinitrotoluene	Ave	3125 108831	7991 150677	15104 384067	37173	61046	0.0201 0.702	0.0502 1.00	0.100 2.51	0.251	0.401
2,4-Dinitrotoluene	Ave	5750 208912	15313 297313	30008 761362	73471	121158	0.0200 0.701	0.0501 1.00	0.100 2.51	0.251	0.401
2-Nitrotoluene	Ave	2761 91427	6915 128893	13314 331335	32062	52478	0.0201 0.702	0.0502 1.00	0.100 2.51	0.251	0.401
4-Nitrotoluene	Ave	2355 79009	5884 111505	11487 285557	27683	45295	0.0201 0.703	0.0502 1.00	0.100 2.51	0.251	0.402

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-115950-1 Analy Batch No.: 415256

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2018 10:34 Calibration End Date: 05/18/2018 13:14 Calibration ID: 32415

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
3-Nitrotoluene	Ave	3245 101807	7786 143426	14675 367509	35788	58353	0.0201 0.703	0.0502 1.00	0.100 2.51	0.251	0.402
PETN	Ave	 537514	34097 767790	73842 1940836	186281	307741	 7.00	0.500 10.0	1.00 25.0	2.50	4.00
1,2-Dinitrobenzene	Ave	2278 91842	6665 133312	12638 337223	31343	52585	0.0200 0.700	0.0500 1.00	0.100 2.50	0.250	0.400

Curve Type Legend:
Ave = Average

Report Date: 22-May-2018 12:01:17 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180007.D
Lims ID: IC MAIN L8
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 18-May-2018 10:34:02 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC MAIN L8
Misc. Info.: 280-0070054-007
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:16 Calib Date: 18-May-2018 16:41:32
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180023.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 22-May-2018 11:54:21

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.622	6.622	0.000	222315	2.50	2.62	
5 RDX	1	7.715	7.722	-0.007	265976	2.50	2.54	
6 2,4,6-Trinitrophenol	1	7.968	8.049	-0.081	216440	2.50	2.57	
$ 7 1,2-Dinitrobenzene	1	8.695	8.702	-0.007	337223	2.50	2.62	
8 1,3,5-Trinitrobenzene	1	8.855	8.862	-0.007	603841	2.50	2.64	
9 1,3-Dinitrobenzene	1	9.502	9.509	-0.007	773367	2.50	2.57	
11 Nitrobenzene	1	9.888	9.895	-0.007	513035	2.51	2.58	
12 Tetryl	1	10.208	10.209	-0.001	432075	2.50	2.64	
13 Nitroglycerin	2	10.708	10.715	-0.007	1762679	25.0	25.9	
14 2,4,6-Trinitrotoluene	1	11.155	11.155	0.000	554169	2.51	2.58	
15 4-Amino-2,6-dinitrotoluene	1	11.308	11.315	-0.007	408172	2.51	2.47	
16 2-Amino-4,6-dinitrotoluene	1	11.588	11.595	-0.007	508320	2.51	2.55	
17 2,6-Dinitrotoluene	1	11.748	11.755	-0.007	384067	2.51	2.51	
18 2,4-Dinitrotoluene	1	11.942	11.942	0.000	761362	2.51	2.55	
19 o-Nitrotoluene	1	12.775	12.782	-0.007	331335	2.51	2.51	
20 p-Nitrotoluene	1	13.208	13.209	-0.001	285557	2.51	2.51	
21 m-Nitrotoluene	1	13.795	13.802	-0.007	367509	2.51	2.48	
22 PETN	2	14.895	14.909	-0.014	1940836	25.0	25.9	

Reagents:

8330IntermStk_00055 Amount Added: 250.00 Units: uL

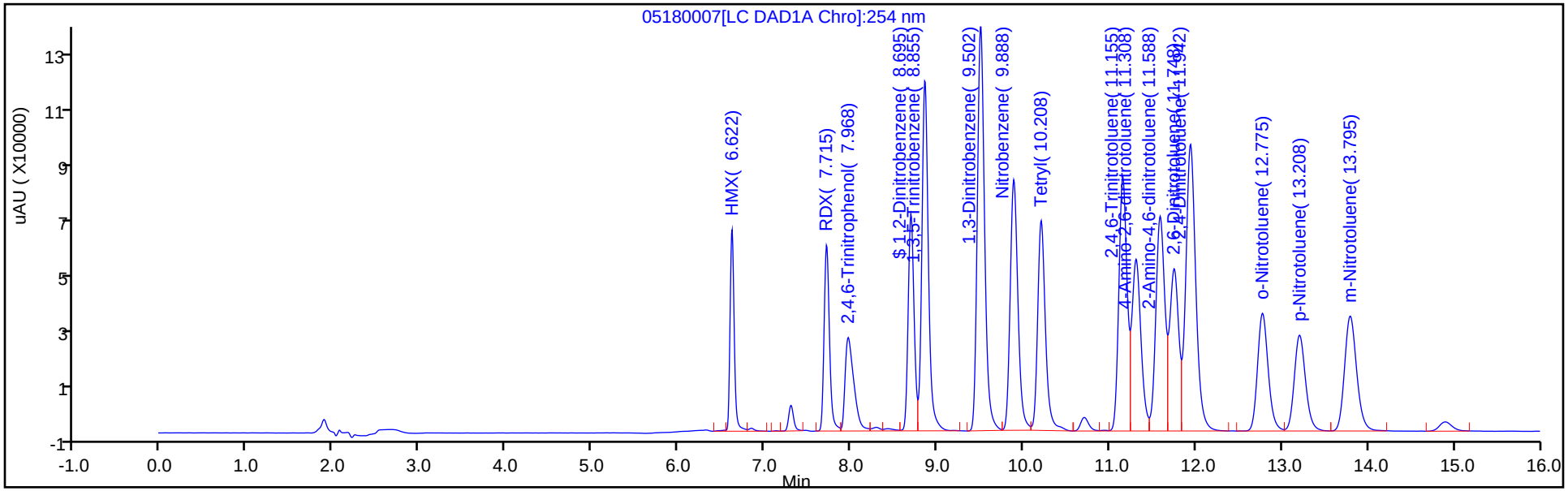
Report Date: 22-May-2018 12:01:17 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

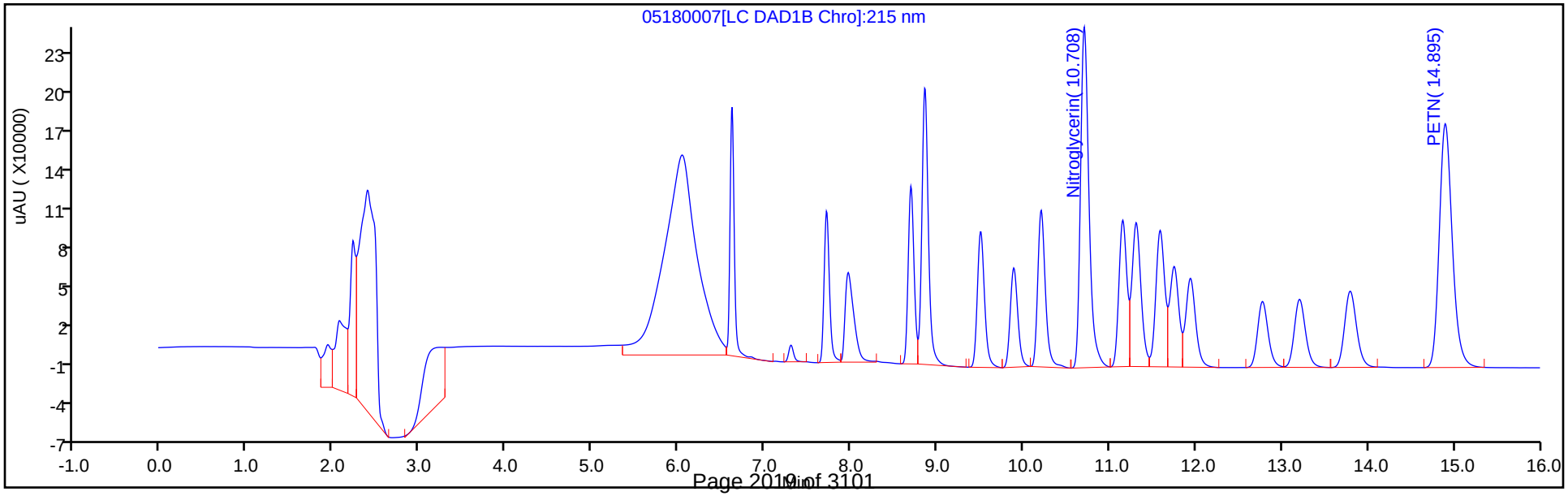
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180007.D

Injection Date:	18-May-2018 10:34:02	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	IC MAIN L8			Worklist Smp#:	7
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180008.D
Lims ID: IC MAIN L7
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 18-May-2018 10:57:00 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC MAIN L7
Misc. Info.: 280-0070054-008
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:17 Calib Date: 18-May-2018 16:41:32
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180023.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 18-May-2018 17:06:57

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.624	6.622	0.002	87246	1.00	1.03	
5 RDX	1	7.724	7.722	0.002	105400	1.00	1.01	
6 2,4,6-Trinitrophenol	1	8.018	8.049	-0.031	84211	1.00	1.00	
$ 7 1,2-Dinitrobenzene	1	8.704	8.702	0.002	133312	1.00	1.04	
8 1,3,5-Trinitrobenzene	1	8.864	8.862	0.002	236230	1.00	1.03	
9 1,3-Dinitrobenzene	1	9.511	9.509	0.002	304781	1.00	1.01	
11 Nitrobenzene	1	9.898	9.895	0.003	199028	1.00	1.00	
12 Tetryl	1	10.211	10.209	0.002	170312	1.00	1.04	
13 Nitroglycerin	2	10.711	10.715	-0.004	701363	10.0	10.3	
14 2,4,6-Trinitrotoluene	1	11.158	11.155	0.003	215673	1.00	1.01	
15 4-Amino-2,6-dinitrotoluene	1	11.311	11.315	-0.004	162456	1.00	0.9816	
16 2-Amino-4,6-dinitrotoluene	1	11.591	11.595	-0.004	203087	1.00	1.02	
17 2,6-Dinitrotoluene	1	11.751	11.755	-0.004	150677	1.00	0.9844	
18 2,4-Dinitrotoluene	1	11.944	11.942	0.002	297313	1.00	1.00	
19 o-Nitrotoluene	1	12.778	12.782	-0.004	128893	1.00	0.9748	
20 p-Nitrotoluene	1	13.211	13.209	0.002	111505	1.00	0.9811	
21 m-Nitrotoluene	1	13.798	13.802	-0.004	143426	1.00	0.9684	
22 PETN	2	14.904	14.909	-0.005	767790	10.0	10.2	

Reagents:

8330IntermStk_00055 Amount Added: 100.00 Units: uL

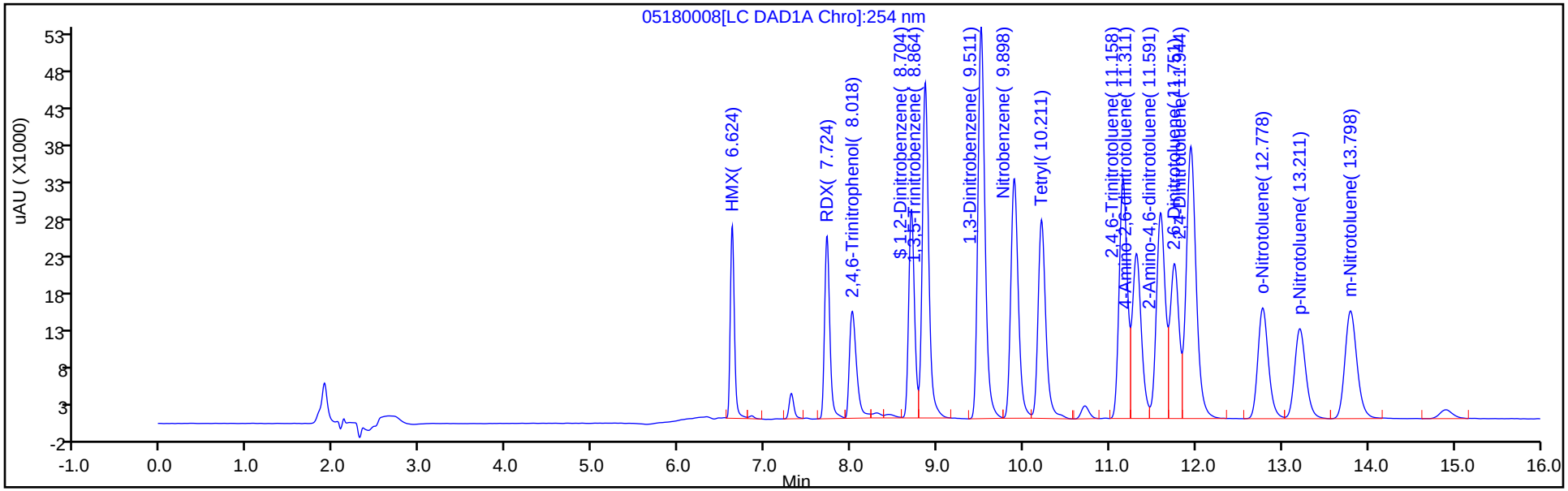
Report Date: 22-May-2018 12:01:18 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

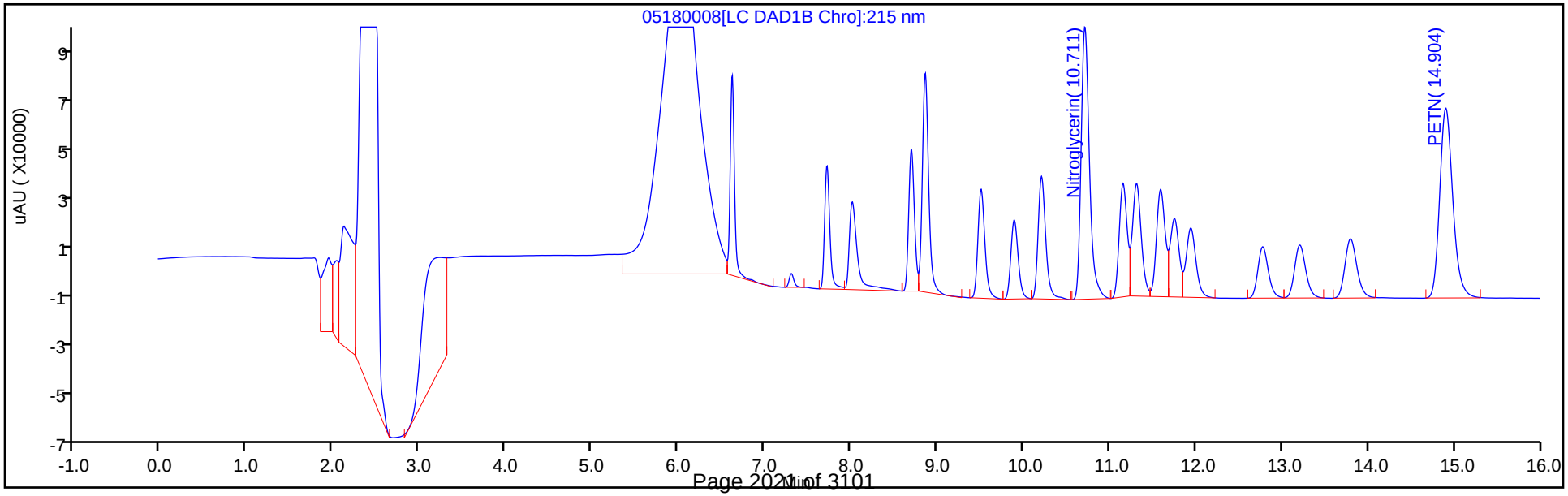
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180008.D

Injection Date:	18-May-2018 10:57:00	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	IC MAIN L7			Worklist Smp#:	8
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180009.D
Lims ID: IC MAIN L6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 18-May-2018 11:19:59 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC MAIN L6
Misc. Info.: 280-0070054-009
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:19 Calib Date: 18-May-2018 16:41:32
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180023.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 18-May-2018 17:09:16

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.625	6.622	0.003	61354	0.7000	0.7223	
5 RDX	1	7.719	7.722	-0.003	73630	0.7000	0.7041	
6 2,4,6-Trinitrophenol	1	8.025	8.049	-0.024	57756	0.7000	0.6848	
$ 7 1,2-Dinitrobenzene	1	8.699	8.702	-0.003	91842	0.7000	0.7135	
8 1,3,5-Trinitrobenzene	1	8.859	8.862	-0.003	165033	0.7000	0.7225	
9 1,3-Dinitrobenzene	1	9.512	9.509	0.003	213326	0.7007	0.7087	
11 Nitrobenzene	1	9.892	9.895	-0.003	140828	0.7014	0.7085	
12 Tetryl	1	10.212	10.209	0.003	119195	0.7000	0.7293	
13 Nitroglycerin	2	10.712	10.715	-0.003	491693	7.00	7.24	
14 2,4,6-Trinitrotoluene	1	11.159	11.155	0.004	151667	0.7028	0.7071	
15 4-Amino-2,6-dinitrotoluene	1	11.312	11.315	-0.003	113610	0.7021	0.6865	
16 2-Amino-4,6-dinitrotoluene	1	11.592	11.595	-0.003	139075	0.7021	0.6972	
17 2,6-Dinitrotoluene	1	11.752	11.755	-0.003	108831	0.7021	0.7110	
18 2,4-Dinitrotoluene	1	11.945	11.942	0.003	208912	0.7014	0.7004	
19 o-Nitrotoluene	1	12.785	12.782	0.003	91427	0.7021	0.6915	
20 p-Nitrotoluene	1	13.212	13.209	0.003	79009	0.7028	0.6952	
21 m-Nitrotoluene	1	13.799	13.802	-0.003	101807	0.7028	0.6874	
22 PETN	2	14.905	14.909	-0.004	537514	7.00	7.17	

Reagents:

8330IntermStk_00055 Amount Added: 70.00 Units: uL

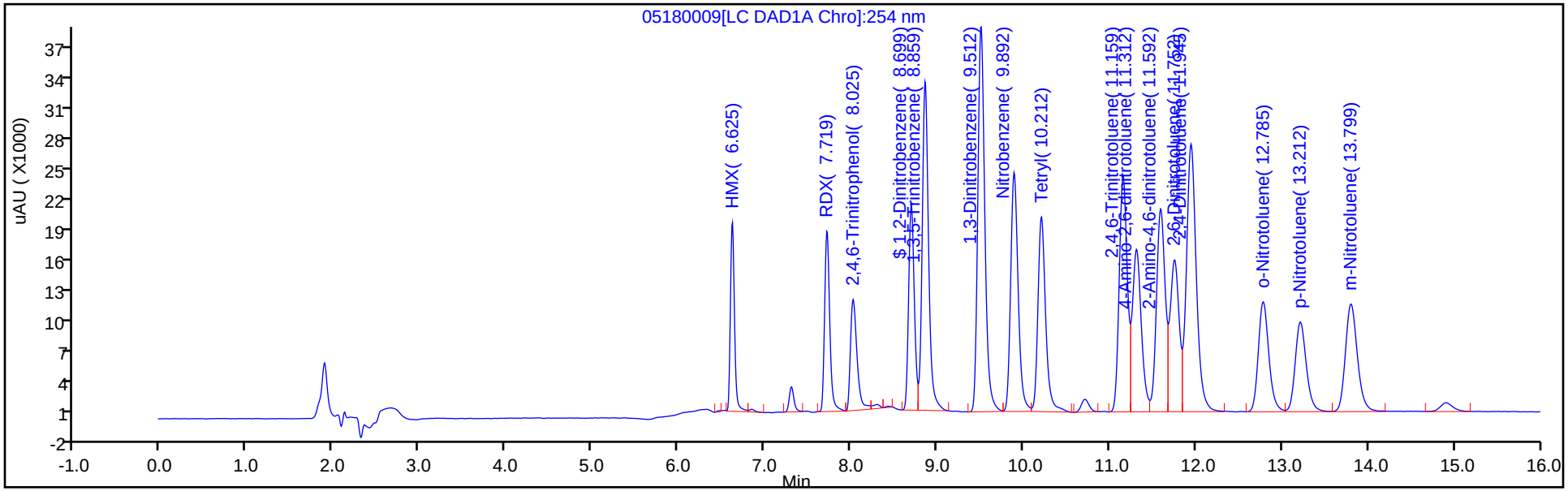
Report Date: 22-May-2018 12:01:20 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

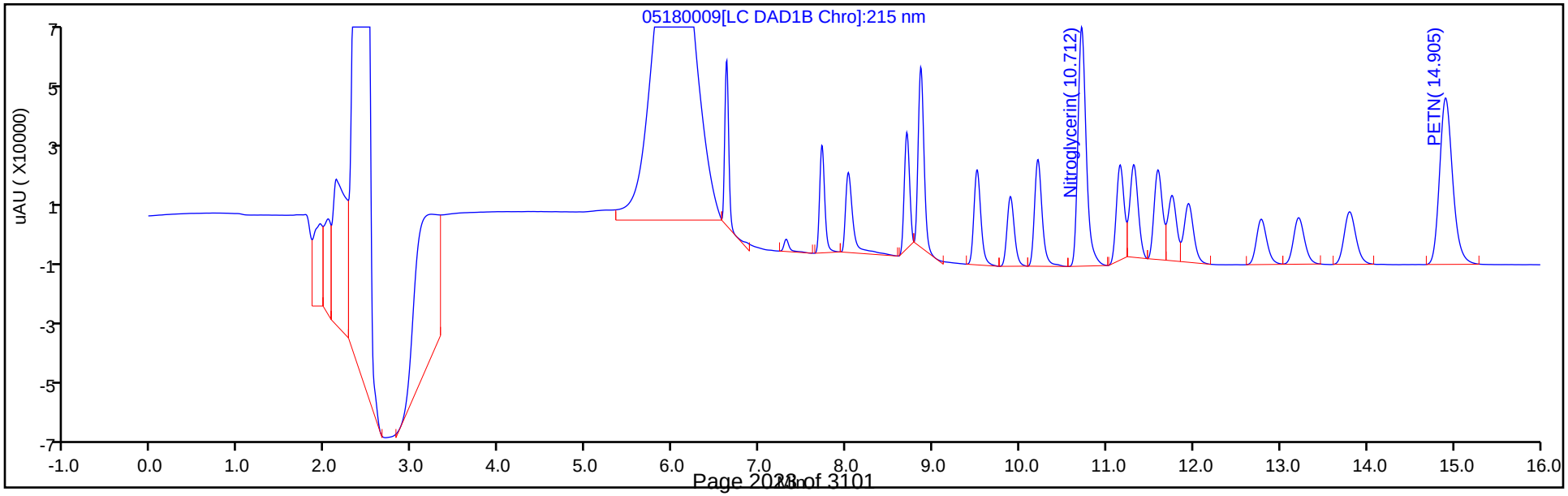
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180009.D

Injection Date:	18-May-2018 11:19:59	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	IC MAIN L6			Worklist Smp#:	9
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180010.D
Lims ID: IC MAIN L5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 18-May-2018 11:42:59 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC MAIN L5
Misc. Info.: 280-0070054-010
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:21 Calib Date: 18-May-2018 16:41:32
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180023.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 18-May-2018 17:13:29

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.624	6.622	0.002	34376	0.4000	0.4047	
5 RDX	1	7.717	7.722	-0.005	42801	0.4000	0.4093	
6 2,4,6-Trinitrophenol	1	8.037	8.049	-0.012	32362	0.4000	0.3837	
$ 7 1,2-Dinitrobenzene	1	8.697	8.702	-0.005	52585	0.4000	0.4085	
8 1,3,5-Trinitrobenzene	1	8.857	8.862	-0.005	93611	0.4000	0.4098	
9 1,3-Dinitrobenzene	1	9.503	9.509	-0.006	123109	0.4004	0.4090	
11 Nitrobenzene	1	9.890	9.895	-0.005	80258	0.4008	0.4038	
12 Tetryl	1	10.210	10.209	0.001	66666	0.4000	0.4079	
13 Nitroglycerin	2	10.710	10.715	-0.005	283140	4.00	4.17	
14 2,4,6-Trinitrotoluene	1	11.157	11.155	0.002	85643	0.4016	0.3993	
15 4-Amino-2,6-dinitrotoluene	1	11.310	11.315	-0.005	67180	0.4012	0.4059	
16 2-Amino-4,6-dinitrotoluene	1	11.590	11.595	-0.005	80646	0.4012	0.4043	
17 2,6-Dinitrotoluene	1	11.750	11.755	-0.005	61046	0.4012	0.3988	
18 2,4-Dinitrotoluene	1	11.943	11.942	0.001	121158	0.4008	0.4062	
19 o-Nitrotoluene	1	12.777	12.782	-0.005	52478	0.4012	0.3969	
20 p-Nitrotoluene	1	13.210	13.209	0.001	45295	0.4016	0.3985	
21 m-Nitrotoluene	1	13.797	13.802	-0.005	58353	0.4016	0.3940	
22 PETN	2	14.910	14.909	0.001	307741	4.00	4.11	

Reagents:

8330IntermStk_00055 Amount Added: 40.00 Units: uL

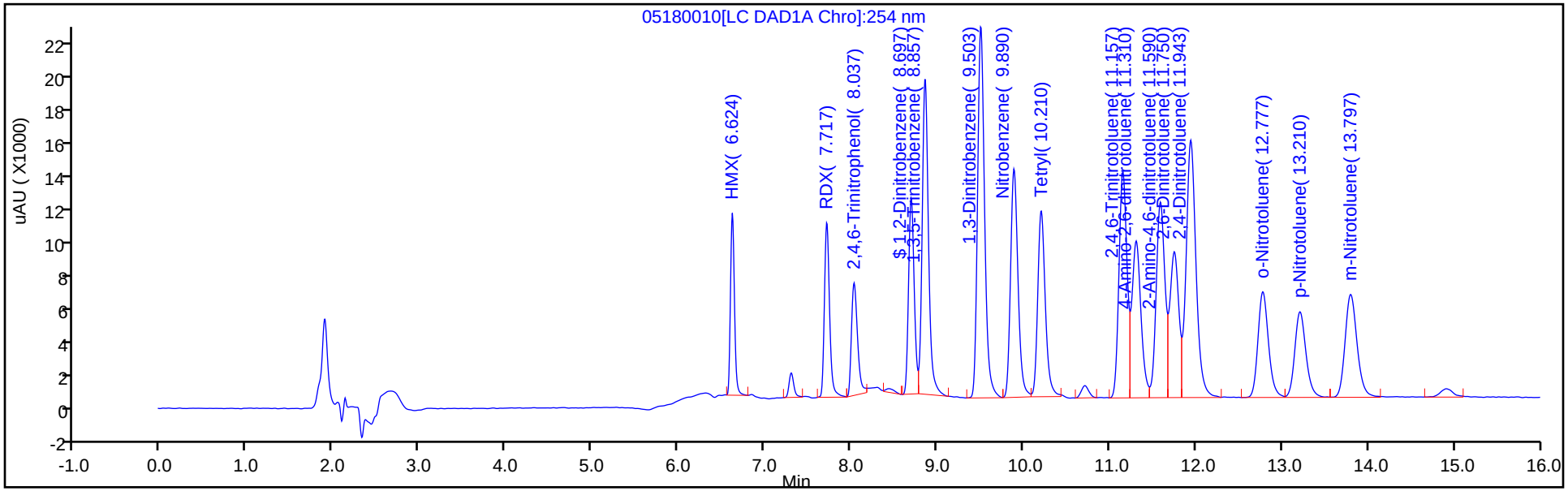
Report Date: 22-May-2018 12:01:22 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

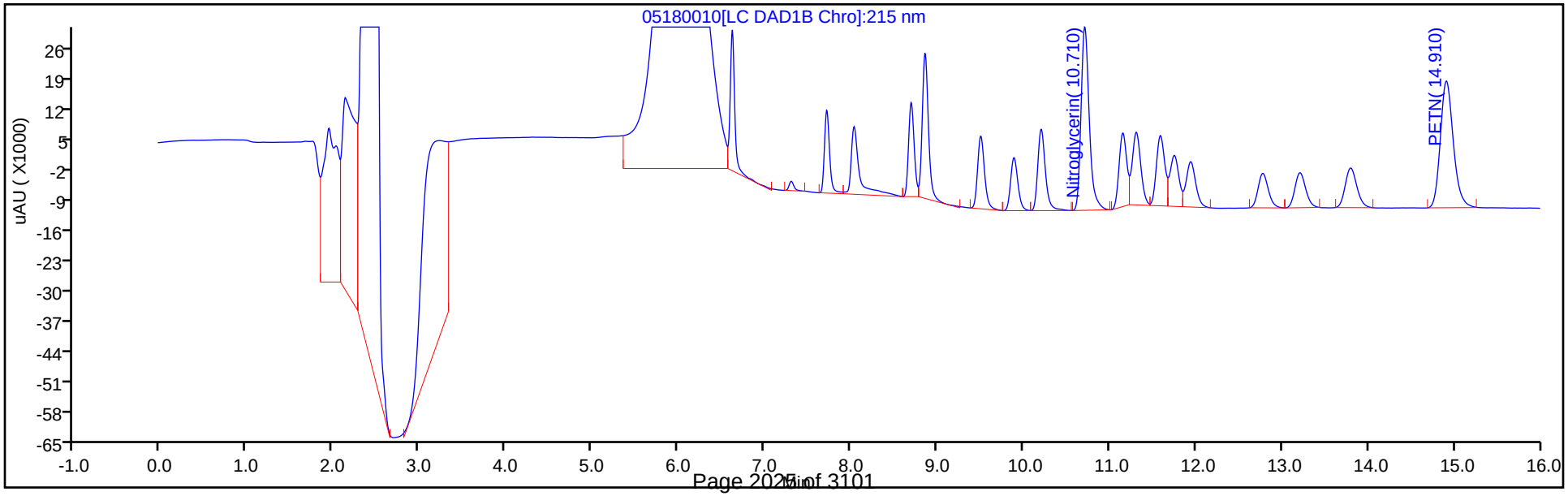
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180010.D

Injection Date:	18-May-2018 11:42:59	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	IC MAIN L5			Worklist Smp#:	10
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180011.D
Lims ID: IC MAIN L4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 18-May-2018 12:05:58 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC MAIN L4
Misc. Info.: 280-0070054-011
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:23 Calib Date: 18-May-2018 16:41:32
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180023.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 18-May-2018 17:16:46

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.622	6.622	0.000	20961	0.2500	0.2468	
	5 RDX	1	7.722	7.722	0.000	25965	0.2500	0.2483	
	6 2,4,6-Trinitrophenol	1	8.049	8.049	0.000	19048	0.2500	0.2258	
$	7 1,2-Dinitrobenzene	1	8.702	8.702	0.000	31343	0.2500	0.2435	
	8 1,3,5-Trinitrobenzene	1	8.862	8.862	0.000	56855	0.2500	0.2489	
	9 1,3-Dinitrobenzene	1	9.509	9.509	0.000	74756	0.2503	0.2483	
	11 Nitrobenzene	1	9.895	9.895	0.000	48592	0.2505	0.2445	
	12 Tetryl	1	10.209	10.209	0.000	40083	0.2500	0.2452	
	13 Nitroglycerin	2	10.715	10.715	0.000	171294	2.50	2.52	
	14 2,4,6-Trinitrotoluene	1	11.155	11.155	0.000	52708	0.2510	0.2458	
	15 4-Amino-2,6-dinitrotoluene	1	11.315	11.315	0.000	40566	0.2508	0.2451	
	16 2-Amino-4,6-dinitrotoluene	1	11.595	11.595	0.000	49604	0.2508	0.2487	
	17 2,6-Dinitrotoluene	1	11.755	11.755	0.000	37173	0.2508	0.2429	
	18 2,4-Dinitrotoluene	1	11.942	11.942	0.000	73471	0.2505	0.2463	
	19 o-Nitrotoluene	1	12.782	12.782	0.000	32062	0.2508	0.2425	
	20 p-Nitrotoluene	1	13.209	13.209	0.000	27683	0.2510	0.2436	
	21 m-Nitrotoluene	1	13.802	13.802	0.000	35788	0.2510	0.2416	
	22 PETN	2	14.909	14.909	0.000	186281	2.50	2.49	

Reagents:

8330IntermStk_00055 Amount Added: 25.00 Units: uL

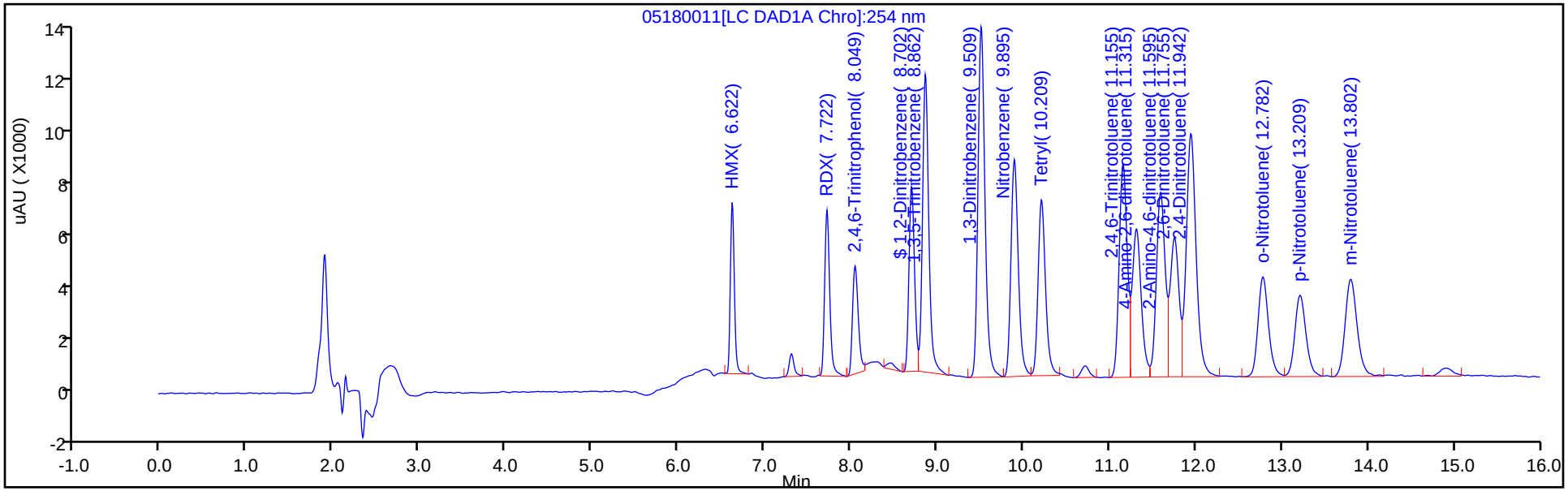
Report Date: 22-May-2018 12:01:24 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

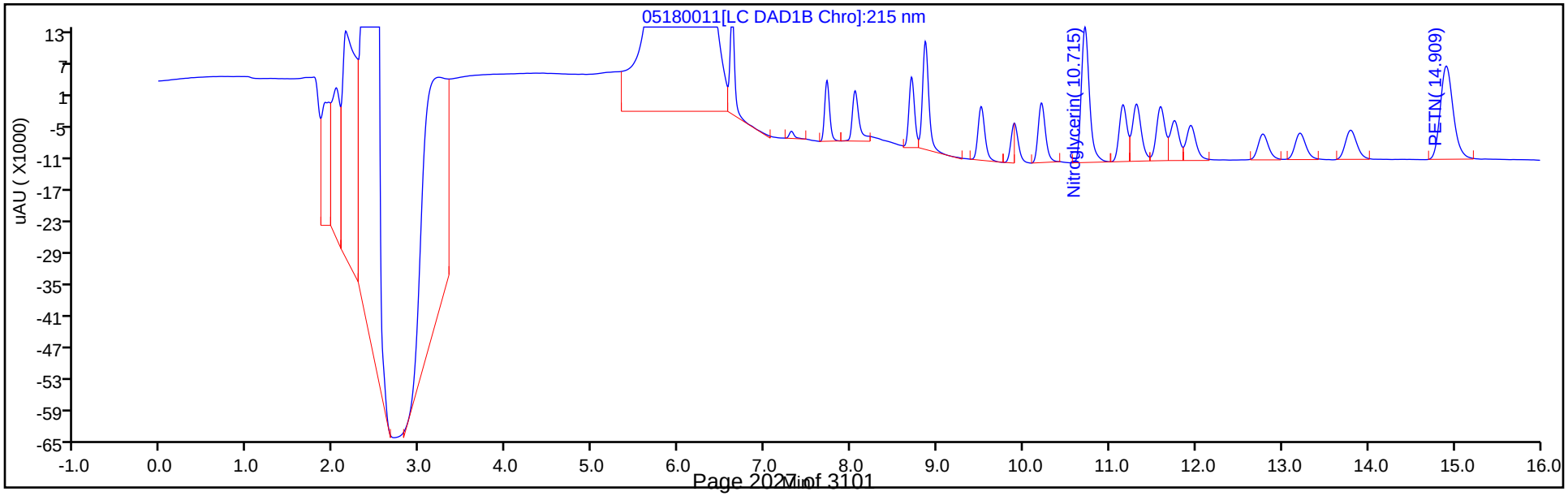
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180011.D

Injection Date:	18-May-2018 12:05:58	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	IC MAIN L4			Worklist Smp#:	11
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180012.D
Lims ID: IC MAIN L3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 18-May-2018 12:28:55 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC MAIN L3
Misc. Info.: 280-0070054-012
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:24 Calib Date: 18-May-2018 16:41:32
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180023.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 18-May-2018 17:17:29

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.623	6.622	0.001	8137	0.1000	0.0958	
5 RDX	1	7.723	7.722	0.001	10563	0.1000	0.1010	
6 2,4,6-Trinitrophenol	1	8.056	8.049	0.007	8050	0.1000	0.0954	
$ 7 1,2-Dinitrobenzene	1	8.703	8.702	0.001	12638	0.1000	0.0982	
8 1,3,5-Trinitrobenzene	1	8.869	8.862	0.007	22253	0.1000	0.0974	
9 1,3-Dinitrobenzene	1	9.516	9.509	0.007	30333	0.1001	0.1008	
11 Nitrobenzene	1	9.902	9.895	0.007	19861	0.1002	0.0999	
12 Tetryl	1	10.216	10.209	0.007	16280	0.1000	0.0996	
13 Nitroglycerin	2	10.722	10.715	0.007	68459	1.00	1.01	
14 2,4,6-Trinitrotoluene	1	11.162	11.155	0.007	21155	0.1004	0.0986	
15 4-Amino-2,6-dinitrotoluene	1	11.322	11.315	0.007	16510	0.1003	0.0998	
16 2-Amino-4,6-dinitrotoluene	1	11.602	11.595	0.007	19850	0.1003	0.0995	
17 2,6-Dinitrotoluene	1	11.762	11.755	0.007	15104	0.1003	0.0987	
18 2,4-Dinitrotoluene	1	11.956	11.942	0.014	30008	0.1002	0.1006	
19 o-Nitrotoluene	1	12.789	12.782	0.007	13314	0.1003	0.1007	
20 p-Nitrotoluene	1	13.216	13.209	0.007	11487	0.1004	0.1011	
21 m-Nitrotoluene	1	13.809	13.802	0.007	14675	0.1004	0.0991	
22 PETN	2	14.916	14.909	0.007	73842	1.00	0.9852	

Reagents:

8330IntermStk_00055 Amount Added: 10.00 Units: uL

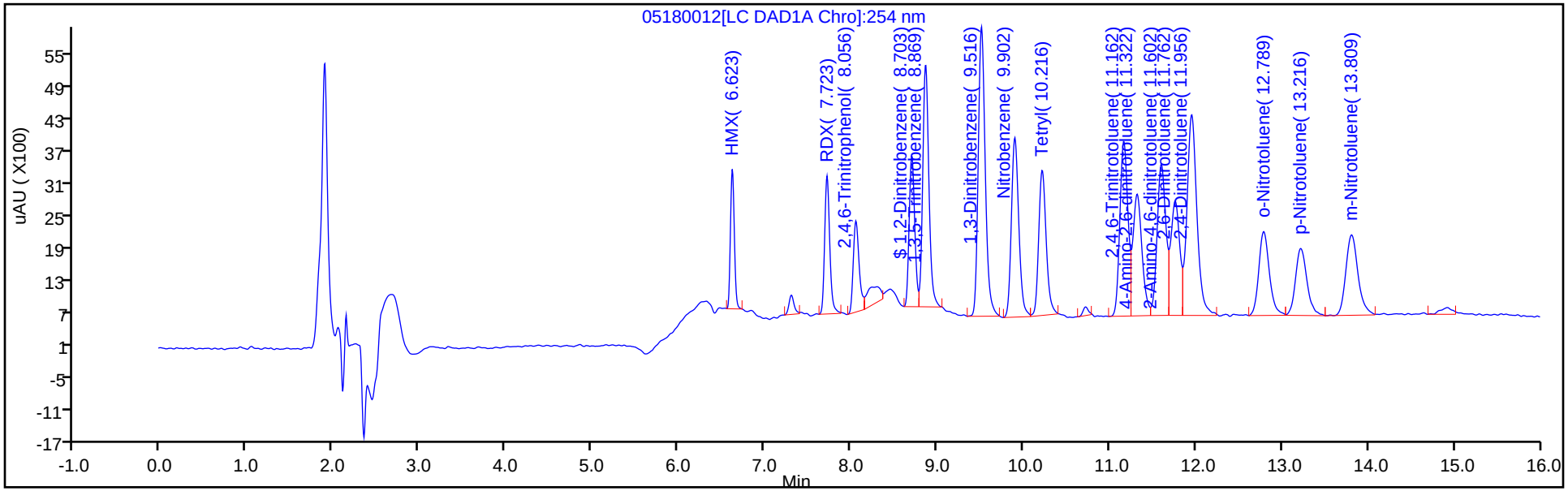
Report Date: 22-May-2018 12:01:25 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

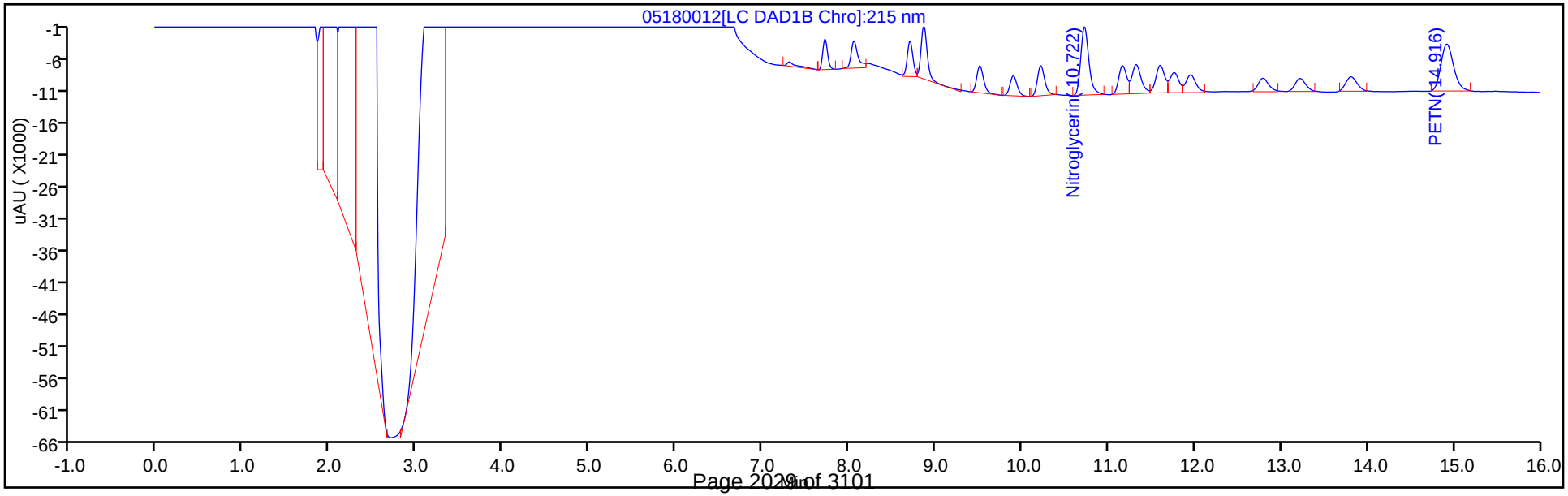
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180012.D

Injection Date:	18-May-2018 12:28:55	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	IC MAIN L3			Worklist Smp#:	12
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180013.D
Lims ID: IC MAIN L2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 18-May-2018 12:51:52 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC MAIN L2
Misc. Info.: 280-0070054-013
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:26 Calib Date: 18-May-2018 16:41:32
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180023.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 22-May-2018 11:08:19

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.622	6.622	0.000	4182	0.0500	0.0492	
5 RDX	1	7.722	7.722	0.000	5050	0.0500	0.0483	
6 2,4,6-Trinitrophenol	1	8.062	8.049	0.013	4494	0.0500	0.0533	
$ 7 1,2-Dinitrobenzene	1	8.702	8.702	0.000	6665	0.0500	0.0518	
8 1,3,5-Trinitrobenzene	1	8.869	8.862	0.007	11383	0.0500	0.0498	
9 1,3-Dinitrobenzene	1	9.516	9.509	0.007	15187	0.0501	0.0505	
11 Nitrobenzene	1	9.902	9.895	0.007	10114	0.0501	0.0509	
12 Tetryl	1	10.216	10.209	0.007	8226	0.0500	0.0503	
13 Nitroglycerin	2	10.722	10.715	0.007	32693	0.5000	0.4812	
14 2,4,6-Trinitrotoluene	1	11.162	11.155	0.007	11267	0.0502	0.0525	
15 4-Amino-2,6-dinitrotoluene	1	11.316	11.315	0.001	8517	0.0502	0.0515	
16 2-Amino-4,6-dinitrotoluene	1	11.596	11.595	0.001	10247	0.0502	0.0514	
17 2,6-Dinitrotoluene	1	11.756	11.755	0.001	7991	0.0502	0.0522	
18 2,4-Dinitrotoluene	1	11.949	11.942	0.007	15313	0.0501	0.0513	
19 o-Nitrotoluene	1	12.789	12.782	0.007	6915	0.0502	0.0523	
20 p-Nitrotoluene	1	13.216	13.209	0.007	5884	0.0502	0.0518	
21 m-Nitrotoluene	1	13.809	13.802	0.007	7786	0.0502	0.0526	
22 PETN	2	14.916	14.909	0.007	34097	0.5000	0.4549	

Reagents:

8330IntermStk_00055 Amount Added: 5.00 Units: uL

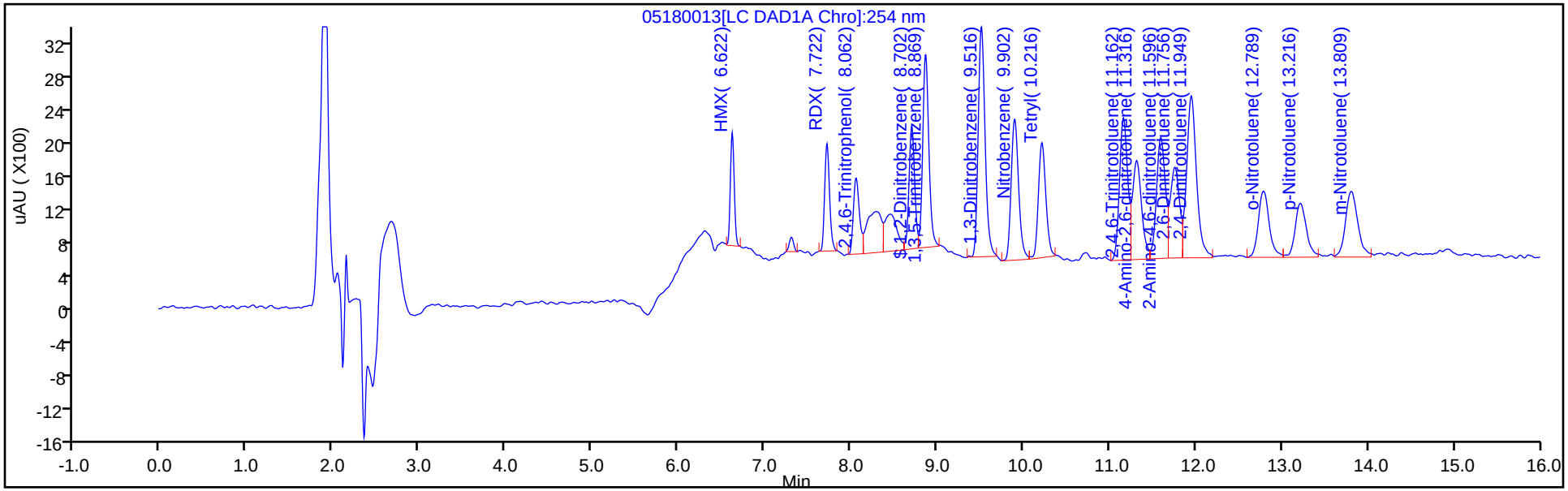
Report Date: 22-May-2018 12:01:27 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

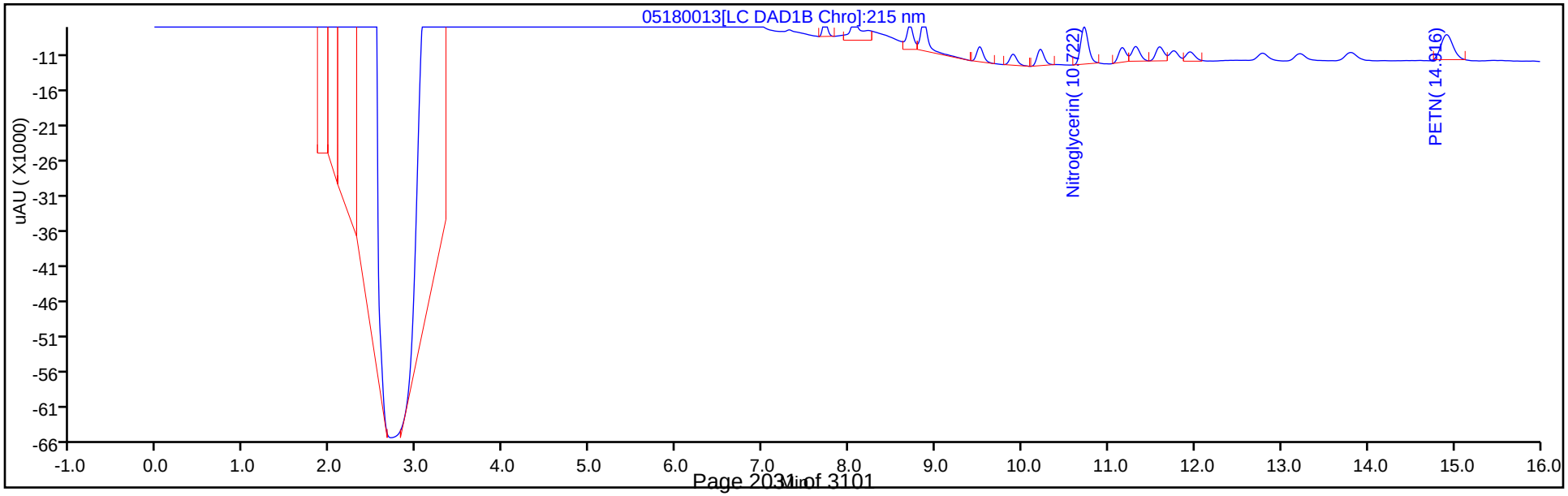
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180013.D

Injection Date:	18-May-2018 12:51:52	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	IC MAIN L2			Worklist Smp#:	13
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180014.D
Lims ID: IC MAIN L1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 18-May-2018 13:14:50 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC MAIN L1
Misc. Info.: 280-0070054-014
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:27 Calib Date: 18-May-2018 16:41:32
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180023.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 22-May-2018 11:19:59

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.625	6.622	0.003	1619	0.0200	0.0191	
	5 RDX	1	7.718	7.722	-0.004	2043	0.0200	0.0195	
	6 2,4,6-Trinitrophenol	1	8.065	8.049	0.016	1879	0.0200	0.0223	
$	7 1,2-Dinitrobenzene	1	8.705	8.702	0.003	2278	0.0200	0.0177	
	8 1,3,5-Trinitrobenzene	1	8.865	8.862	0.003	4042	0.0200	0.0177	
	9 1,3-Dinitrobenzene	1	9.512	9.509	0.003	5557	0.0200	0.0185	
	11 Nitrobenzene	1	9.898	9.895	0.003	3842	0.0200	0.0193	
	12 Tetryl	1	10.218	10.209	0.009	2797	0.0200	0.0171	
	13 Nitroglycerin	2	10.725	10.715	0.010	11906	0.2000	0.1752	
	14 2,4,6-Trinitrotoluene	1	11.165	11.155	0.010	4137	0.0201	0.0193	
	15 4-Amino-2,6-dinitrotoluene	1	11.318	11.315	0.003	3486	0.0201	0.0211	
	16 2-Amino-4,6-dinitrotoluene	1	11.598	11.595	0.003	3839	0.0201	0.0192	
	17 2,6-Dinitrotoluene	1	11.765	11.755	0.010	3125	0.0201	0.0204	
	18 2,4-Dinitrotoluene	1	11.952	11.942	0.010	5750	0.0200	0.0193	
	19 o-Nitrotoluene	1	12.785	12.782	0.003	2761	0.0201	0.0209	
	20 p-Nitrotoluene	1	13.218	13.209	0.009	2355	0.0201	0.0207	
	21 m-Nitrotoluene	1	13.812	13.802	0.010	3245	0.0201	0.0219	
	22 PETN	2		14.909			ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Reagents:

8330IntermStk_00055 Amount Added: 2.00 Units: uL

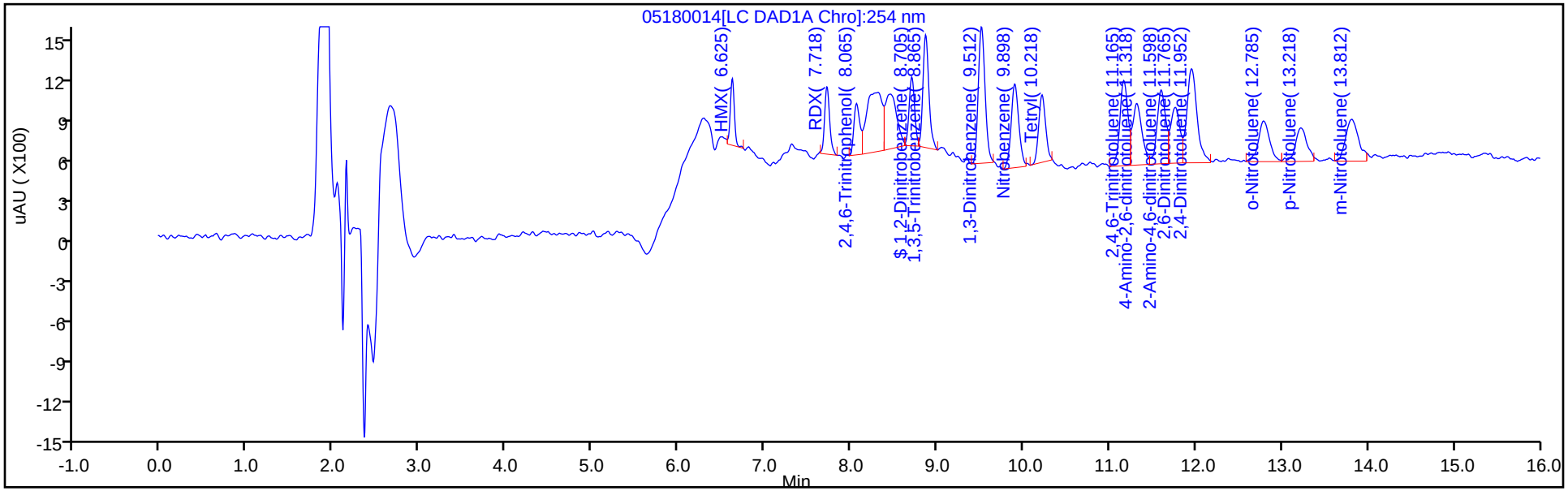
Report Date: 22-May-2018 12:01:27 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

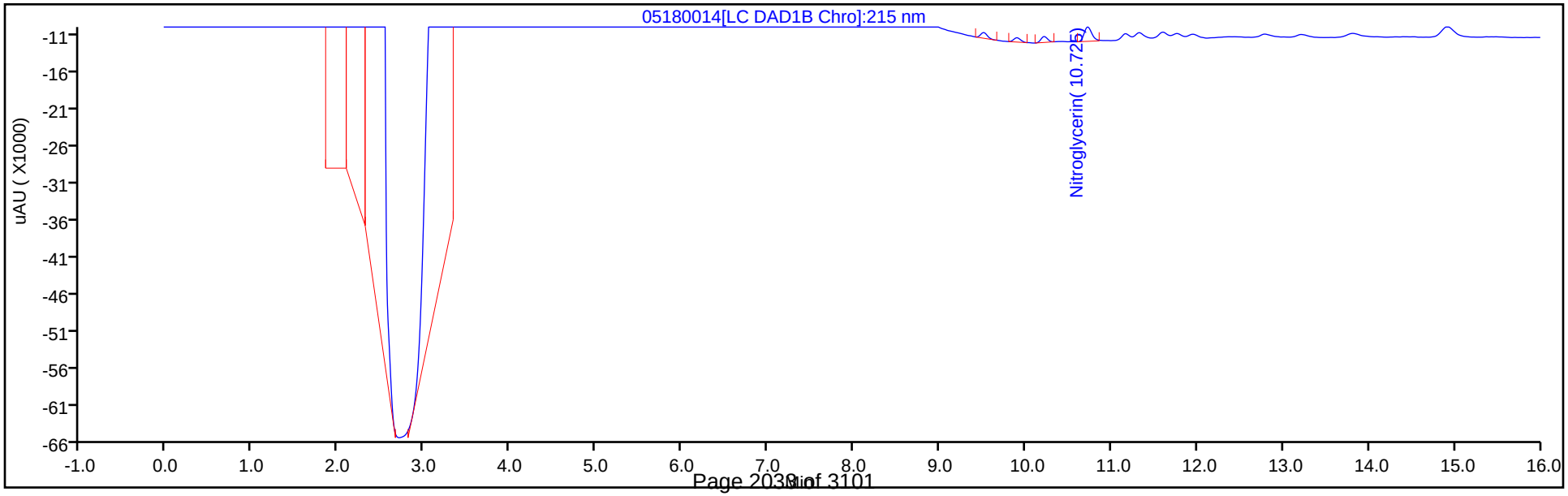
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180014.D

Injection Date:	18-May-2018 13:14:50	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	IC MAIN L1			Worklist Smp#:	14
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Calibration / HMX

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

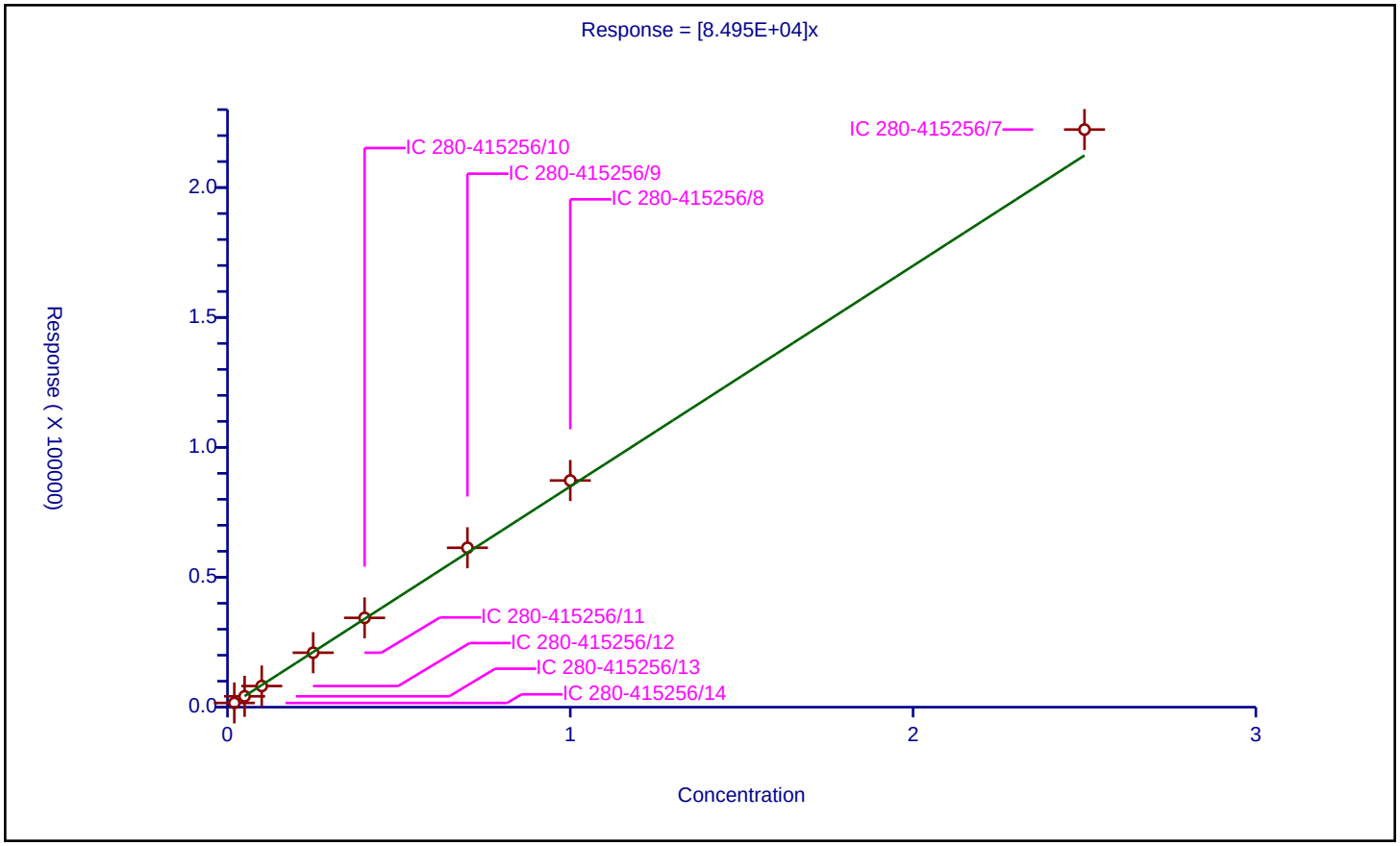
Curve Coefficients

Intercept:	0
Slope:	8.495E+04

Error Coefficients

Standard Error:	3930
Relative Standard Error:	3.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02	1619.0			80950.0	Y
2	IC 280-415256/13	0.05	4182.0			83640.0	Y
3	IC 280-415256/12	0.1	8137.0			81370.0	Y
4	IC 280-415256/11	0.25	20961.0			83844.0	Y
5	IC 280-415256/10	0.4	34376.0			85940.0	Y
6	IC 280-415256/9	0.7	61354.0			87648.571429	Y
7	IC 280-415256/8	1.0	87246.0			87246.0	Y
8	IC 280-415256/7	2.5	222315.0			88926.0	Y



Calibration / RDX

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

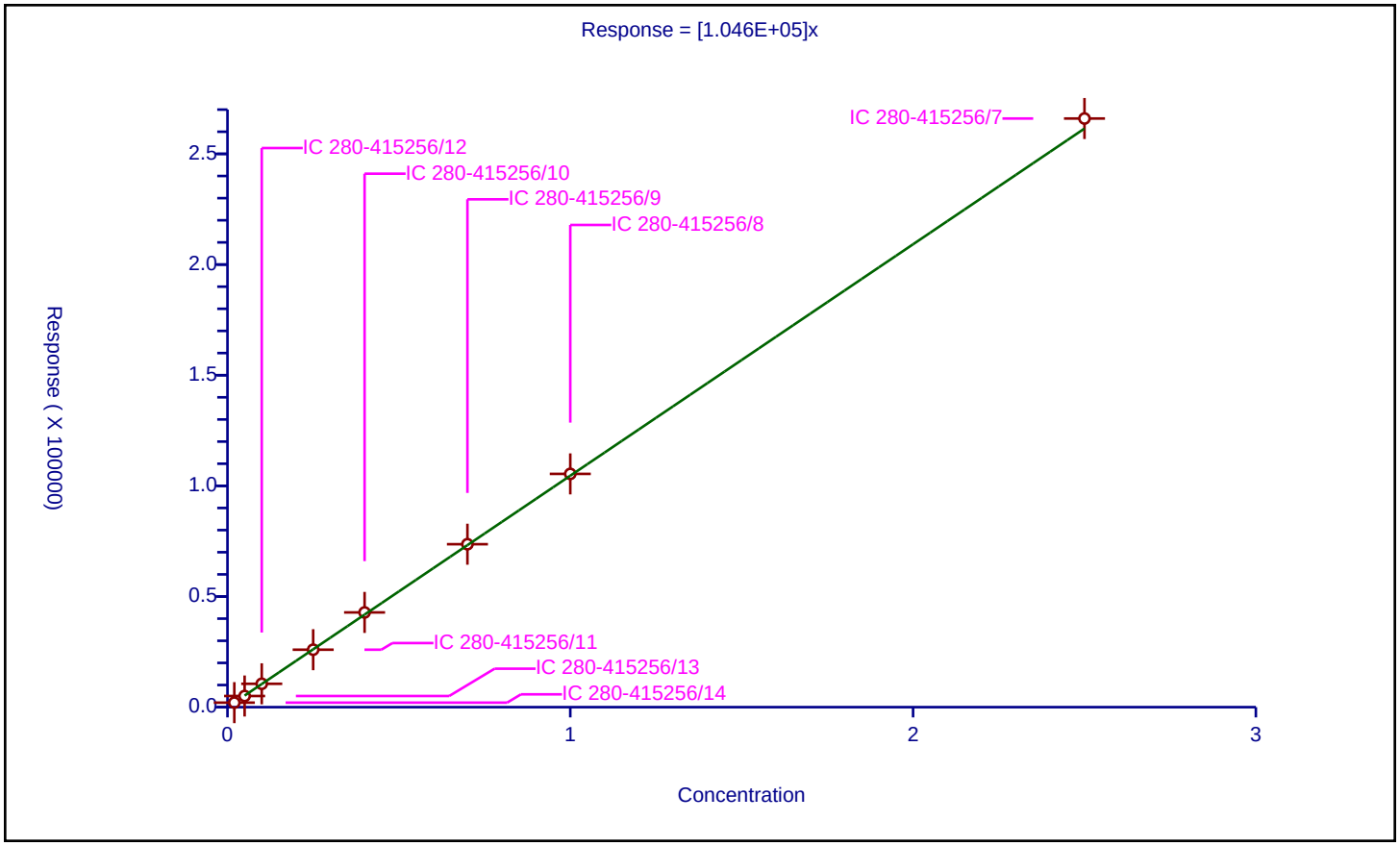
Curve Coefficients

Intercept:	0
Slope:	1.046E+05

Error Coefficients

Standard Error:	1790
Relative Standard Error:	2.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02	2043.0			102150.0	Y
2	IC 280-415256/13	0.05	5050.0			101000.0	Y
3	IC 280-415256/12	0.1	10563.0			105630.0	Y
4	IC 280-415256/11	0.25	25965.0			103860.0	Y
5	IC 280-415256/10	0.4	42801.0			107002.5	Y
6	IC 280-415256/9	0.7	73630.0			105185.714286	Y
7	IC 280-415256/8	1.0	105400.0			105400.0	Y
8	IC 280-415256/7	2.5	265976.0			106390.4	Y



Calibration / 2,4,6-Trinitrophenol

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

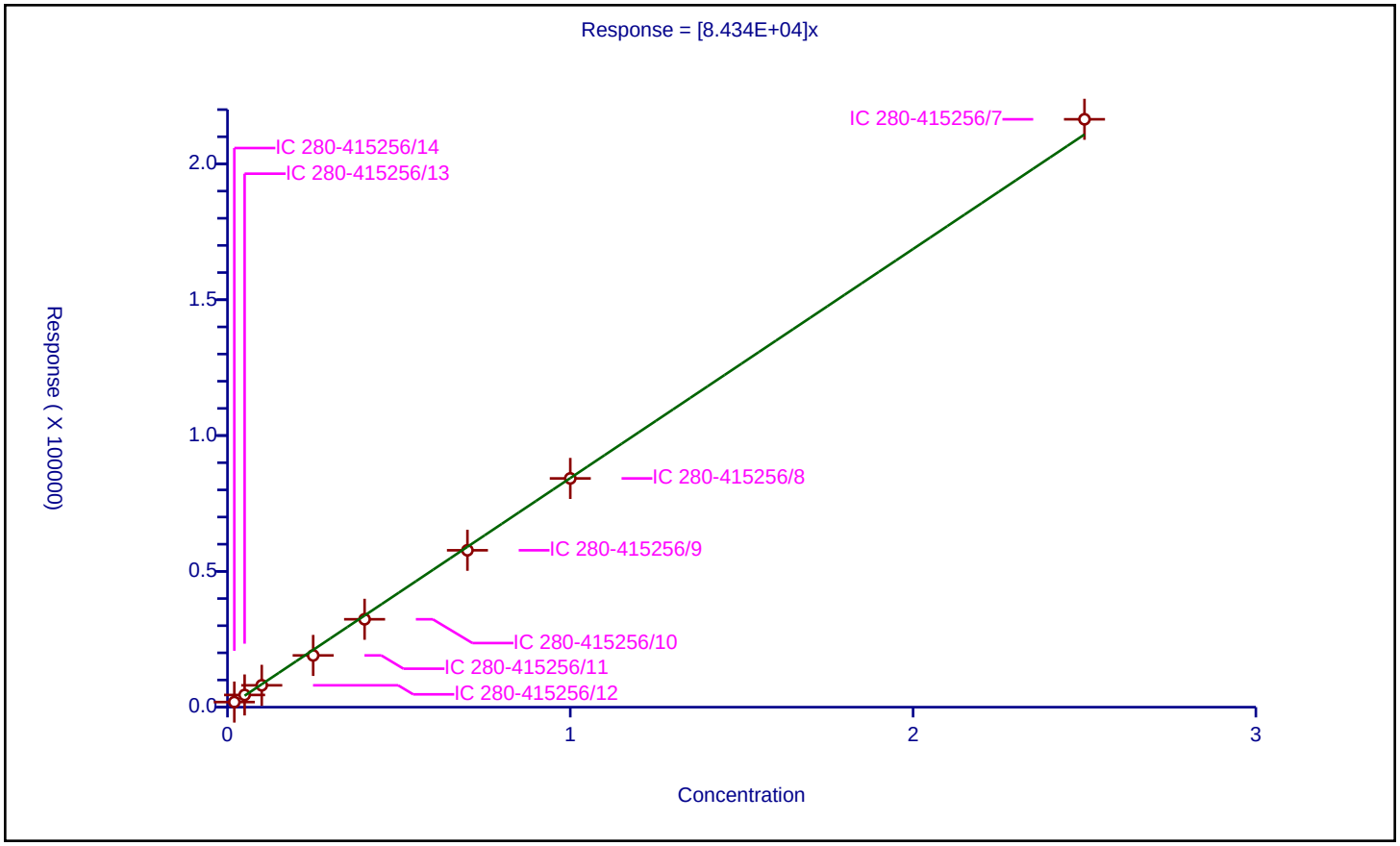
Curve Coefficients

Intercept:	0
Slope:	8.434E+04

Error Coefficients

Standard Error:	2370
Relative Standard Error:	6.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02	1879.0			93950.0	Y
2	IC 280-415256/13	0.05	4494.0			89880.0	Y
3	IC 280-415256/12	0.1	8050.0			80500.0	Y
4	IC 280-415256/11	0.25	19048.0			76192.0	Y
5	IC 280-415256/10	0.4	32362.0			80905.0	Y
6	IC 280-415256/9	0.7	57756.0			82508.571429	Y
7	IC 280-415256/8	1.0	84211.0			84211.0	Y
8	IC 280-415256/7	2.5	216440.0			86576.0	Y



Calibration / 1,2-Dinitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

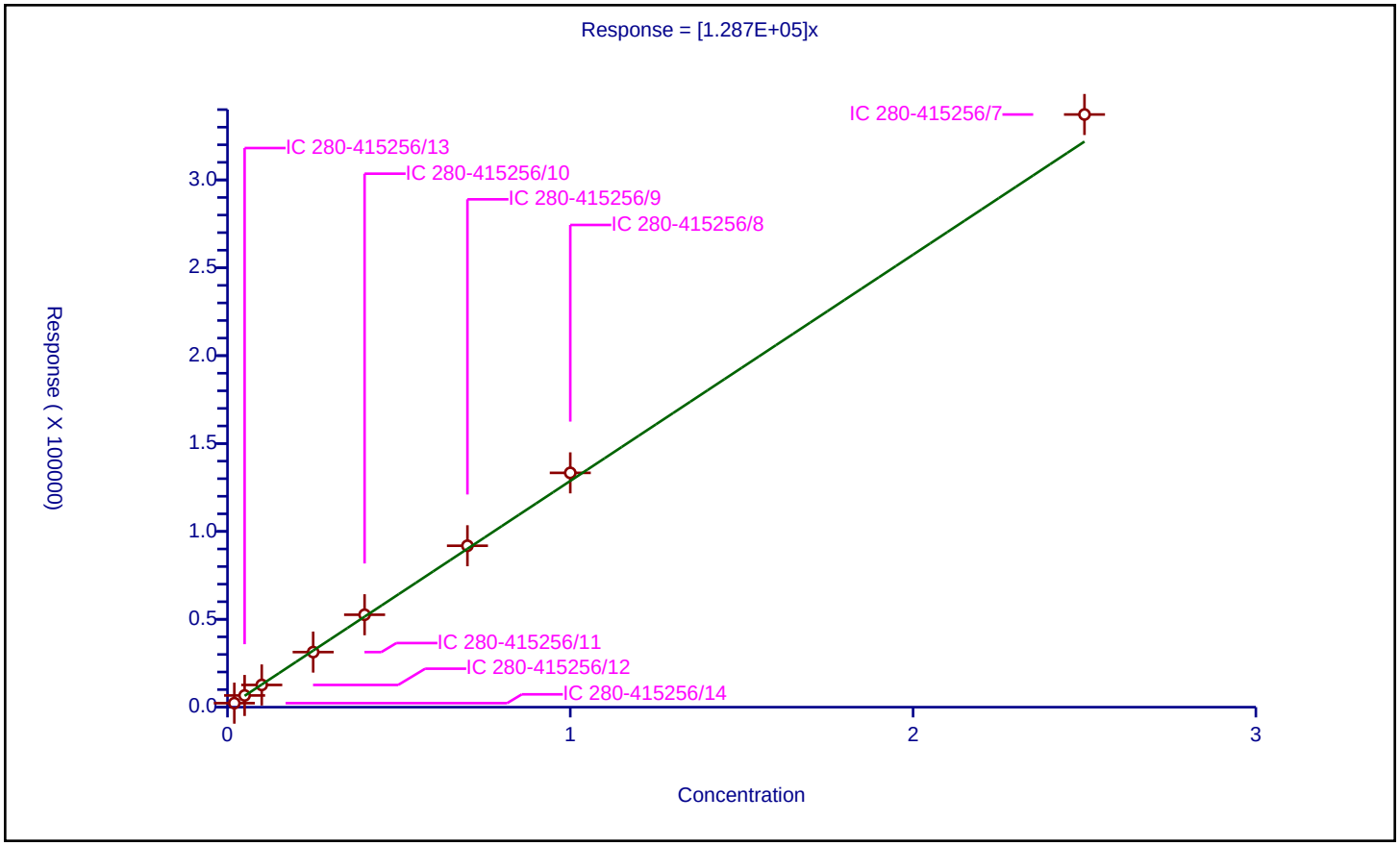
Curve Coefficients

Intercept:	0
Slope:	1.287E+05

Error Coefficients

Standard Error:	6130
Relative Standard Error:	5.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02	2278.0			113900.0	Y
2	IC 280-415256/13	0.05	6665.0			133300.0	Y
3	IC 280-415256/12	0.1	12638.0			126380.0	Y
4	IC 280-415256/11	0.25	31343.0			125372.0	Y
5	IC 280-415256/10	0.4	52585.0			131462.5	Y
6	IC 280-415256/9	0.7	91842.0			131202.857143	Y
7	IC 280-415256/8	1.0	133312.0			133312.0	Y
8	IC 280-415256/7	2.5	337223.0			134889.2	Y



Calibration / 1,3,5-Trinitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

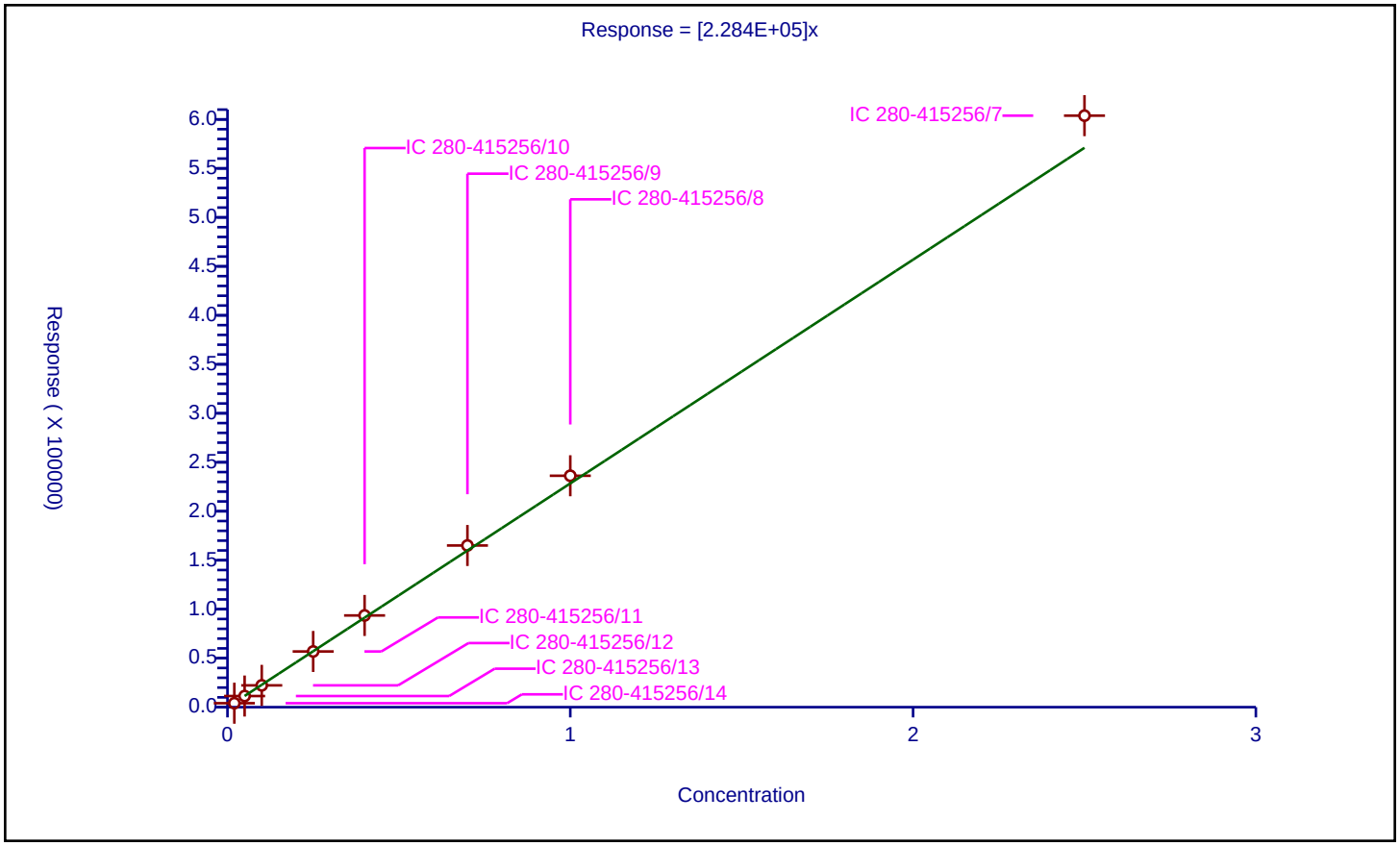
Curve Coefficients

Intercept:	0
Slope:	2.284E+05

Error Coefficients

Standard Error:	12900
Relative Standard Error:	5.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02	4042.0			202100.0	Y
2	IC 280-415256/13	0.05	11383.0			227660.0	Y
3	IC 280-415256/12	0.1	22253.0			222530.0	Y
4	IC 280-415256/11	0.25	56855.0			227420.0	Y
5	IC 280-415256/10	0.4	93611.0			234027.5	Y
6	IC 280-415256/9	0.7	165033.0			235761.428571	Y
7	IC 280-415256/8	1.0	236230.0			236230.0	Y
8	IC 280-415256/7	2.5	603841.0			241536.4	Y



Calibration / 1,3-Dinitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

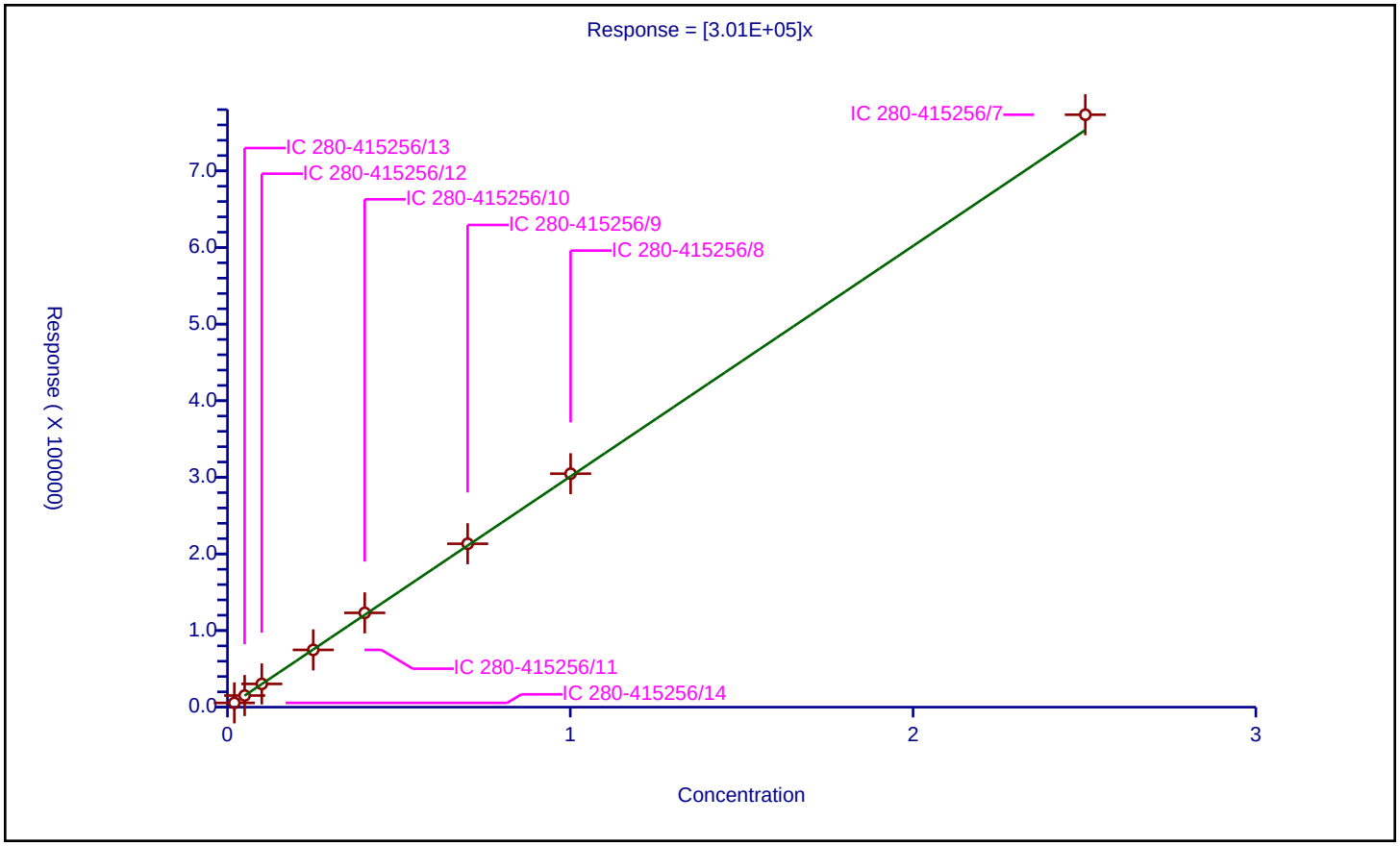
Curve Coefficients

Intercept:	0
Slope:	3.01E+05

Error Coefficients

Standard Error:	7810
Relative Standard Error:	3.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02002	5557.0			277572.427572	Y
2	IC 280-415256/13	0.05005	15187.0			303436.563437	Y
3	IC 280-415256/12	0.1001	30333.0			303026.973027	Y
4	IC 280-415256/11	0.25025	74756.0			298725.274725	Y
5	IC 280-415256/10	0.4004	123109.0			307465.034965	Y
6	IC 280-415256/9	0.7007	213326.0			304446.98159	Y
7	IC 280-415256/8	1.001	304781.0			304476.523477	Y
8	IC 280-415256/7	2.5025	773367.0			309037.762238	Y



Calibration / Nitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

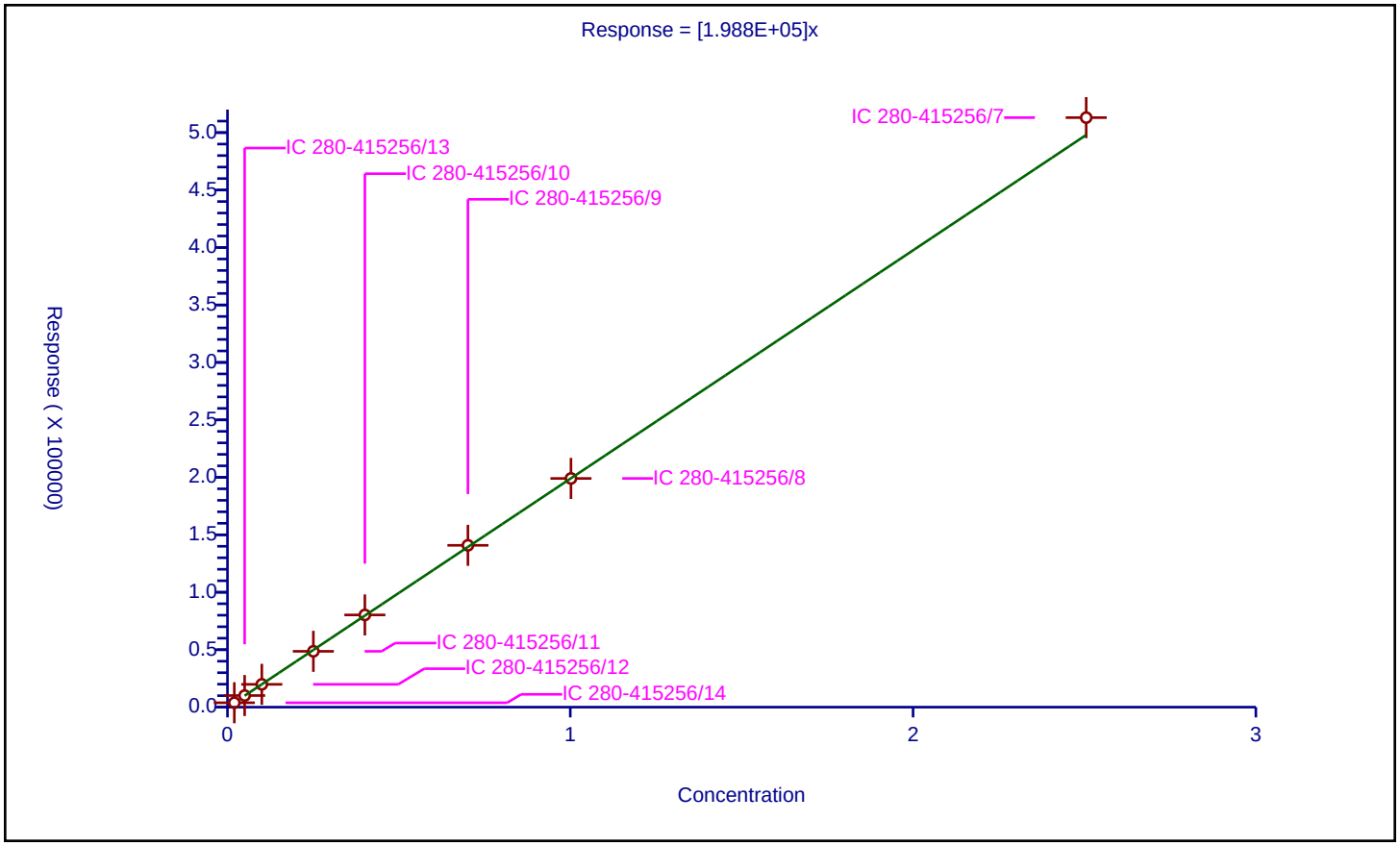
Curve Coefficients

Intercept:	0
Slope:	1.988E+05

Error Coefficients

Standard Error:	5750
Relative Standard Error:	2.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02004	3842.0			191716.566866	Y
2	IC 280-415256/13	0.0501	10114.0			201876.247505	Y
3	IC 280-415256/12	0.1002	19861.0			198213.572854	Y
4	IC 280-415256/11	0.2505	48592.0			193980.03992	Y
5	IC 280-415256/10	0.4008	80258.0			200244.510978	Y
6	IC 280-415256/9	0.7014	140828.0			200781.294554	Y
7	IC 280-415256/8	1.002	199028.0			198630.738523	Y
8	IC 280-415256/7	2.505	513035.0			204804.391218	Y



Calibration / Tetryl

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

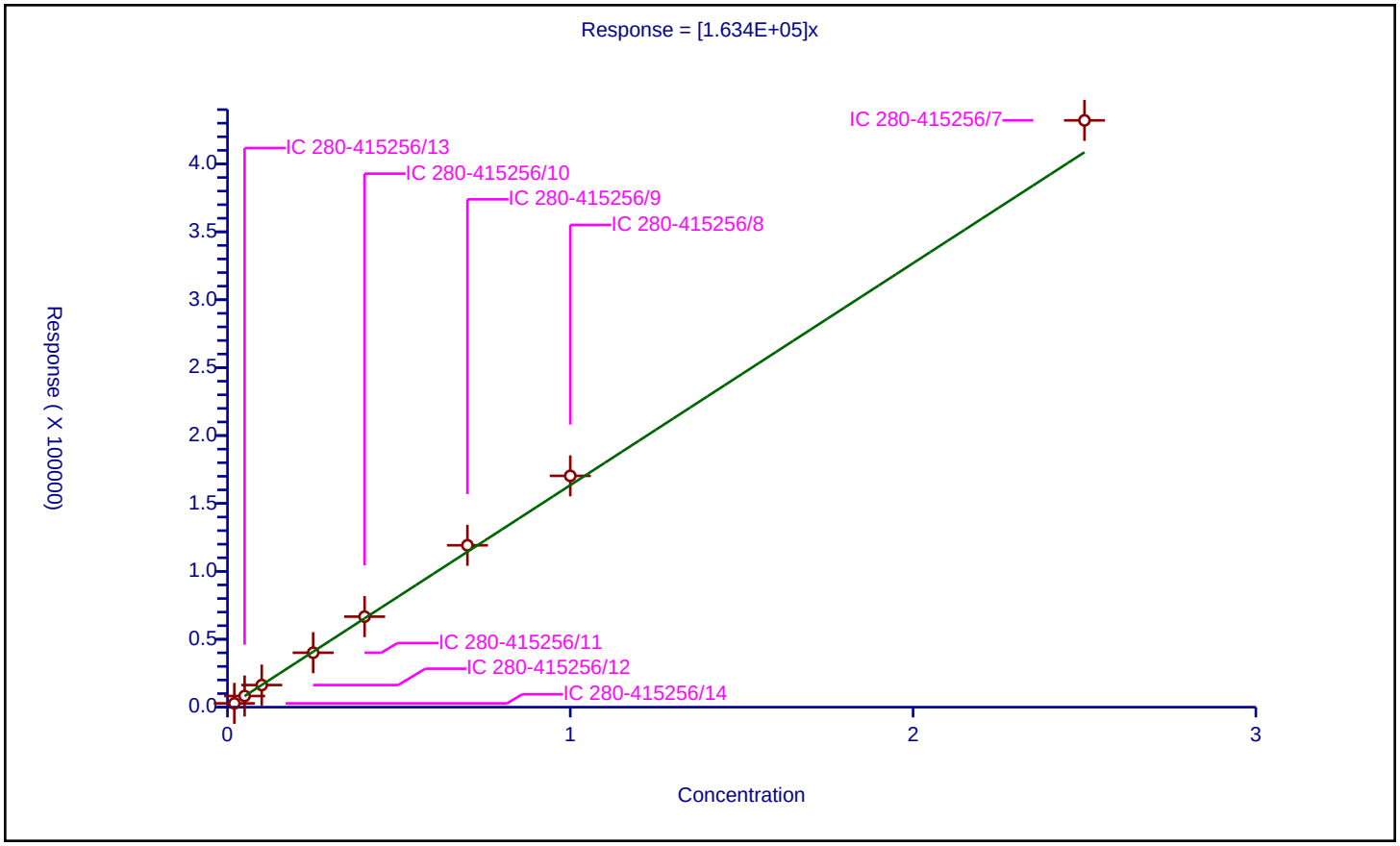
Curve Coefficients

Intercept:	0
Slope:	1.634E+05

Error Coefficients

Standard Error:	9430
Relative Standard Error:	6.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02	2797.0			139850.0	Y
2	IC 280-415256/13	0.05	8226.0			164520.0	Y
3	IC 280-415256/12	0.1	16280.0			162800.0	Y
4	IC 280-415256/11	0.25	40083.0			160332.0	Y
5	IC 280-415256/10	0.4	66666.0			166665.0	Y
6	IC 280-415256/9	0.7	119195.0			170278.571429	Y
7	IC 280-415256/8	1.0	170312.0			170312.0	Y
8	IC 280-415256/7	2.5	432075.0			172830.0	Y



Calibration / Nitroglycerin

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

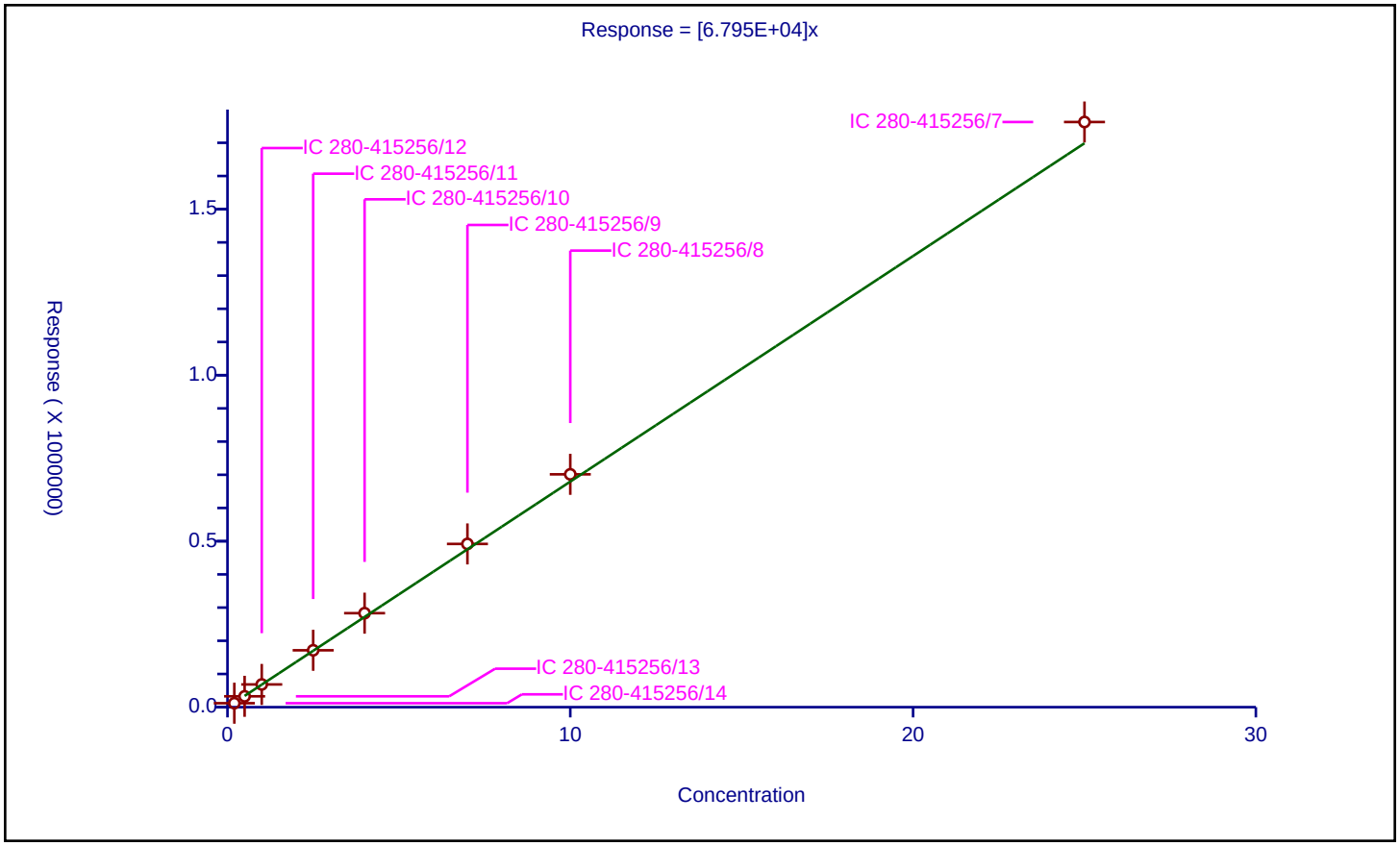
Curve Coefficients

Intercept:	0
Slope:	6.795E+04

Error Coefficients

Standard Error:	26700
Relative Standard Error:	5.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.2	11906.0			59530.0	Y
2	IC 280-415256/13	0.5	32693.0			65386.0	Y
3	IC 280-415256/12	1.0	68459.0			68459.0	Y
4	IC 280-415256/11	2.5	171294.0			68517.6	Y
5	IC 280-415256/10	4.0	283140.0			70785.0	Y
6	IC 280-415256/9	7.0	491693.0			70241.857143	Y
7	IC 280-415256/8	10.0	701363.0			70136.3	Y
8	IC 280-415256/7	25.0	1762679.0			70507.16	Y



Calibration / 2,4,6-Trinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

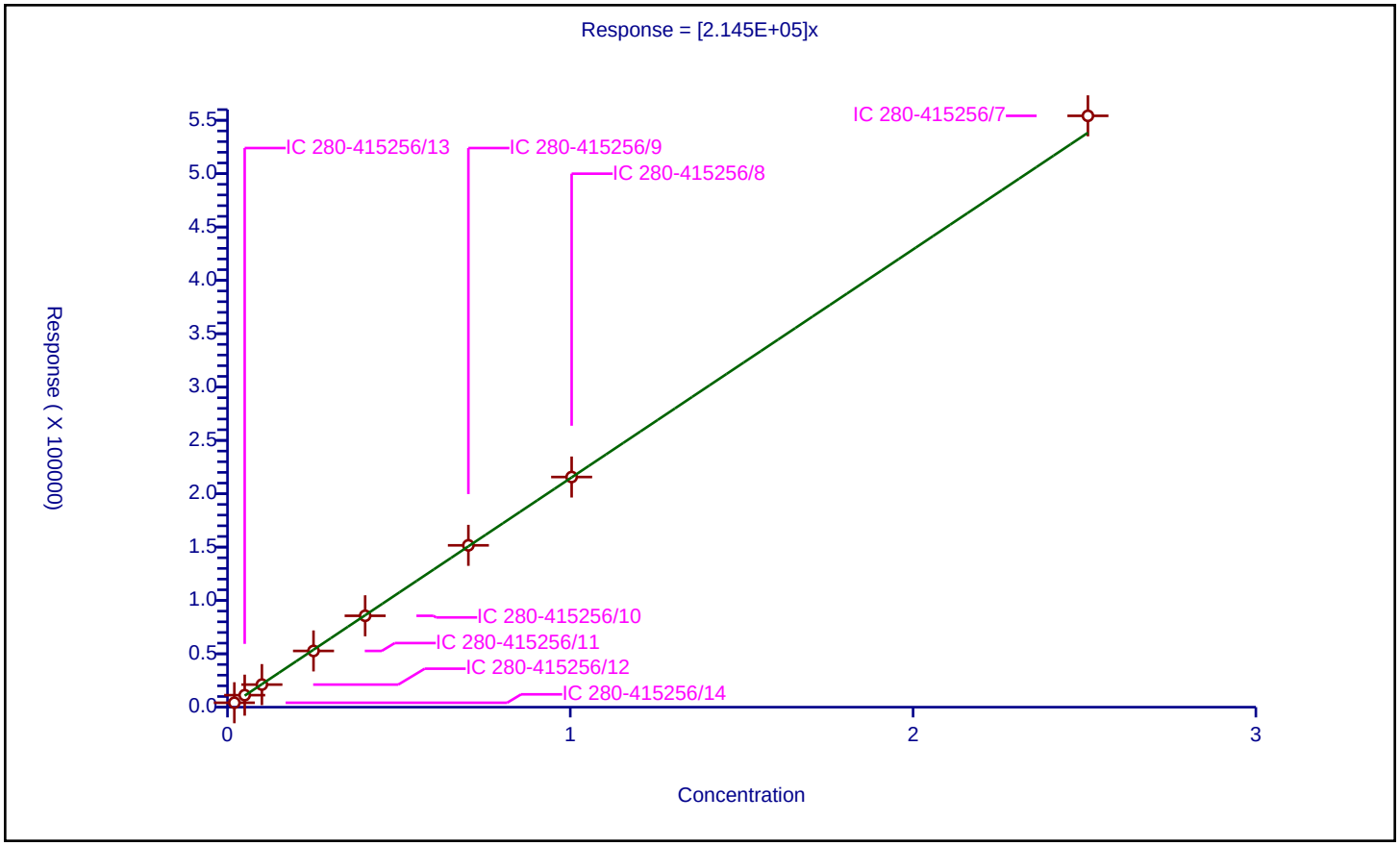
Curve Coefficients

Intercept:	0
Slope:	2.145E+05

Error Coefficients

Standard Error:	6020
Relative Standard Error:	2.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02008	4137.0			206025.896414	Y
2	IC 280-415256/13	0.0502	11267.0			224442.231076	Y
3	IC 280-415256/12	0.1004	21155.0			210707.171315	Y
4	IC 280-415256/11	0.251	52708.0			209992.031873	Y
5	IC 280-415256/10	0.4016	85643.0			213254.482072	Y
6	IC 280-415256/9	0.7028	151667.0			215803.927149	Y
7	IC 280-415256/8	1.004	215673.0			214813.74502	Y
8	IC 280-415256/7	2.51	554169.0			220784.462151	Y



Calibration / 4-Amino-2,6-dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

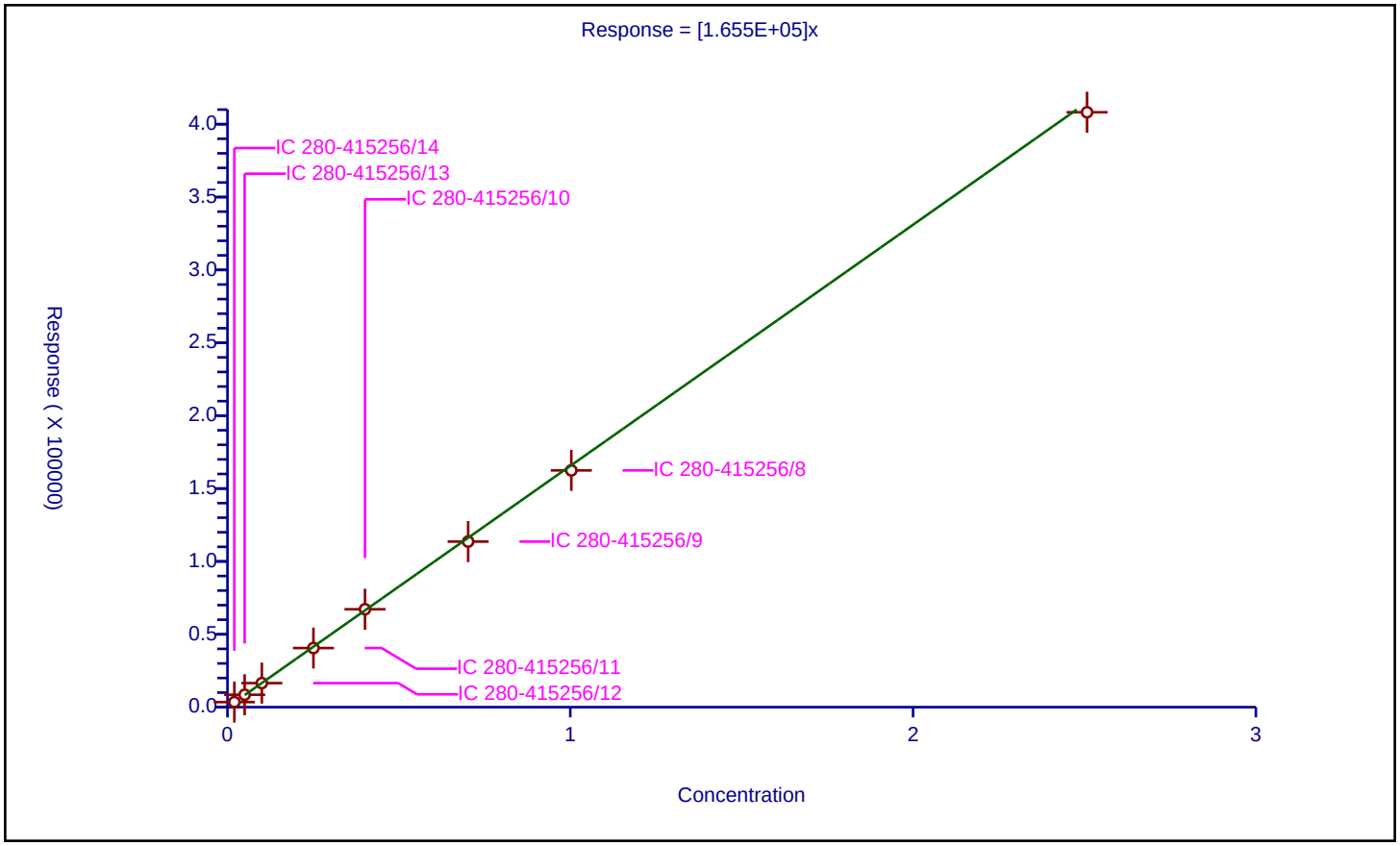
Curve Coefficients

Intercept:	0
Slope:	1.655E+05

Error Coefficients

Standard Error:	3100
Relative Standard Error:	2.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02006	3486.0			173778.664008	Y
2	IC 280-415256/13	0.05015	8517.0			169830.508475	Y
3	IC 280-415256/12	0.1003	16510.0			164606.181456	Y
4	IC 280-415256/11	0.25075	40566.0			161778.664008	Y
5	IC 280-415256/10	0.4012	67180.0			167447.657029	Y
6	IC 280-415256/9	0.7021	113610.0			161814.556331	Y
7	IC 280-415256/8	1.003	162456.0			161970.089731	Y
8	IC 280-415256/7	2.5075	408172.0			162780.458624	Y



Calibration / 2-Amino-4,6-dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

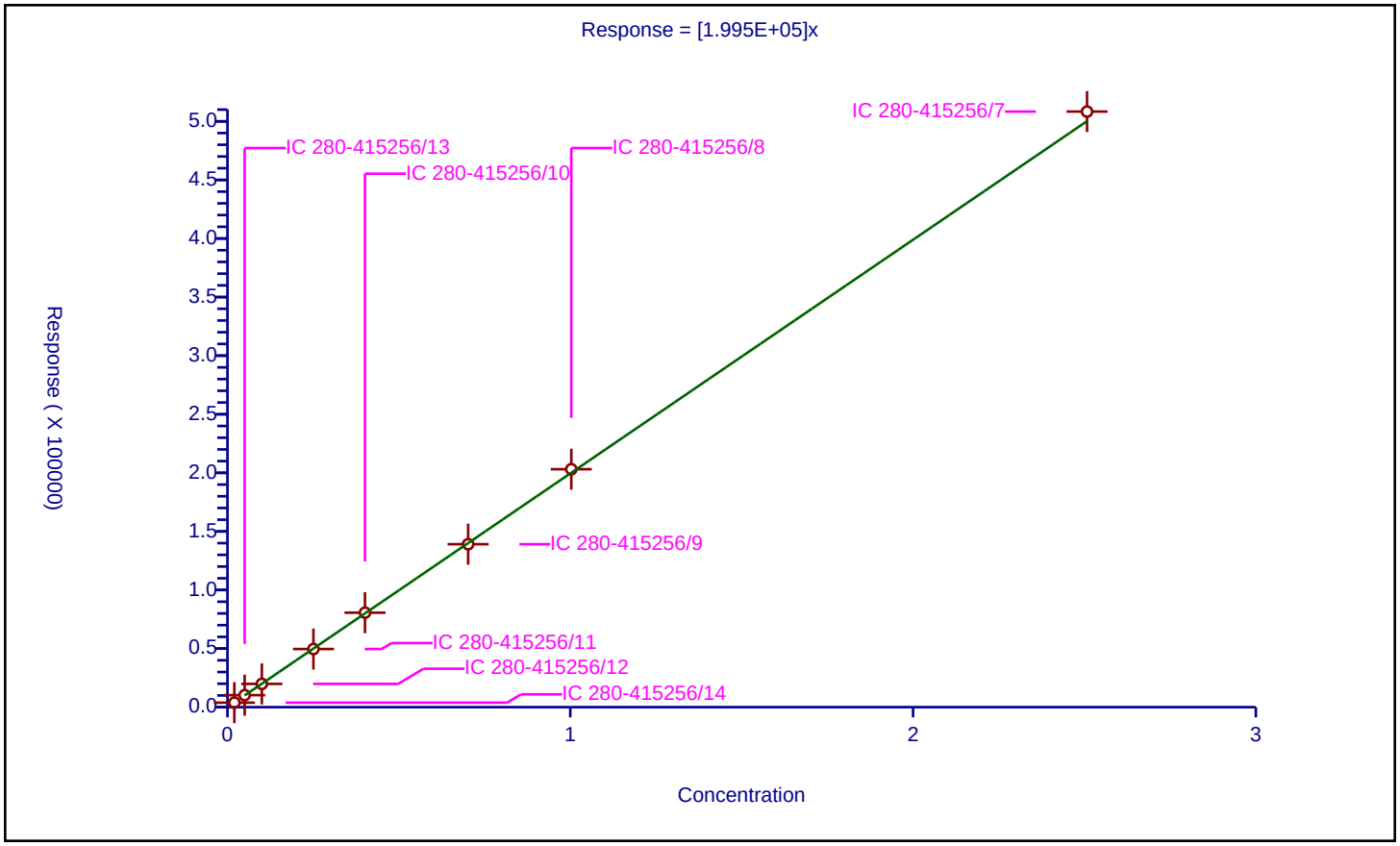
Curve Coefficients

Intercept:	0
Slope:	1.995E+05

Error Coefficients

Standard Error:	3320
Relative Standard Error:	2.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02006	3839.0			191375.872383	Y
2	IC 280-415256/13	0.05015	10247.0			204327.018943	Y
3	IC 280-415256/12	0.1003	19850.0			197906.281157	Y
4	IC 280-415256/11	0.25075	49604.0			197822.532403	Y
5	IC 280-415256/10	0.4012	80646.0			201011.964108	Y
6	IC 280-415256/9	0.7021	139075.0			198084.318473	Y
7	IC 280-415256/8	1.003	203087.0			202479.561316	Y
8	IC 280-415256/7	2.5075	508320.0			202719.840479	Y



Calibration / 2,6-Dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

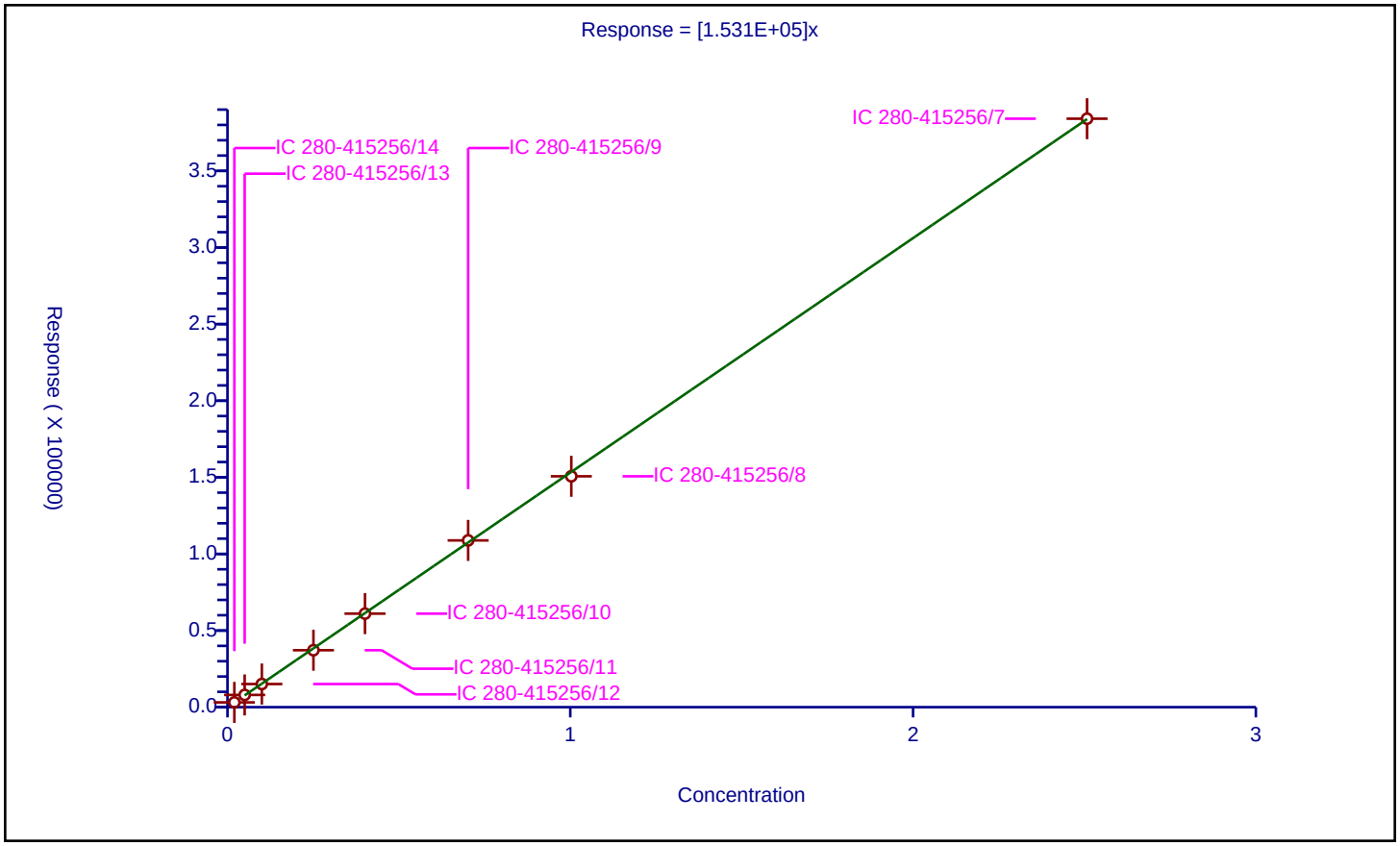
Curve Coefficients

Intercept:	0
Slope:	1.531E+05

Error Coefficients

Standard Error:	1300
Relative Standard Error:	2.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02006	3125.0			155782.652044	Y
2	IC 280-415256/13	0.05015	7991.0			159341.974078	Y
3	IC 280-415256/12	0.1003	15104.0			150588.235294	Y
4	IC 280-415256/11	0.25075	37173.0			148247.258225	Y
5	IC 280-415256/10	0.4012	61046.0			152158.524427	Y
6	IC 280-415256/9	0.7021	108831.0			155007.833642	Y
7	IC 280-415256/8	1.003	150677.0			150226.321037	Y
8	IC 280-415256/7	2.5075	384067.0			153167.298106	Y



Calibration / 2,4-Dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

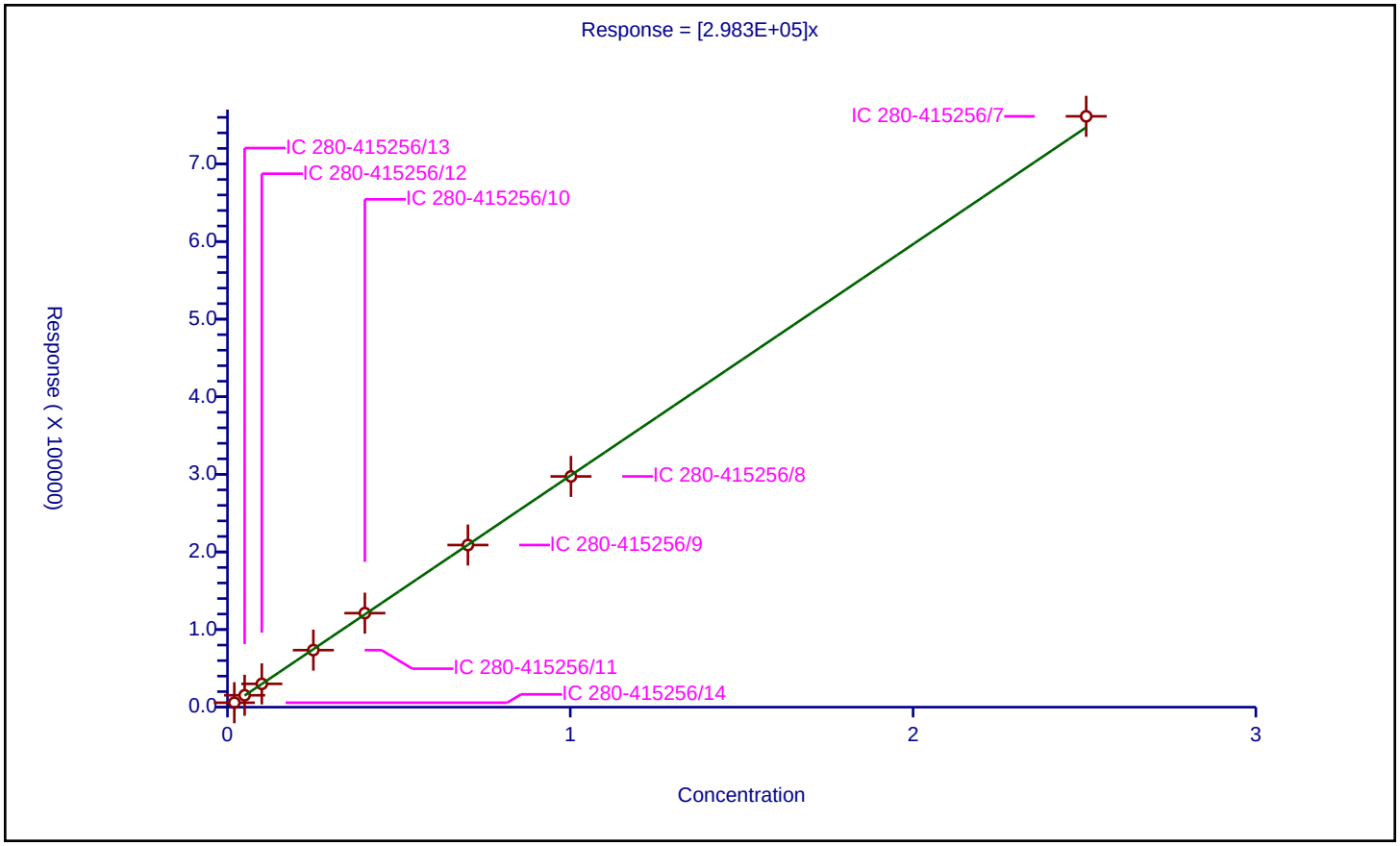
Curve Coefficients

Intercept:	0
Slope:	2.983E+05

Error Coefficients

Standard Error:	5460
Relative Standard Error:	2.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02004	5750.0			286926.147705	Y
2	IC 280-415256/13	0.0501	15313.0			305648.702595	Y
3	IC 280-415256/12	0.1002	30008.0			299481.037924	Y
4	IC 280-415256/11	0.2505	73471.0			293297.40519	Y
5	IC 280-415256/10	0.4008	121158.0			302290.419162	Y
6	IC 280-415256/9	0.7014	208912.0			297850.014257	Y
7	IC 280-415256/8	1.002	297313.0			296719.560878	Y
8	IC 280-415256/7	2.505	761362.0			303936.926148	Y



Calibration / o-Nitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

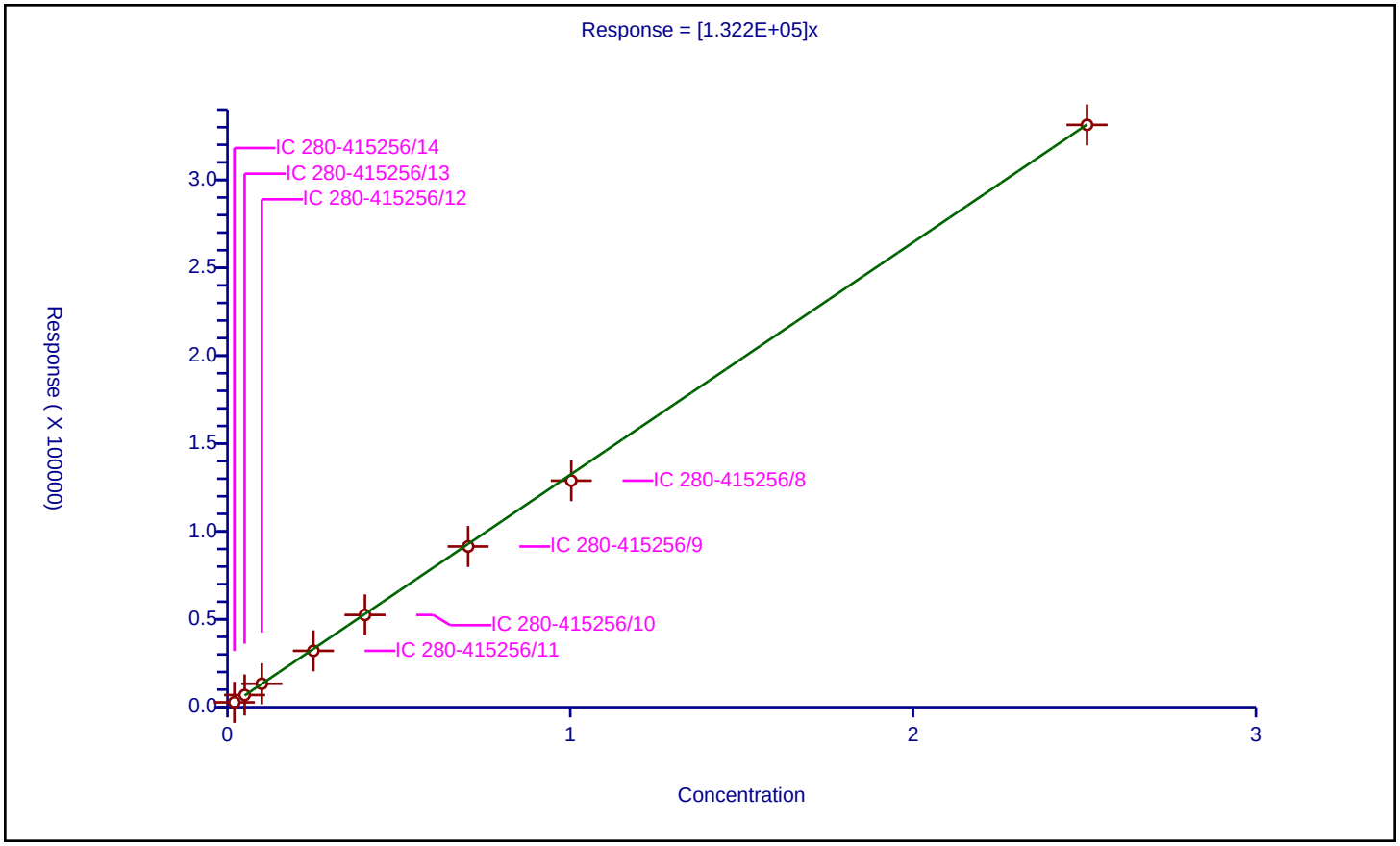
Curve Coefficients

Intercept:	0
Slope:	1.322E+05

Error Coefficients

Standard Error:	1580
Relative Standard Error:	2.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02006	2761.0			137637.088734	Y
2	IC 280-415256/13	0.05015	6915.0			137886.340977	Y
3	IC 280-415256/12	0.1003	13314.0			132741.774676	Y
4	IC 280-415256/11	0.25075	32062.0			127864.40678	Y
5	IC 280-415256/10	0.4012	52478.0			130802.592223	Y
6	IC 280-415256/9	0.7021	91427.0			130219.341974	Y
7	IC 280-415256/8	1.003	128893.0			128507.477567	Y
8	IC 280-415256/7	2.5075	331335.0			132137.587238	Y



Calibration / p-Nitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

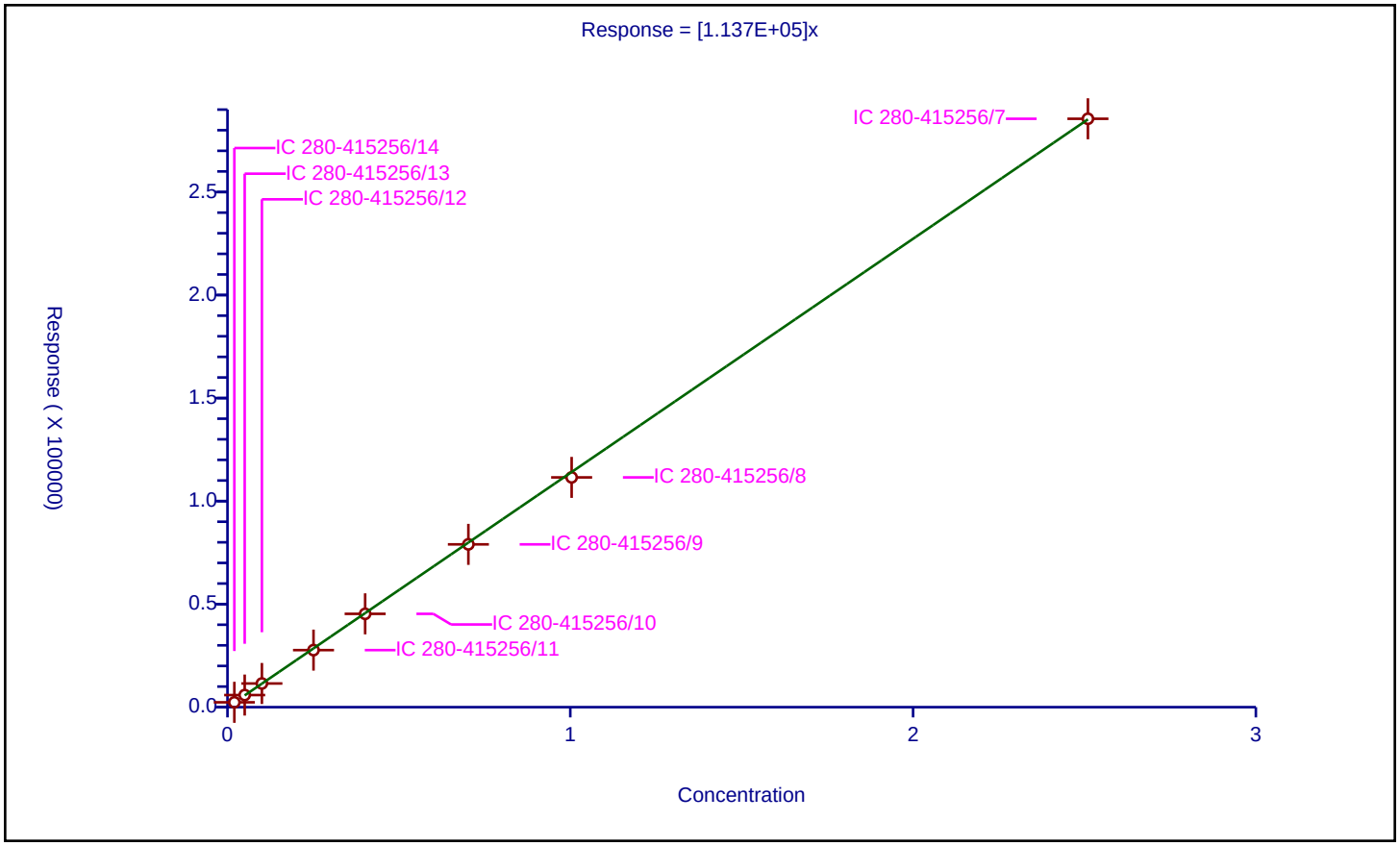
Curve Coefficients

Intercept:	0
Slope:	1.137E+05

Error Coefficients

Standard Error:	1100
Relative Standard Error:	2.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02008	2355.0			117280.876494	Y
2	IC 280-415256/13	0.0502	5884.0			117211.155378	Y
3	IC 280-415256/12	0.1004	11487.0			114412.350598	Y
4	IC 280-415256/11	0.251	27683.0			110290.836653	Y
5	IC 280-415256/10	0.4016	45295.0			112786.354582	Y
6	IC 280-415256/9	0.7028	79009.0			112420.318725	Y
7	IC 280-415256/8	1.004	111505.0			111060.756972	Y
8	IC 280-415256/7	2.51	285557.0			113767.729084	Y



Calibration / m-Nitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

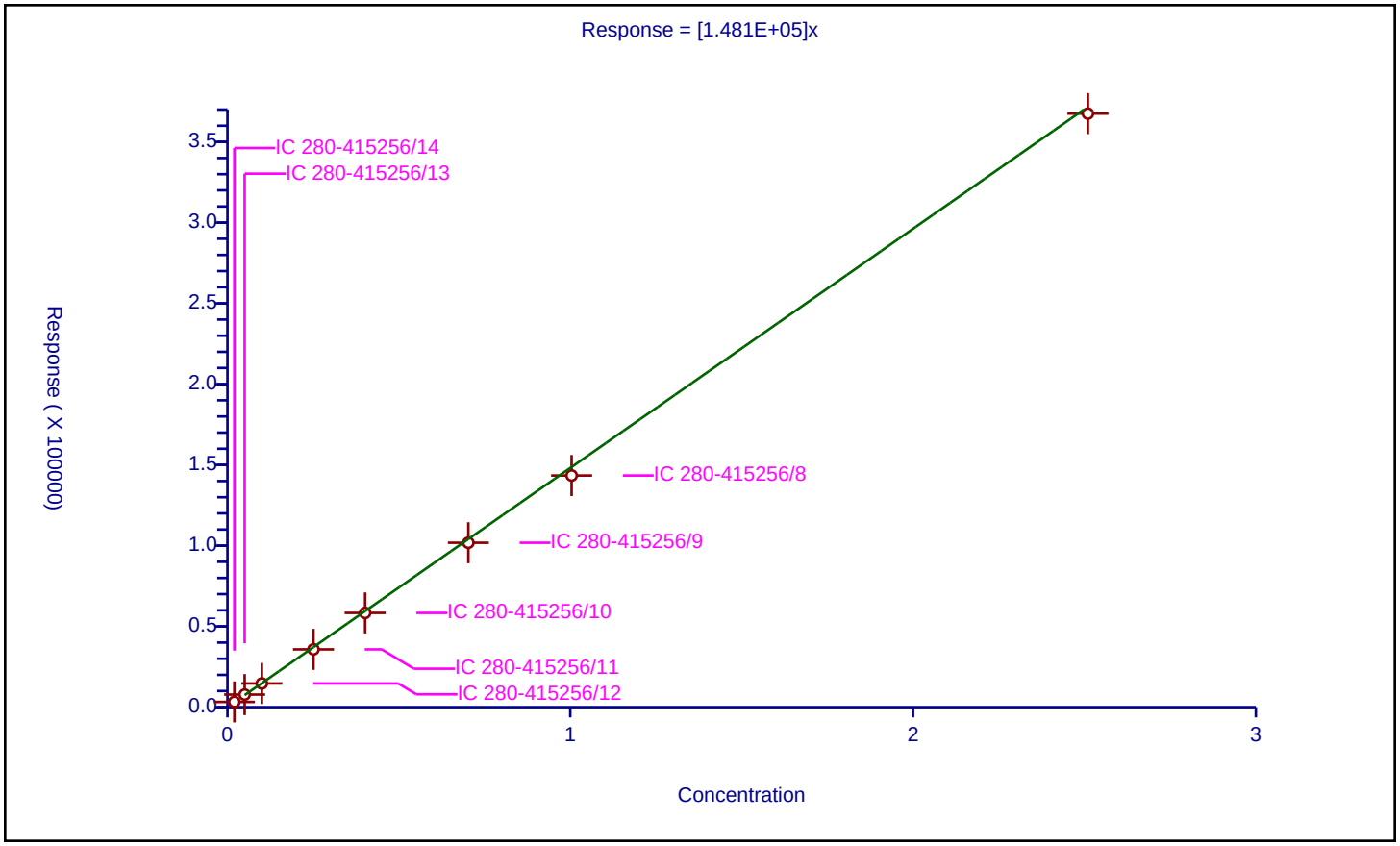
Curve Coefficients

Intercept:	0
Slope:	1.481E+05

Error Coefficients

Standard Error:	2790
Relative Standard Error:	4.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.02008	3245.0			161603.585657	Y
2	IC 280-415256/13	0.0502	7786.0			155099.601594	Y
3	IC 280-415256/12	0.1004	14675.0			146165.338645	Y
4	IC 280-415256/11	0.251	35788.0			142581.673307	Y
5	IC 280-415256/10	0.4016	58353.0			145301.294821	Y
6	IC 280-415256/9	0.7028	101807.0			144859.134889	Y
7	IC 280-415256/8	1.004	143426.0			142854.581673	Y
8	IC 280-415256/7	2.51	367509.0			146417.928287	Y



Calibration / PETN

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	
RF Rounding:	0

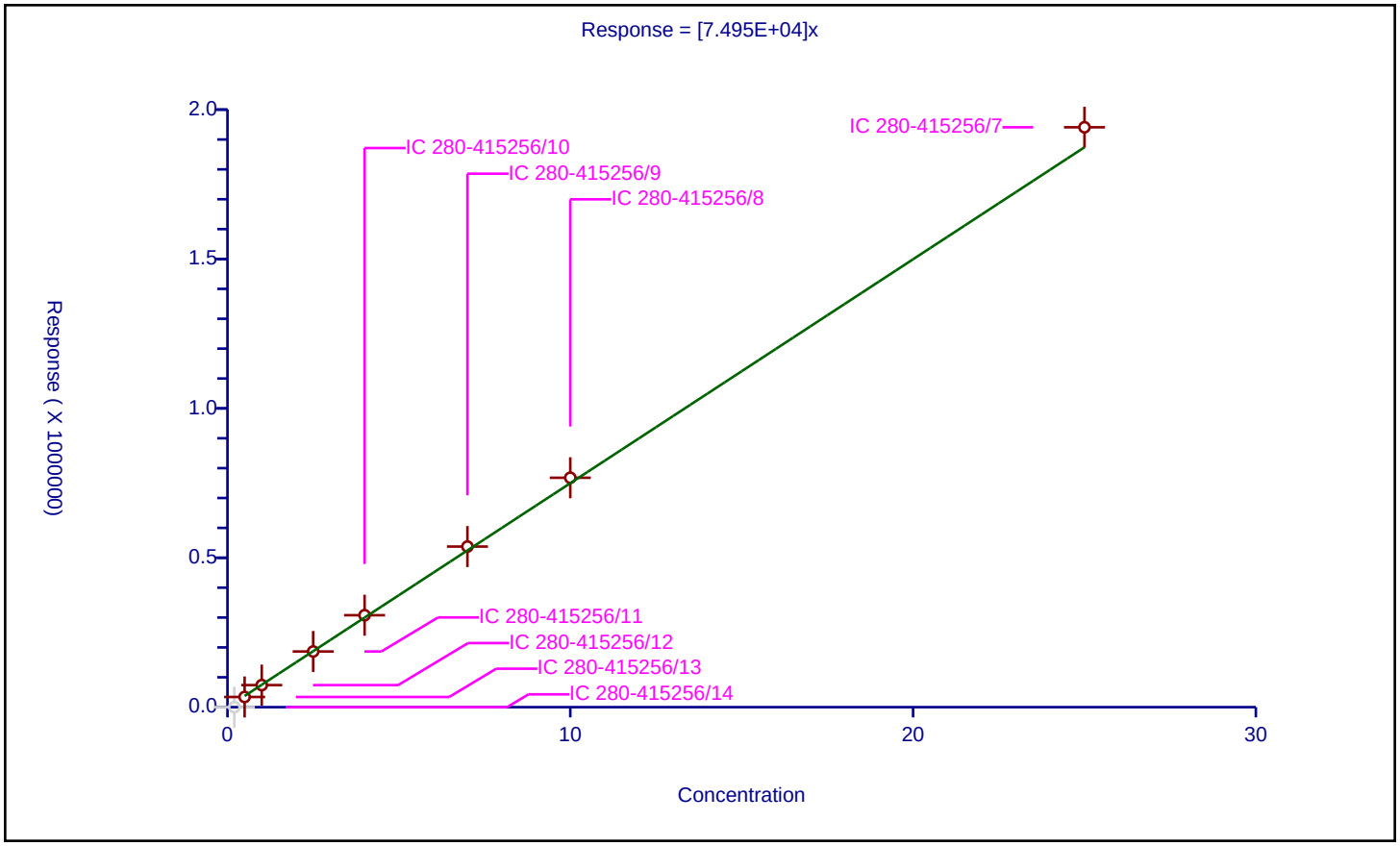
Curve Coefficients

Intercept:	0
Slope:	7.495E+04

Error Coefficients

Standard Error:	29000
Relative Standard Error:	4.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-415256/14	0.2	0.0			0.0	N
2	IC 280-415256/13	0.5	34097.0			68194.0	Y
3	IC 280-415256/12	1.0	73842.0			73842.0	Y
4	IC 280-415256/11	2.5	186281.0			74512.4	Y
5	IC 280-415256/10	4.0	307741.0			76935.25	Y
6	IC 280-415256/9	7.0	537514.0			76787.714286	Y
7	IC 280-415256/8	10.0	767790.0			76779.0	Y
8	IC 280-415256/7	25.0	1940836.0			77633.44	Y



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-433312/15 Calibration Date: 10/13/2018 21:03

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 10130015.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Picric acid	Ave	175530	164130		374	400	-6.5	20.0
HMX	Ave	190873	163040		342	400	-14.6	20.0
RDX	Ave	240568	205278		341	400	-14.7	20.0
Nitrobenzene	Ave	436516	402705		369	400	-7.7	20.0
3,5-Dinitroaniline	Lin2		455585		359	400	-10.3	20.0
Nitroglycerin	Ave	195290	170580		3490	4000	-12.7	20.0
1,3-Dinitrobenzene	Ave	697670	622870		357	400	-10.7	20.0
2-Nitrotoluene	Ave	274675	248953		363	400	-9.4	20.0
4-Nitrotoluene	Ave	235818	225210		382	400	-4.5	20.0
4-Amino-2,6-dinitrotoluene	Ave	326821	290775		356	400	-11.0	20.0
3-Nitrotoluene	Ave	312824	277105		354	400	-11.4	20.0
2-Amino-4,6-dinitrotoluene	Ave	482281	410053		340	400	-15.0	20.0
1,3,5-Trinitrobenzene	Ave	508674	458213		360	400	-9.9	20.0
2,6-Dinitrotoluene	Ave	328921	281518		342	400	-14.4	20.0
2,4-Dinitrotoluene	Ave	629622	554770		352	400	-11.9	20.0
Tetryl	Ave	390101	337900		346	400	-13.4	20.0
2,4,6-Trinitrotoluene	Ave	448100	381930		341	400	-14.8	20.0
PETN	Ave	140771	126804		3600	4000	-9.9	20.0
1,2-Dinitrobenzene	Ave	308876	269188		349	400	-12.8	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-433312/15 Calibration Date: 10/13/2018 21:03

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 10130015.D

Analyte	RT	RT WINDOW	
		FROM	TO
Picric acid	6.06	5.93	6.23
HMX	7.13	7.00	7.30
RDX	9.19	9.07	9.37
Nitrobenzene	12.12	12.01	12.31
3,5-Dinitroaniline	15.08	14.96	15.26
Nitroglycerin	15.64	15.52	15.82
1,3-Dinitrobenzene	15.68	15.56	15.86
2-Nitrotoluene	16.44	16.32	16.62
4-Nitrotoluene	16.78	16.66	16.96
4-Amino-2,6-dinitrotoluene	17.19	17.07	17.37
3-Nitrotoluene	17.69	17.57	17.87
2-Amino-4,6-dinitrotoluene	18.23	18.10	18.40
1,3,5-Trinitrobenzene	19.00	18.87	19.17
2,6-Dinitrotoluene	19.80	19.68	19.98
2,4-Dinitrotoluene	20.37	20.24	20.54
Tetryl	23.71	23.57	23.87
2,4,6-Trinitrotoluene	24.72	24.58	24.88
PETN	25.14	24.99	25.29
1,2-Dinitrobenzene	13.13	13.01	13.31

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130015.D
Lims ID: ICV FULL 8330
Client ID:
Sample Type: ICV
Inject. Date: 13-Oct-2018 21:03:26 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: ICV FULL 8330
Misc. Info.: 280-0075057-015
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist:

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 14-Oct-2018 14:03:04 Calib Date: 13-Oct-2018 20:28:27
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130014.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0302

First Level Reviewer: fiedlerh Date: 14-Oct-2018 13:54:52

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.382	4.401	-0.019	171602	0.4000	0.3920	
3 2,4-diamino-6-nitrotoluene	1	4.988	4.954	0.034	95793	0.4000	0.3450	M
4 2,4,6-Trinitrophenol	1	6.055	6.081	-0.026	65652	0.4000	0.3740	
5 HMX	1	7.128	7.148	-0.020	65216	0.4000	0.3417	
7 RDX	1	9.188	9.221	-0.033	82111	0.4000	0.3413	
8 Nitrobenzene	1	12.115	12.161	-0.046	161082	0.4000	0.3690	
$ 9 1,2-Dinitrobenzene	1	13.128	13.161	-0.033	107675	0.4000	0.3486	
10 3,5-Dinitroaniline	1	15.082	15.114	-0.032	182234	0.4000	0.3586	
12 Nitroglycerin	2	15.642	15.667	-0.025	682321	4.00	3.49	
11 1,3-Dinitrobenzene	1	15.682	15.707	-0.025	249148	0.4000	0.3571	
13 o-Nitrotoluene	1	16.442	16.474	-0.032	99581	0.4000	0.3625	
14 p-Nitrotoluene	1	16.775	16.814	-0.039	90084	0.4000	0.3820	
15 4-Amino-2,6-dinitrotoluene	1	17.188	17.221	-0.033	116310	0.4000	0.3559	
16 m-Nitrotoluene	1	17.688	17.721	-0.033	110842	0.4000	0.3543	
17 2-Amino-4,6-dinitrotoluene	1	18.228	18.254	-0.026	164021	0.4000	0.3401	
18 1,3,5-Trinitrobenzene	1	18.995	19.021	-0.026	183285	0.4000	0.3603	
19 2,6-Dinitrotoluene	1	19.802	19.834	-0.032	112607	0.4000	0.3424	
20 2,4-Dinitrotoluene	1	20.368	20.394	-0.026	221908	0.4000	0.3524	
21 Tetryl	1	23.708	23.721	-0.013	135160	0.4000	0.3465	
22 2,4,6-Trinitrotoluene	1	24.715	24.734	-0.019	152772	0.4000	0.3409	
23 PETN	2	25.135	25.141	-0.006	507215	4.00	3.60	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

3,5-DNA LCS_00031	Amount Added:	40.00	Units: uL
8330Surrogate_00098	Amount Added:	40.00	Units: uL
8330DiaminLCS_00030	Amount Added:	40.00	Units: uL
8330 LCS_00081	Amount Added:	40.00	Units: uL

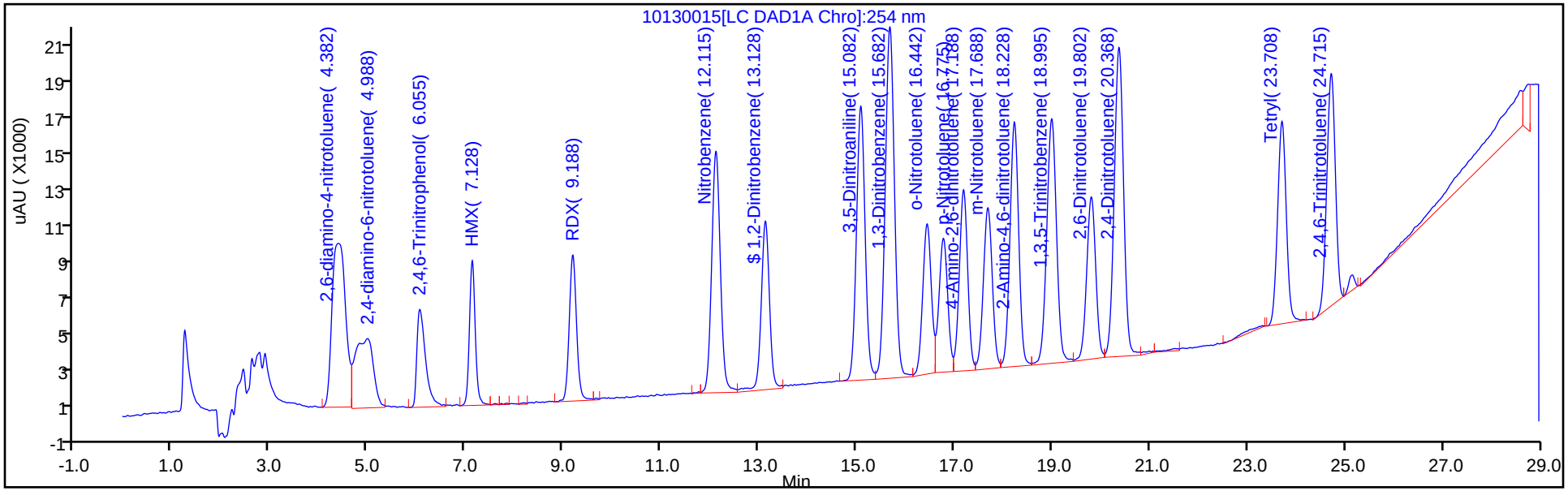
Report Date: 14-Oct-2018 14:03:06 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Denver

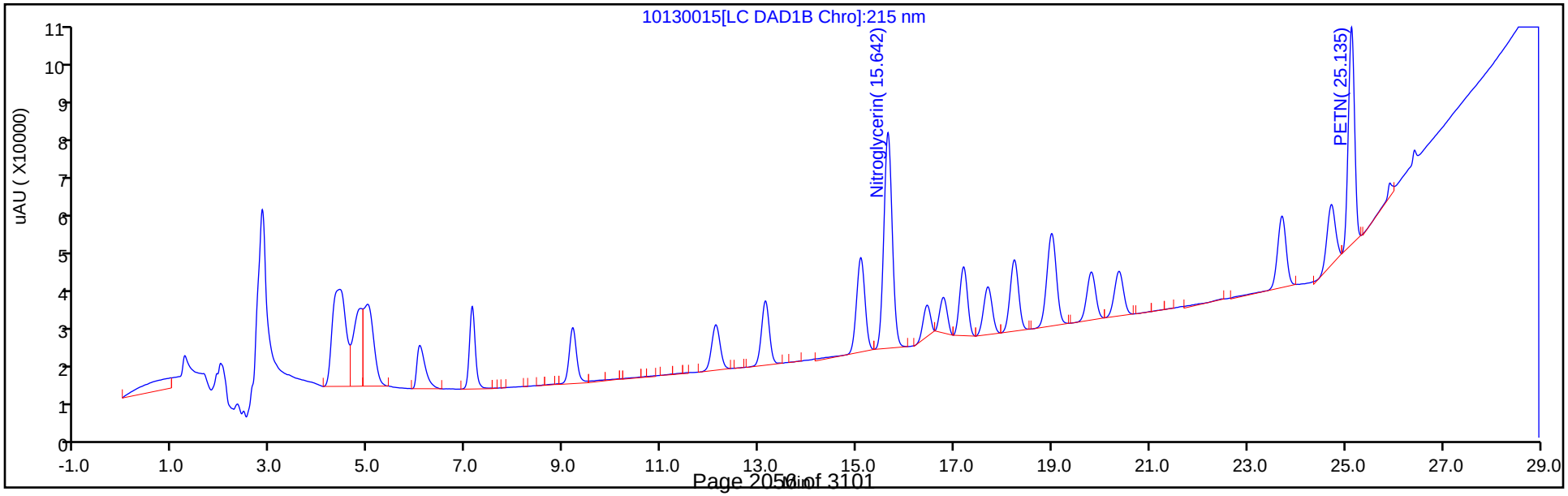
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130015.D

Injection Date:	13-Oct-2018 21:03:26	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	ICV FULL 8330			Worklist Smp#:	15
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-435336/52 Calibration Date: 10/30/2018 15:59

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 10290052.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Picric acid	Ave	175530	189324		270	250	7.9	20.0
HMX	Ave	190873	198436		260	250	4.0	20.0
RDX	Ave	240568	251044		261	250	4.4	20.0
Nitrobenzene	Ave	436516	406427		233	251	-6.9	20.0
3,5-Dinitroaniline	Lin2		522576		257	250	2.8	20.0
Nitroglycerin	Ave	195290	202257		2590	2500	3.6	20.0
1,3-Dinitrobenzene	Ave	697670	719021		258	250	3.1	20.0
2-Nitrotoluene	Ave	274675	248690		227	251	-9.5	20.0
4-Nitrotoluene	Ave	235818	221398		236	251	-6.1	20.0
4-Amino-2,6-dinitrotoluene	Ave	326821	335725		258	251	2.7	20.0
3-Nitrotoluene	Ave	312824	278406		223	251	-11.0	20.0
2-Amino-4,6-dinitrotoluene	Ave	482281	488191		254	251	1.2	20.0
1,3,5-Trinitrobenzene	Ave	508674	517600		254	250	1.8	20.0
2,6-Dinitrotoluene	Ave	328921	333212		254	251	1.3	20.0
2,4-Dinitrotoluene	Ave	629622	651920		259	251	3.5	20.0
Tetryl	Ave	390101	397868		255	250	2.0	20.0
2,4,6-Trinitrotoluene	Ave	448100	480673		269	251	7.3	20.0
PETN	Ave	140771	155161		2760	2500	10.2	20.0
1,2-Dinitrobenzene	Ave	308876	334640		271	250	8.3	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-435336/52 Calibration Date: 10/30/2018 15:59

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 10290052.D

Analyte	RT	RT WINDOW	
		FROM	TO
Picric acid	6.36	6.20	6.50
HMX	7.12	6.97	7.27
RDX	9.18	9.03	9.33
Nitrobenzene	12.12	11.97	12.27
3,5-Dinitroaniline	15.08	14.93	15.23
Nitroglycerin	15.62	15.47	15.77
1,3-Dinitrobenzene	15.67	15.52	15.82
2-Nitrotoluene	16.43	16.29	16.59
4-Nitrotoluene	16.76	16.62	16.92
4-Amino-2,6-dinitrotoluene	17.18	17.03	17.33
3-Nitrotoluene	17.67	17.53	17.83
2-Amino-4,6-dinitrotoluene	18.21	18.06	18.36
1,3,5-Trinitrobenzene	18.97	18.81	19.11
2,6-Dinitrotoluene	19.78	19.63	19.93
2,4-Dinitrotoluene	20.34	20.19	20.49
Tetryl	23.66	23.52	23.82
2,4,6-Trinitrotoluene	24.68	24.53	24.83
PETN	25.09	24.95	25.25
1,2-Dinitrobenzene	13.12	12.97	13.27

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\10290052.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Oct-2018 15:59:10 ALS Bottle#: 7 Worklist Smp#: 52
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0075570-052
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 31-Oct-2018 14:39:16 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0316

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.402	4.409	-0.007	110357	0.2500	0.2521	
3 2,4-diamino-6-nitrotoluene	1	4.975	4.969	0.006	54726	0.2500	0.1971	
4 2,4,6-Trinitrophenol	1	6.362	6.349	0.013	47331	0.2500	0.2696	
5 HMX	1	7.122	7.116	0.006	49609	0.2500	0.2599	
7 RDX	1	9.182	9.183	-0.001	62761	0.2500	0.2609	
8 Nitrobenzene	1	12.115	12.123	-0.008	101810	0.2505	0.2332	
$ 9 1,2-Dinitrobenzene	1	13.122	13.123	-0.001	83660	0.2500	0.2709	
10 3,5-Dinitroaniline	1	15.075	15.076	-0.001	130644	0.2500	0.2570	
12 Nitroglycerin	2	15.615	15.623	-0.008	505642	2.50	2.59	
11 1,3-Dinitrobenzene	1	15.668	15.669	-0.001	179935	0.2503	0.2579	
13 o-Nitrotoluene	1	16.428	16.436	-0.008	62359	0.2508	0.2270	
14 p-Nitrotoluene	1	16.762	16.769	-0.007	55571	0.2510	0.2357	
15 4-Amino-2,6-dinitrotoluene	1	17.175	17.176	-0.001	84183	0.2508	0.2576	
16 m-Nitrotoluene	1	17.668	17.676	-0.008	69880	0.2510	0.2234	
17 2-Amino-4,6-dinitrotoluene	1	18.208	18.209	-0.001	122414	0.2508	0.2538	
18 1,3,5-Trinitrobenzene	1	18.968	18.963	0.005	129400	0.2500	0.2544	
19 2,6-Dinitrotoluene	1	19.782	19.776	0.006	83553	0.2508	0.2540	
20 2,4-Dinitrotoluene	1	20.342	20.343	-0.001	163306	0.2505	0.2594	
21 Tetryl	1	23.662	23.669	-0.007	99467	0.2500	0.2550	
22 2,4,6-Trinitrotoluene	1	24.675	24.683	-0.008	120649	0.2510	0.2692	
23 PETN	2	25.088	25.103	-0.015	387903	2.50	2.76	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL
8330_ADDs_00017 Amount Added: 12.50 Units: uL

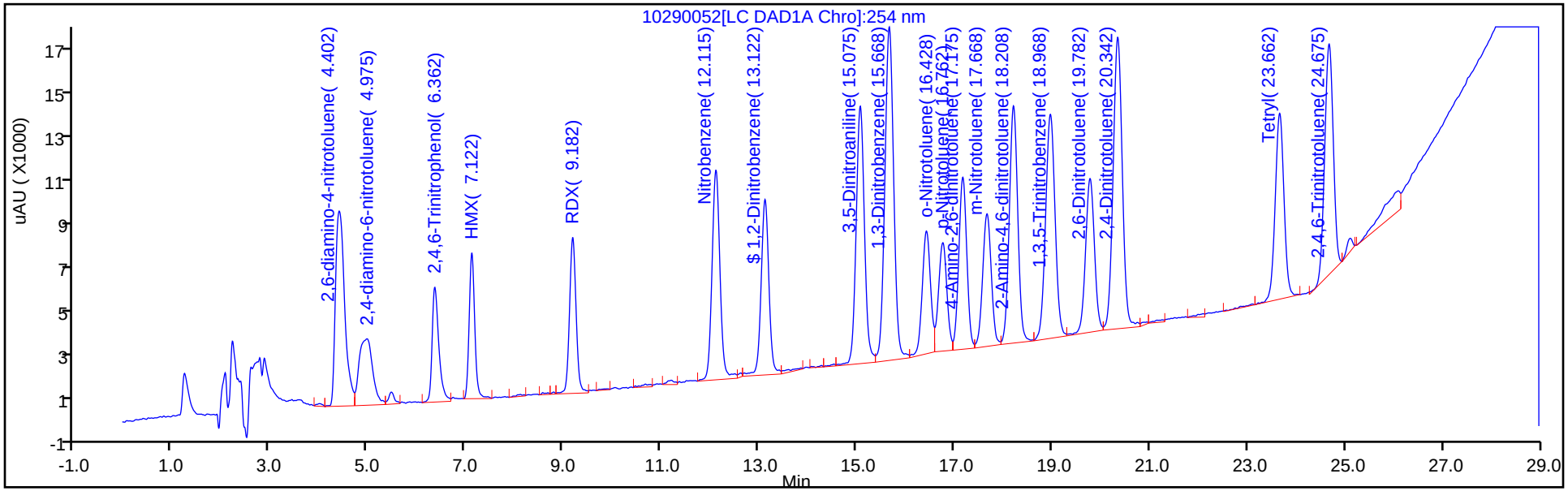
Report Date: 31-Oct-2018 14:39:17 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

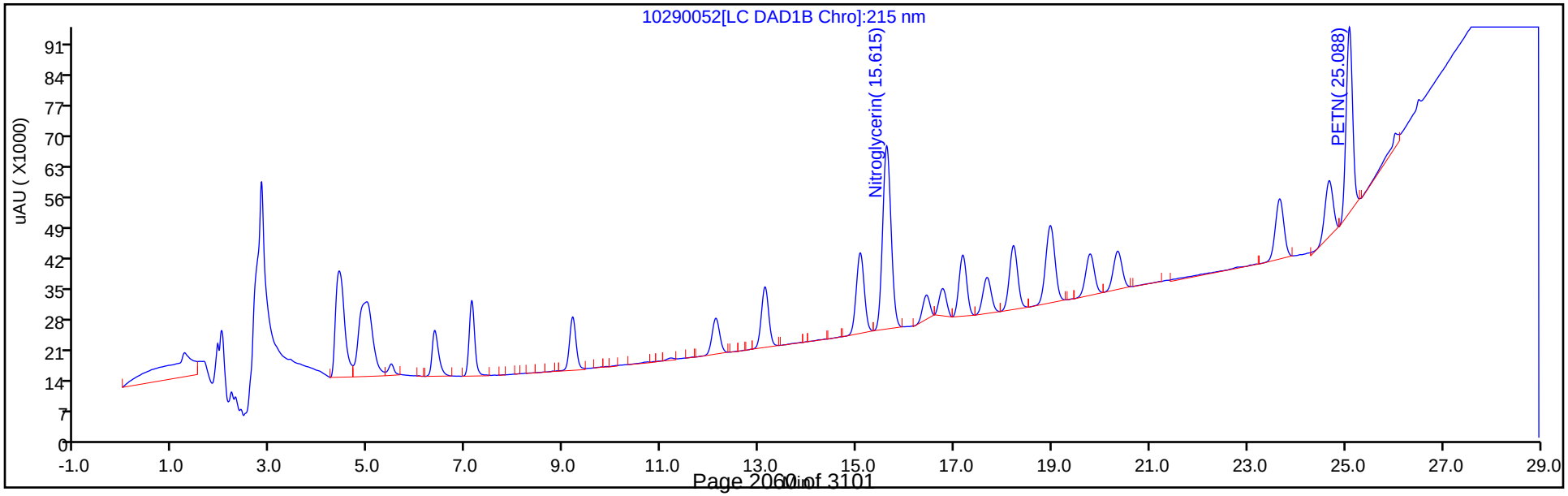
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\10290052.D

Injection Date:	30-Oct-2018 15:59:10	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	CCV			Worklist Smp#:	52
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-435336/56 Calibration Date: 10/30/2018 18:18

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 10290056.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Picric acid	Ave	175530	185956		265	250	5.9	20.0
HMX	Ave	190873	203492		267	250	6.6	20.0
RDX	Ave	240568	244956		255	250	1.8	20.0
Nitrobenzene	Ave	436516	393733		226	251	-9.8	20.0
3,5-Dinitroaniline	Lin2		526400		259	250	3.6	20.0
Nitroglycerin	Ave	195290	203311		2600	2500	4.1	20.0
1,3-Dinitrobenzene	Ave	697670	722621		259	250	3.6	20.0
2-Nitrotoluene	Ave	274675	241176		220	251	-12.2	20.0
4-Nitrotoluene	Ave	235818	223928		238	251	-5.0	20.0
4-Amino-2,6-dinitrotoluene	Ave	326821	345587		265	251	5.7	20.0
3-Nitrotoluene	Ave	312824	284418		228	251	-9.1	20.0
2-Amino-4,6-dinitrotoluene	Ave	482281	502620		261	251	4.2	20.0
1,3,5-Trinitrobenzene	Ave	508674	540288		266	250	6.2	20.0
2,6-Dinitrotoluene	Ave	328921	347198		265	251	5.6	20.0
2,4-Dinitrotoluene	Ave	629622	640439		255	251	1.7	20.0
Tetryl	Ave	390101	403488		259	250	3.4	20.0
2,4,6-Trinitrotoluene	Ave	448100	481195		270	251	7.4	20.0
PETN	Ave	140771	155554		2760	2500	10.5	20.0
1,2-Dinitrobenzene	Ave	308876	318464		258	250	3.1	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-435336/56 Calibration Date: 10/30/2018 18:18

Instrument ID: CHHPLC_G2_LUNA Calib Start Date: 10/13/2018 16:23

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 10/13/2018 20:28

Lab File ID: 10290056.D

Analyte	RT	RT WINDOW	
		FROM	TO
Picric acid	6.36	6.20	6.50
HMX	7.12	6.97	7.27
RDX	9.18	9.03	9.33
Nitrobenzene	12.11	11.97	12.27
3,5-Dinitroaniline	15.06	14.93	15.23
Nitroglycerin	15.60	15.47	15.77
1,3-Dinitrobenzene	15.66	15.52	15.82
2-Nitrotoluene	16.42	16.29	16.59
4-Nitrotoluene	16.75	16.62	16.92
4-Amino-2,6-dinitrotoluene	17.16	17.03	17.33
3-Nitrotoluene	17.66	17.53	17.83
2-Amino-4,6-dinitrotoluene	18.20	18.06	18.36
1,3,5-Trinitrobenzene	18.95	18.81	19.11
2,6-Dinitrotoluene	19.77	19.63	19.93
2,4-Dinitrotoluene	20.33	20.19	20.49
Tetryl	23.65	23.52	23.82
2,4,6-Trinitrotoluene	24.67	24.53	24.83
PETN	25.09	24.95	25.25
1,2-Dinitrobenzene	13.11	12.97	13.27

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\10290056.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Oct-2018 18:18:58 ALS Bottle#: 7 Worklist Smp#: 56
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 280-0075570-056
Operator ID: HKF Instrument ID: CHHPLC_G2_LUNA
Sublist: chrom-G2_8330_Luna*sub6

Method: \\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\G2_8330_Luna.m
Limit Group: GCSV - 8330
Last Update: 31-Oct-2018 14:39:10 Calib Date: 14-Oct-2018 01:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\G2_LUNA\20181013-75057.b\10130023.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC DAD1A, 254 nm
Process Host: CTX0316

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
2 2,6-diamino-4-nitrotoluene	1	4.404	4.409	-0.005	110673	0.2500	0.2528	
3 2,4-diamino-6-nitrotoluene	1	4.970	4.969	0.001	54633	0.2500	0.1967	
4 2,4,6-Trinitrophenol	1	6.357	6.349	0.008	46489	0.2500	0.2648	
5 HMX	1	7.117	7.116	0.001	50873	0.2500	0.2665	
7 RDX	1	9.177	9.183	-0.006	61239	0.2500	0.2546	
8 Nitrobenzene	1	12.110	12.123	-0.013	98630	0.2505	0.2259	
$ 9 1,2-Dinitrobenzene	1	13.110	13.123	-0.013	79616	0.2500	0.2578	
10 3,5-Dinitroaniline	1	15.057	15.076	-0.019	131600	0.2500	0.2589	
12 Nitroglycerin	2	15.603	15.623	-0.020	508278	2.50	2.60	
11 1,3-Dinitrobenzene	1	15.657	15.669	-0.012	180836	0.2503	0.2592	
13 o-Nitrotoluene	1	16.417	16.436	-0.019	60475	0.2508	0.2202	
14 p-Nitrotoluene	1	16.750	16.769	-0.019	56206	0.2510	0.2383	
15 4-Amino-2,6-dinitrotoluene	1	17.157	17.176	-0.019	86656	0.2508	0.2651	
16 m-Nitrotoluene	1	17.657	17.676	-0.019	71389	0.2510	0.2282	
17 2-Amino-4,6-dinitrotoluene	1	18.197	18.209	-0.012	126032	0.2508	0.2613	
18 1,3,5-Trinitrobenzene	1	18.950	18.963	-0.013	135072	0.2500	0.2655	
19 2,6-Dinitrotoluene	1	19.770	19.776	-0.006	87060	0.2508	0.2647	
20 2,4-Dinitrotoluene	1	20.330	20.343	-0.013	160430	0.2505	0.2548	
21 Tetryl	1	23.650	23.669	-0.019	100872	0.2500	0.2586	
22 2,4,6-Trinitrotoluene	1	24.670	24.683	-0.013	120780	0.2510	0.2695	
23 PETN	2	25.090	25.103	-0.013	388885	2.50	2.76	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL
8330_ADDs_00017 Amount Added: 12.50 Units: uL

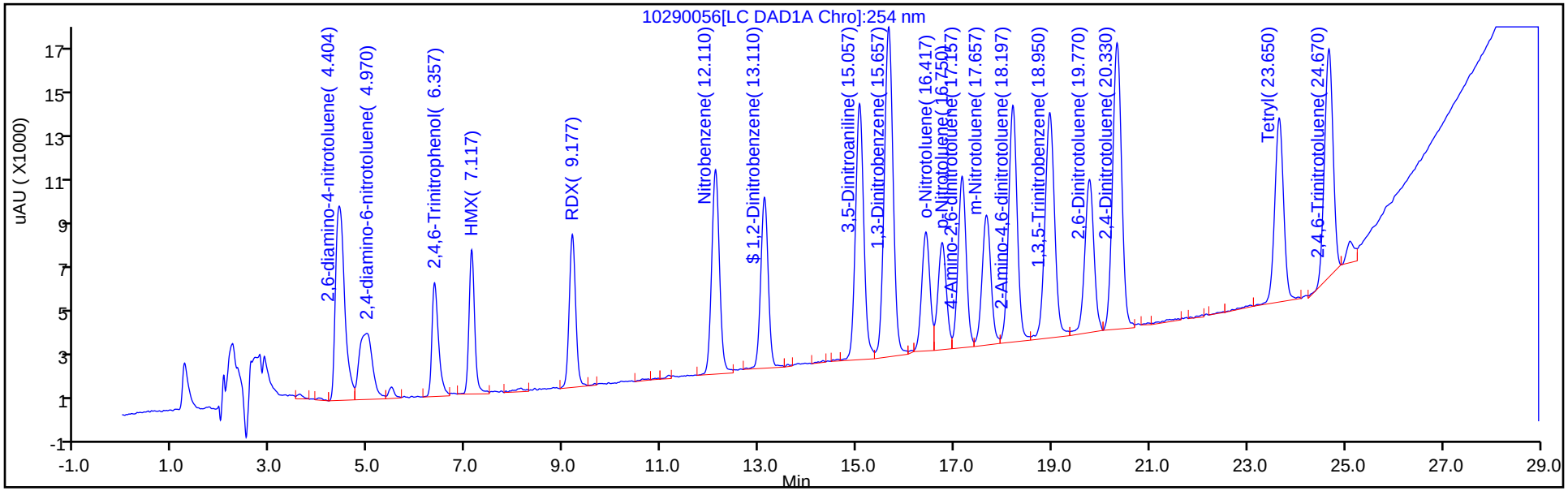
Report Date: 31-Oct-2018 14:39:10 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

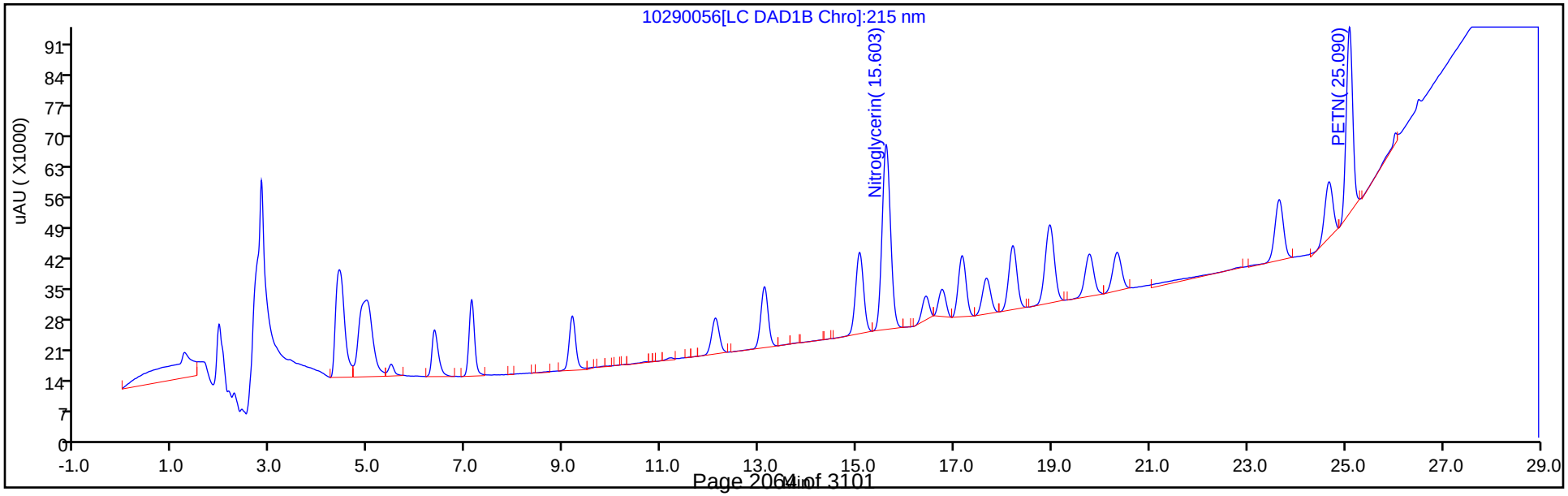
Data File: \\ChromNA\Denver\ChromData\G2_LUNA\20181029-75570.b\10290056.D

Injection Date:	30-Oct-2018 18:18:58	Instrument ID:	CHHPLC_G2_LUNA	Operator ID:	HKF
Lims ID:	CCV			Worklist Smp#:	56
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	G2_8330_Luna	Limit Group:	GCSV - 8330		

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-415256/15 Calibration Date: 05/18/2018 13:37

Instrument ID: CHHPLC_X3 Calib Start Date: 04/18/2018 11:11

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 04/18/2018 13:51

Lab File ID: 05180015.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
MNX	Ave	13140	139188			400	959.2*	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-415256/15 Calibration Date: 05/18/2018 13:37

Instrument ID: CHHPLC_X3 Calib Start Date: 04/18/2018 11:11

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 04/18/2018 13:51

Lab File ID: 05180015.D

Analyte	RT	RT WINDOW	
		FROM	TO
MNX	7.30	7.15	7.45

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180015.D
Lims ID: ICV MAIN
Client ID:
Sample Type: ICV
Inject. Date: 18-May-2018 13:37:47 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: ICV MAIN
Misc. Info.: 280-0070054-015
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist:

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:28 Calib Date: 18-May-2018 13:14:50
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180014.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 22-May-2018 11:23:09

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.624	6.624	0.000	33119	0.4000	0.3899	
4 MNX	1	7.304	7.304	0.000	55675	NC	NC	
5 RDX	1	7.718	7.718	0.000	42920	0.4000	0.4104	
6 2,4,6-Trinitrophenol	1	8.038	8.038	0.000	35387	0.4000	0.4196	
$ 7 1,2-Dinitrobenzene	1	8.704	8.704	0.000	51224	0.4000	0.3979	
8 1,3,5-Trinitrobenzene	1	8.864	8.864	0.000	94671	0.4000	0.4145	
9 1,3-Dinitrobenzene	1	9.511	9.511	0.000	125716	0.4000	0.4176	
11 Nitrobenzene	1	9.898	9.898	0.000	81291	0.4000	0.4089	
12 Tetryl	1	10.211	10.211	0.000	70719	0.4000	0.4327	
13 Nitroglycerin	2	10.718	10.718	0.000	277340	4.00	4.08	
14 2,4,6-Trinitrotoluene	1	11.158	11.158	0.000	81234	0.4000	0.3788	
15 4-Amino-2,6-dinitrotoluene	1	11.311	11.311	0.000	66437	0.4000	0.4014	
16 2-Amino-4,6-dinitrotoluene	1	11.591	11.591	0.000	80254	0.4000	0.4023	
17 2,6-Dinitrotoluene	1	11.751	11.751	0.000	62107	0.4000	0.4058	
18 2,4-Dinitrotoluene	1	11.944	11.944	0.000	120805	0.4000	0.4050	
19 o-Nitrotoluene	1	12.778	12.778	0.000	52181	0.4000	0.3946	
20 p-Nitrotoluene	1	13.204	13.204	0.000	46822	0.4000	0.4120	
21 m-Nitrotoluene	1	13.791	13.791	0.000	58385	0.4000	0.3942	
22 PETN	2	14.898	14.898	0.000	309639	4.00	4.13	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

8330Surrogate_00098 Amount Added: 40.00 Units: uL
8330 LCS_00078 Amount Added: 40.00 Units: uL

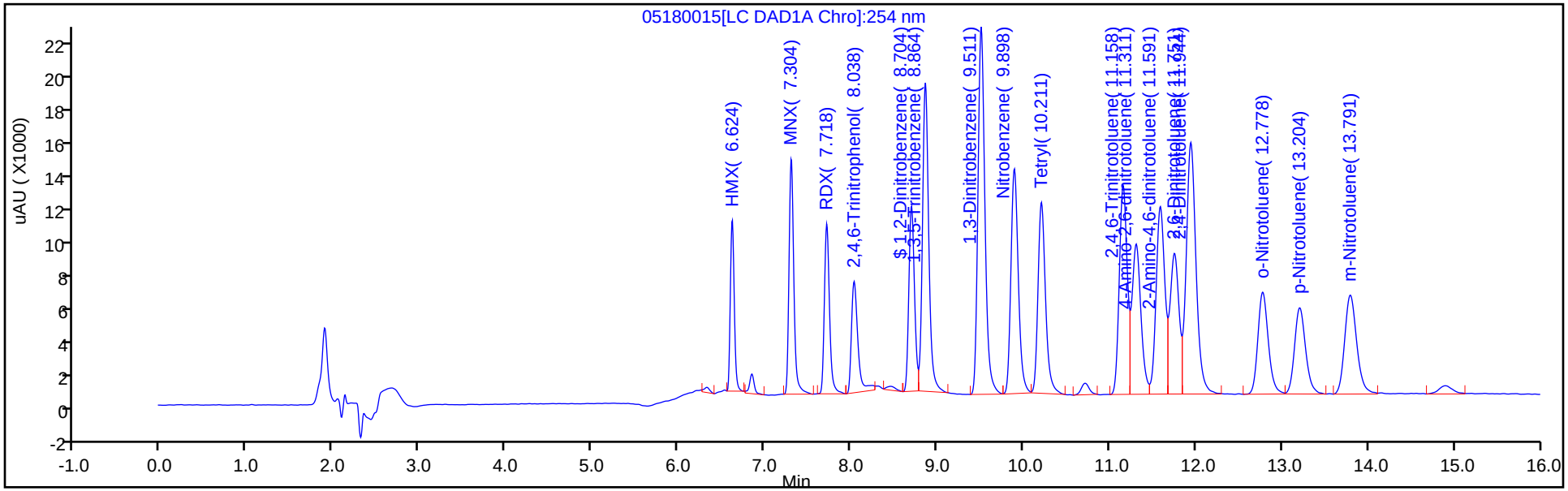
Report Date: 22-May-2018 12:01:28 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

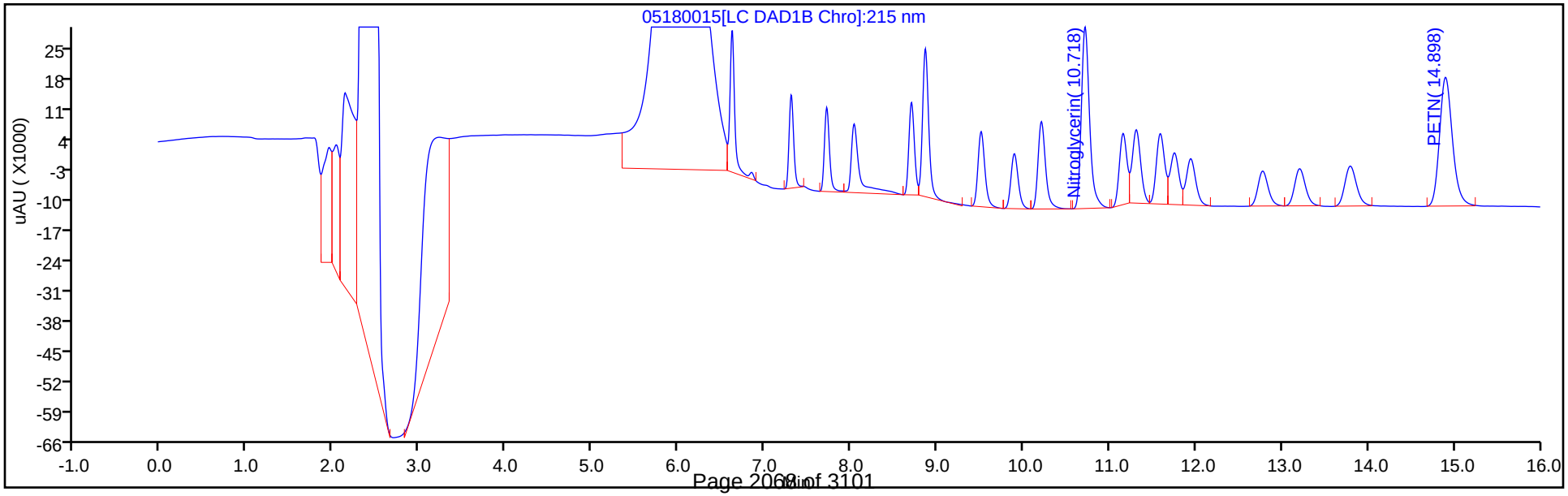
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180015.D

Injection Date:	18-May-2018 13:37:47	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	ICV MAIN			Worklist Smp#:	15
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-415256/15 Calibration Date: 05/18/2018 13:37

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 05180015.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	84946	82798		390	400	-2.5	20.0
RDX	Ave	104577	107300		410	400	2.6	20.0
Picric acid	Ave	84340	88468		420	400	4.9	20.0
1,3,5-Trinitrobenzene	Ave	228408	236678		414	400	3.6	20.0
1,3-Dinitrobenzene	Ave	301023	314290		418	400	4.4	20.0
Nitrobenzene	Ave	198781	203228		409	400	2.2	20.0
Tetryl	Ave	163448	176798		433	400	8.2	20.0
Nitroglycerin	Ave	67945	69335		4080	4000	2.0	20.0
2,4,6-Trinitrotoluene	Ave	214478	203085		379	400	-5.3	20.0
4-Amino-2,6-dinitrotoluene	Ave	165501	166093		12.0	400	0.4	20.0
2-Amino-4,6-dinitrotoluene	Ave	199466	200635		402	400	0.6	20.0
2,6-Dinitrotoluene	Ave	153065	155268		406	400	1.4	20.0
2,4-Dinitrotoluene	Ave	298269	302013		405	400	1.3	20.0
2-Nitrotoluene	Ave	132225	130453		395	400	-1.3	20.0
4-Nitrotoluene	Ave	113654	117055		412	400	3.0	20.0
3-Nitrotoluene	Ave	148110	145963		394	400	-1.5	20.0
PETN	Ave	74955	77410		4130	4000	3.3	20.0
1,2-Dinitrobenzene	Ave	128727	128060		398	400	-0.5	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICV 280-415256/15 Calibration Date: 05/18/2018 13:37

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 05180015.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.62	6.47	6.77
RDX	7.72	7.57	7.87
Picric acid	8.04	7.89	8.19
1,3,5-Trinitrobenzene	8.86	8.71	9.01
1,3-Dinitrobenzene	9.51	9.36	9.66
Nitrobenzene	9.90	9.75	10.05
Tetryl	10.21	10.06	10.36
Nitroglycerin	10.72	10.57	10.87
2,4,6-Trinitrotoluene	11.16	11.06	11.26
4-Amino-2,6-dinitrotoluene	11.31	11.21	11.41
2-Amino-4,6-dinitrotoluene	11.59	11.49	11.69
2,6-Dinitrotoluene	11.75	11.65	11.85
2,4-Dinitrotoluene	11.94	11.84	12.04
2-Nitrotoluene	12.78	12.63	12.93
4-Nitrotoluene	13.20	13.05	13.35
3-Nitrotoluene	13.79	13.64	13.94
PETN	14.90	14.75	15.05
1,2-Dinitrobenzene	8.70	8.55	8.85

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180015.D
Lims ID: ICV MAIN
Client ID:
Sample Type: ICV
Inject. Date: 18-May-2018 13:37:47 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: ICV MAIN
Misc. Info.: 280-0070054-015
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist:

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 22-May-2018 12:01:28 Calib Date: 18-May-2018 13:14:50
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180014.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX0304

First Level Reviewer: heikerl Date: 22-May-2018 11:23:09

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 HMX	1	6.624	6.624	0.000	33119	0.4000	0.3899	
4 MNX	1	7.304	7.304	0.000	55675	NC	NC	
5 RDX	1	7.718	7.718	0.000	42920	0.4000	0.4104	
6 2,4,6-Trinitrophenol	1	8.038	8.038	0.000	35387	0.4000	0.4196	
$ 7 1,2-Dinitrobenzene	1	8.704	8.704	0.000	51224	0.4000	0.3979	
8 1,3,5-Trinitrobenzene	1	8.864	8.864	0.000	94671	0.4000	0.4145	
9 1,3-Dinitrobenzene	1	9.511	9.511	0.000	125716	0.4000	0.4176	
11 Nitrobenzene	1	9.898	9.898	0.000	81291	0.4000	0.4089	
12 Tetryl	1	10.211	10.211	0.000	70719	0.4000	0.4327	
13 Nitroglycerin	2	10.718	10.718	0.000	277340	4.00	4.08	
14 2,4,6-Trinitrotoluene	1	11.158	11.158	0.000	81234	0.4000	0.3788	
15 4-Amino-2,6-dinitrotoluene	1	11.311	11.311	0.000	66437	0.4000	0.4014	
16 2-Amino-4,6-dinitrotoluene	1	11.591	11.591	0.000	80254	0.4000	0.4023	
17 2,6-Dinitrotoluene	1	11.751	11.751	0.000	62107	0.4000	0.4058	
18 2,4-Dinitrotoluene	1	11.944	11.944	0.000	120805	0.4000	0.4050	
19 o-Nitrotoluene	1	12.778	12.778	0.000	52181	0.4000	0.3946	
20 p-Nitrotoluene	1	13.204	13.204	0.000	46822	0.4000	0.4120	
21 m-Nitrotoluene	1	13.791	13.791	0.000	58385	0.4000	0.3942	
22 PETN	2	14.898	14.898	0.000	309639	4.00	4.13	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

8330Surrogate_00098 Amount Added: 40.00 Units: uL
8330 LCS_00078 Amount Added: 40.00 Units: uL

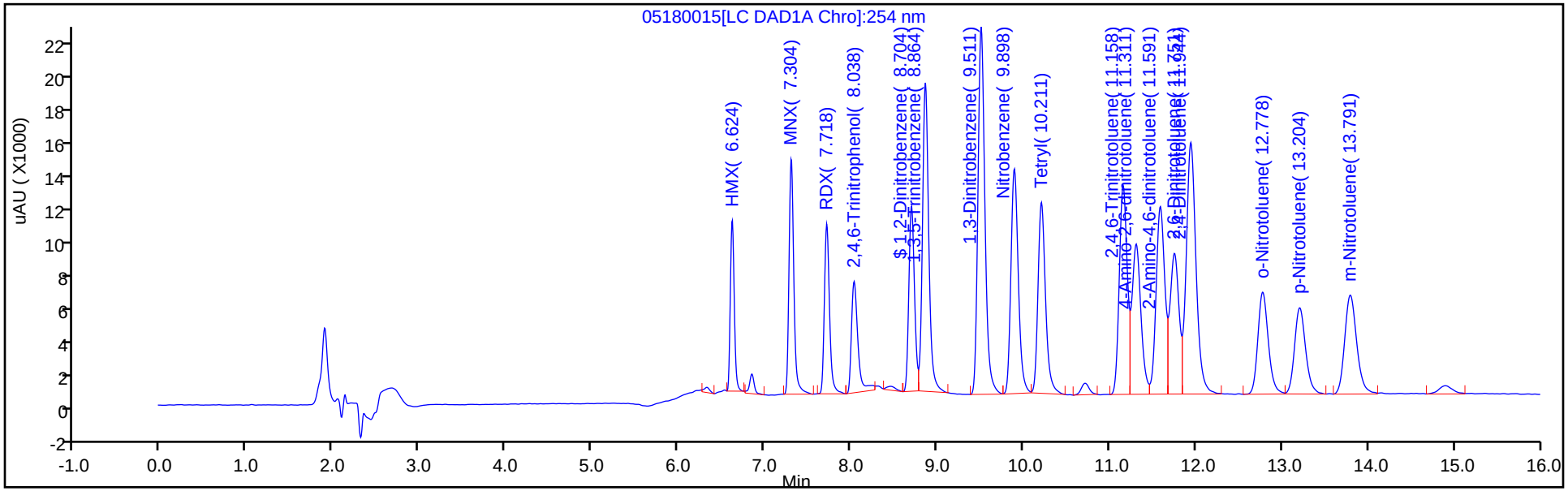
Report Date: 22-May-2018 12:01:28 Chrom Revision: 2.2 11-May-2018 08:54:46

TestAmerica Denver

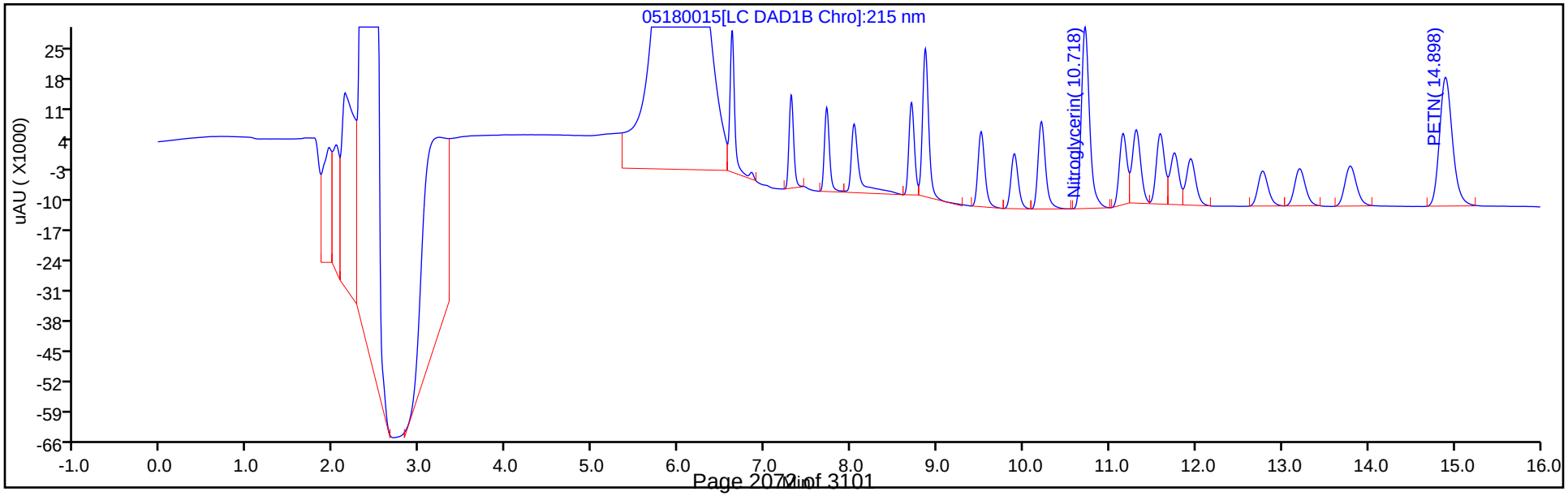
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180517-70054.b\05180015.D

Injection Date:	18-May-2018 13:37:47	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	ICV MAIN			Worklist Smp#:	15
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-435098/42 Calibration Date: 10/27/2018 02:02

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 10260042.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	84946	97080		286	250	14.3	20.0
RDX	Ave	104577	117052		280	250	11.9	20.0
Picric acid	Ave	84340	92332		274	250	9.5	20.0
1,3,5-Trinitrobenzene	Ave	228408	254388		278	250	11.4	20.0
1,3-Dinitrobenzene	Ave	301023	330350		275	250	9.7	20.0
Nitrobenzene	Ave	198781	197094		248	251	-0.8	20.0
Tetryl	Ave	163448	198804		304	250	21.6*	20.0
Nitroglycerin	Ave	67945	78745		2900	2500	15.9	20.0
2,4,6-Trinitrotoluene	Ave	214478	247474		290	251	15.4	20.0
4-Amino-2,6-dinitrotoluene	Ave	165501	174377		264	251	5.4	20.0
2-Amino-4,6-dinitrotoluene	Ave	199466	224156		282	251	12.4	20.0
2,6-Dinitrotoluene	Ave	153065	164869		270	251	7.7	20.0
2,4-Dinitrotoluene	Ave	298269	319030		268	251	7.0	20.0
2-Nitrotoluene	Ave	132225	126847		241	251	-4.1	20.0
4-Nitrotoluene	Ave	113654	110924		245	251	-2.4	20.0
3-Nitrotoluene	Ave	148110	141769		240	251	-4.3	20.0
PETN	Ave	74955	83992		2800	2500	12.1	20.0
1,2-Dinitrobenzene	Ave	128727	150260		292	250	16.7	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-435098/42 Calibration Date: 10/27/2018 02:02

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 10260042.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.64	6.49	6.79
RDX	7.74	7.59	7.89
Picric acid	8.07	7.91	8.21
1,3,5-Trinitrobenzene	8.88	8.73	9.03
1,3-Dinitrobenzene	9.53	9.38	9.68
Nitrobenzene	9.92	9.77	10.07
Tetryl	10.24	10.09	10.39
Nitroglycerin	10.74	10.60	10.90
2,4,6-Trinitrotoluene	11.20	11.09	11.29
4-Amino-2,6-dinitrotoluene	11.36	11.27	11.47
2-Amino-4,6-dinitrotoluene	11.65	11.55	11.75
2,6-Dinitrotoluene	11.80	11.70	11.90
2,4-Dinitrotoluene	11.99	11.89	12.09
2-Nitrotoluene	12.83	12.68	12.98
4-Nitrotoluene	13.26	13.12	13.42
3-Nitrotoluene	13.85	13.71	14.01
PETN	14.95	14.82	15.12
1,2-Dinitrobenzene	8.72	8.57	8.87

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260042.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 27-Oct-2018 02:02:22 ALS Bottle#: 7 Worklist Smp#: 42
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Misc. Info.: 280-0075517-042
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2018 11:14:00 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK002

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.637	6.639	-0.002	24270	0.2500	0.2857	
	5 RDX	1	7.743	7.739	0.004	29263	0.2500	0.2798	
	6 2,4,6-Trinitrophenol	1	8.070	8.059	0.011	23083	0.2500	0.2737	
$	7 1,2-Dinitrobenzene	1	8.717	8.719	-0.002	37565	0.2500	0.2918	
	8 1,3,5-Trinitrobenzene	1	8.877	8.879	-0.002	63597	0.2500	0.2784	
	9 1,3-Dinitrobenzene	1	9.530	9.532	-0.002	82670	0.2503	0.2746	
	11 Nitrobenzene	1	9.916	9.919	-0.003	49372	0.2505	0.2484	
	12 Tetryl	1	10.236	10.239	-0.003	49701	0.2500	0.3041	
	13 Nitroglycerin	2	10.743	10.746	-0.003	196862	2.50	2.90	
	14 2,4,6-Trinitrotoluene	1	11.196	11.192	0.004	62116	0.2510	0.2896	
	15 4-Amino-2,6-dinitrotoluene	1	11.363	11.366	-0.003	43725	0.2508	0.2642	
	16 2-Amino-4,6-dinitrotoluene	1	11.650	11.646	0.004	56207	0.2508	0.2818	
	17 2,6-Dinitrotoluene	1	11.803	11.799	0.004	41341	0.2508	0.2701	
	18 2,4-Dinitrotoluene	1	11.990	11.992	-0.002	79917	0.2505	0.2679	
	19 o-Nitrotoluene	1	12.830	12.832	-0.002	31807	0.2508	0.2406	
	20 p-Nitrotoluene	1	13.263	13.266	-0.003	27842	0.2510	0.2450	
	21 m-Nitrotoluene	1	13.850	13.859	-0.009	35584	0.2510	0.2403	
	22 PETN	2	14.950	14.966	-0.016	209979	2.50	2.80	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL

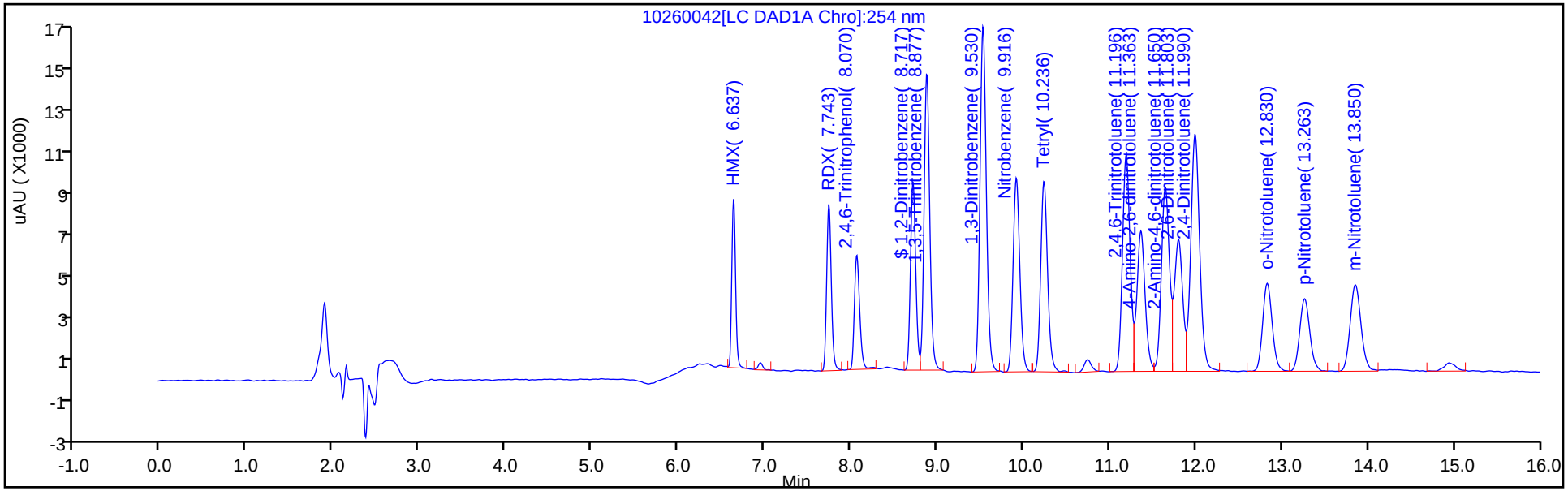
Report Date: 29-Oct-2018 11:14:01 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

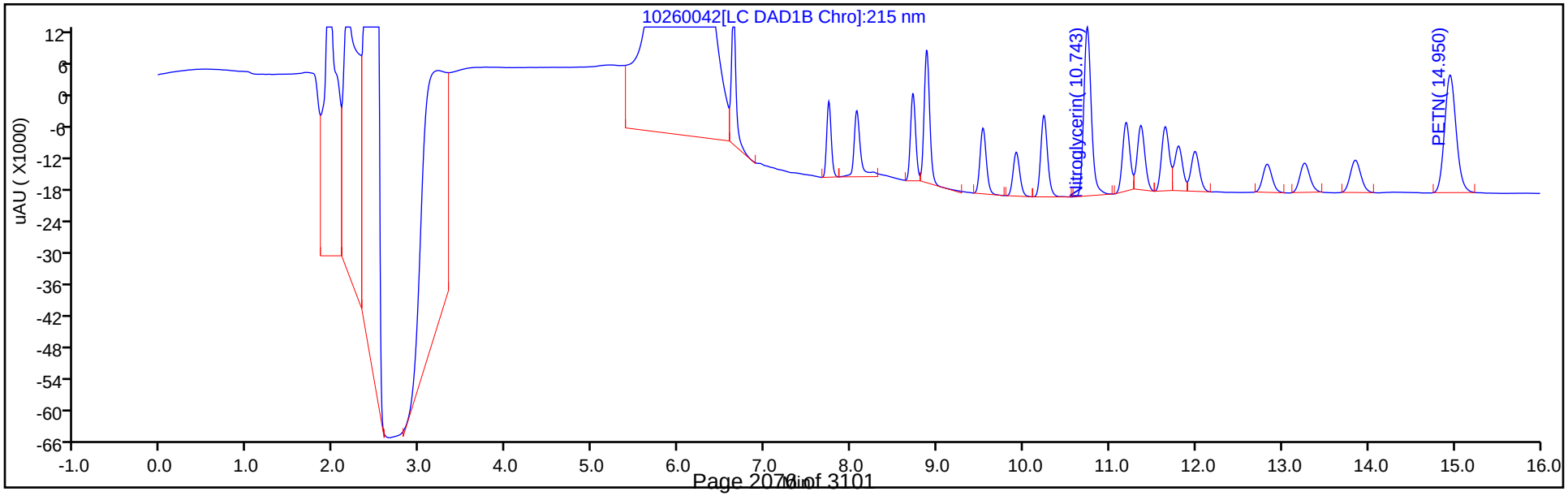
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260042.D

Injection Date:	27-Oct-2018 02:02:22	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	CCV INT			Worklist Smp#:	42
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-435098/54 Calibration Date: 10/27/2018 06:38

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 10260054.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	84946	98868		291	250	16.4	20.0
RDX	Ave	104577	116612		279	250	11.5	20.0
Picric acid	Ave	84340	92268		273	250	9.4	20.0
1,3,5-Trinitrobenzene	Ave	228408	254788		279	250	11.5	20.0
1,3-Dinitrobenzene	Ave	301023	329870		274	250	9.6	20.0
Nitrobenzene	Ave	198781	195413		246	251	-1.7	20.0
Tetryl	Ave	163448	197752		302	250	21.0*	20.0
Nitroglycerin	Ave	67945	78750		2900	2500	15.9	20.0
2,4,6-Trinitrotoluene	Ave	214478	248494		291	251	15.9	20.0
4-Amino-2,6-dinitrotoluene	Ave	165501	171633		260	251	3.7	20.0
2-Amino-4,6-dinitrotoluene	Ave	199466	227147		286	251	13.9	20.0
2,6-Dinitrotoluene	Ave	153065	161866		265	251	5.8	20.0
2,4-Dinitrotoluene	Ave	298269	316375		266	251	6.1	20.0
2-Nitrotoluene	Ave	132225	125296		238	251	-5.2	20.0
4-Nitrotoluene	Ave	113654	111873		247	251	-1.6	20.0
3-Nitrotoluene	Ave	148110	139382		236	251	-5.9	20.0
PETN	Ave	74955	83987		2800	2500	12.1	20.0
1,2-Dinitrobenzene	Ave	128727	149772		291	250	16.3	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-435098/54 Calibration Date: 10/27/2018 06:38

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 10260054.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.64	6.49	6.79
RDX	7.75	7.59	7.89
Picric acid	8.07	7.91	8.21
1,3,5-Trinitrobenzene	8.88	8.73	9.03
1,3-Dinitrobenzene	9.53	9.38	9.68
Nitrobenzene	9.91	9.77	10.07
Tetryl	10.23	10.09	10.39
Nitroglycerin	10.73	10.60	10.90
2,4,6-Trinitrotoluene	11.19	11.09	11.29
4-Amino-2,6-dinitrotoluene	11.35	11.27	11.47
2-Amino-4,6-dinitrotoluene	11.64	11.55	11.75
2,6-Dinitrotoluene	11.79	11.70	11.90
2,4-Dinitrotoluene	11.99	11.89	12.09
2-Nitrotoluene	12.83	12.68	12.98
4-Nitrotoluene	13.25	13.12	13.42
3-Nitrotoluene	13.85	13.71	14.01
PETN	14.95	14.82	15.12
1,2-Dinitrobenzene	8.72	8.57	8.87

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260054.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 27-Oct-2018 06:38:04 ALS Bottle#: 7 Worklist Smp#: 54
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Misc. Info.: 280-0075517-054
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2018 11:14:18 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK002

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.641	6.639	0.002	24717	0.2500	0.2910	
	5 RDX	1	7.748	7.739	0.009	29153	0.2500	0.2788	
	6 2,4,6-Trinitrophenol	1	8.068	8.059	0.009	23067	0.2500	0.2735	
$	7 1,2-Dinitrobenzene	1	8.721	8.719	0.002	37443	0.2500	0.2909	
	8 1,3,5-Trinitrobenzene	1	8.881	8.879	0.002	63697	0.2500	0.2789	
	9 1,3-Dinitrobenzene	1	9.528	9.532	-0.004	82550	0.2503	0.2742	
	11 Nitrobenzene	1	9.914	9.919	-0.005	48951	0.2505	0.2463	
	12 Tetryl	1	10.234	10.239	-0.005	49438	0.2500	0.3025	
	13 Nitroglycerin	2	10.734	10.746	-0.012	196875	2.50	2.90	
	14 2,4,6-Trinitrotoluene	1	11.188	11.192	-0.004	62372	0.2510	0.2908	
	15 4-Amino-2,6-dinitrotoluene	1	11.354	11.366	-0.012	43037	0.2508	0.2600	
	16 2-Amino-4,6-dinitrotoluene	1	11.641	11.646	-0.005	56957	0.2508	0.2855	
	17 2,6-Dinitrotoluene	1	11.794	11.799	-0.005	40588	0.2508	0.2652	
	18 2,4-Dinitrotoluene	1	11.988	11.992	-0.004	79252	0.2505	0.2657	
	19 o-Nitrotoluene	1	12.828	12.832	-0.004	31418	0.2508	0.2376	
	20 p-Nitrotoluene	1	13.254	13.266	-0.012	28080	0.2510	0.2471	
	21 m-Nitrotoluene	1	13.848	13.859	-0.011	34985	0.2510	0.2362	
	22 PETN	2	14.948	14.966	-0.018	209968	2.50	2.80	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL

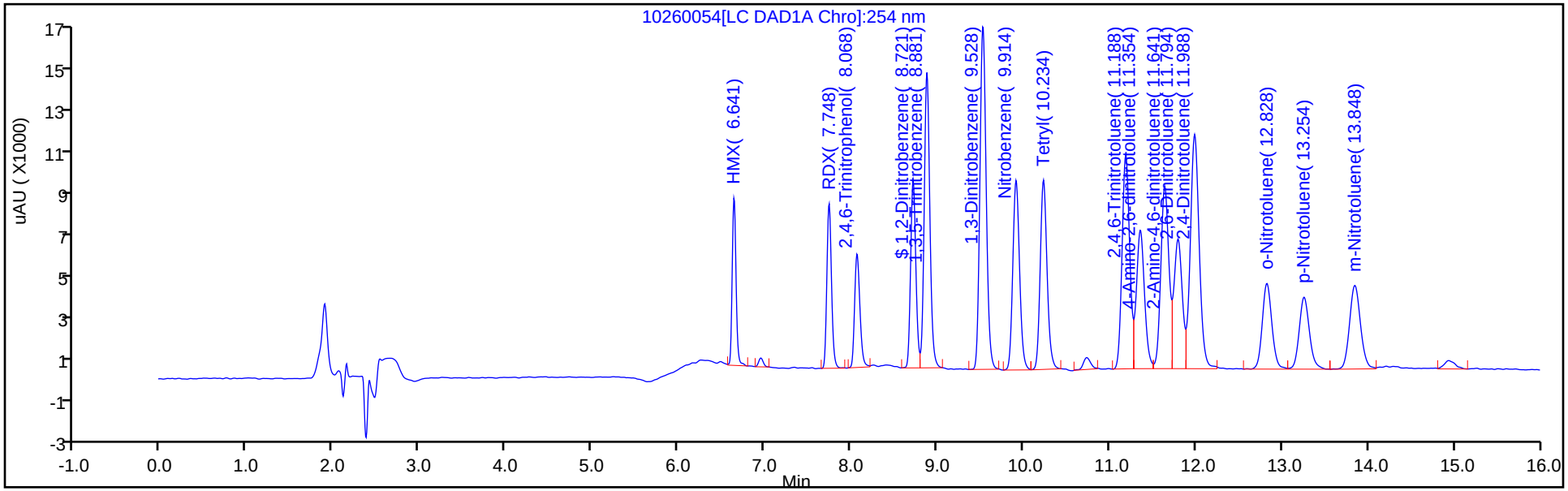
Report Date: 29-Oct-2018 11:14:19 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

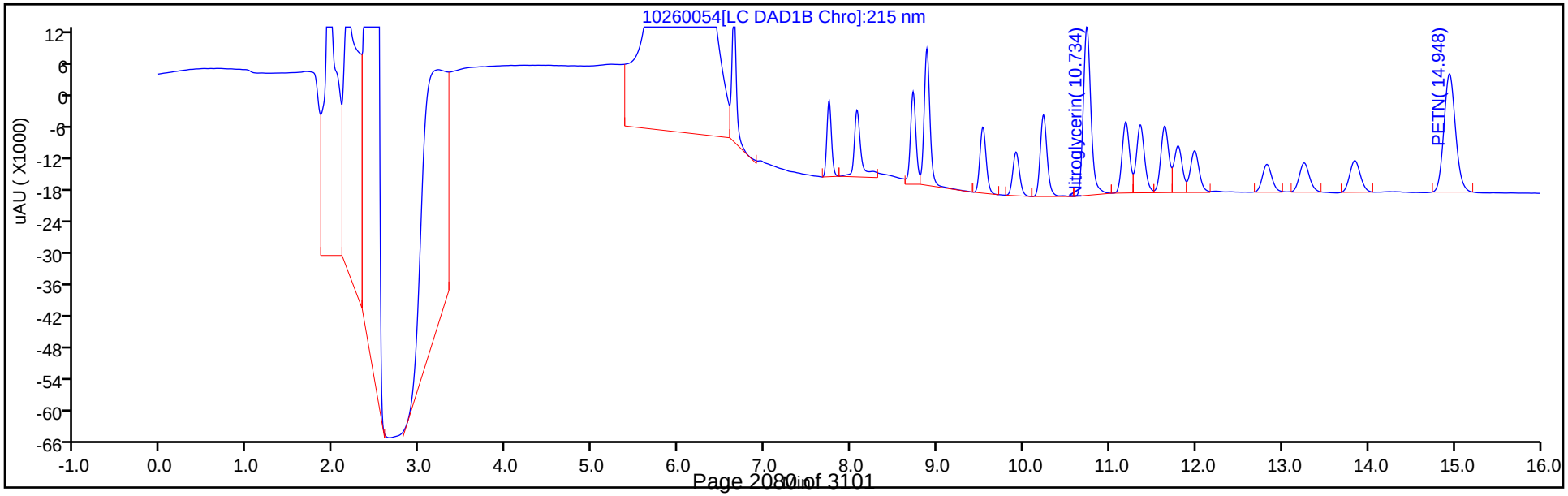
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260054.D

Injection Date:	27-Oct-2018 06:38:04	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	CCV INT			Worklist Smp#:	54
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-435098/64 Calibration Date: 10/27/2018 10:27

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 10260064.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	84946	98272		289	250	15.7	20.0
RDX	Ave	104577	117412		281	250	12.3	20.0
Picric acid	Ave	84340	92736		275	250	10.0	20.0
1,3,5-Trinitrobenzene	Ave	228408	254788		279	250	11.5	20.0
1,3-Dinitrobenzene	Ave	301023	331728		276	250	10.2	20.0
Nitrobenzene	Ave	198781	192323		242	251	-3.2	20.0
Tetryl	Ave	163448	196376		300	250	20.1*	20.0
Nitroglycerin	Ave	67945	79835		2940	2500	17.5	20.0
2,4,6-Trinitrotoluene	Ave	214478	247307		289	251	15.3	20.0
4-Amino-2,6-dinitrotoluene	Ave	165501	173990		264	251	5.1	20.0
2-Amino-4,6-dinitrotoluene	Ave	199466	224060		282	251	12.3	20.0
2,6-Dinitrotoluene	Ave	153065	163366		268	251	6.7	20.0
2,4-Dinitrotoluene	Ave	298269	318291		267	251	6.7	20.0
2-Nitrotoluene	Ave	132225	123362		234	251	-6.7	20.0
4-Nitrotoluene	Ave	113654	107833		238	251	-5.1	20.0
3-Nitrotoluene	Ave	148110	136151		231	251	-8.1	20.0
PETN	Ave	74955	84433		2820	2500	12.6	20.0
1,2-Dinitrobenzene	Ave	128727	150120		292	250	16.6	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: CCV 280-435098/64 Calibration Date: 10/27/2018 10:27

Instrument ID: CHHPLC_X3 Calib Start Date: 05/18/2018 10:34

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 05/18/2018 13:14

Lab File ID: 10260064.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.64	6.49	6.79
RDX	7.75	7.59	7.89
Picric acid	8.07	7.91	8.21
1,3,5-Trinitrobenzene	8.89	8.73	9.03
1,3-Dinitrobenzene	9.53	9.38	9.68
Nitrobenzene	9.92	9.77	10.07
Tetryl	10.24	10.09	10.39
Nitroglycerin	10.74	10.60	10.90
2,4,6-Trinitrotoluene	11.19	11.09	11.29
4-Amino-2,6-dinitrotoluene	11.36	11.27	11.47
2-Amino-4,6-dinitrotoluene	11.64	11.55	11.75
2,6-Dinitrotoluene	11.80	11.70	11.90
2,4-Dinitrotoluene	11.99	11.89	12.09
2-Nitrotoluene	12.83	12.68	12.98
4-Nitrotoluene	13.26	13.12	13.42
3-Nitrotoluene	13.85	13.71	14.01
PETN	14.95	14.82	15.12
1,2-Dinitrobenzene	8.73	8.57	8.87

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260064.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 27-Oct-2018 10:27:51 ALS Bottle#: 7 Worklist Smp#: 64
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Misc. Info.: 280-0075517-064
Operator ID: hkf Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2018 11:14:31 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK002

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.640	6.639	0.001	24568	0.2500	0.2892	
	5 RDX	1	7.747	7.739	0.008	29353	0.2500	0.2807	
	6 2,4,6-Trinitrophenol	1	8.073	8.059	0.014	23184	0.2500	0.2749	
$	7 1,2-Dinitrobenzene	1	8.727	8.719	0.008	37530	0.2500	0.2915	
	8 1,3,5-Trinitrobenzene	1	8.887	8.879	0.008	63697	0.2500	0.2789	
	9 1,3-Dinitrobenzene	1	9.533	9.532	0.001	83015	0.2503	0.2758	
	11 Nitrobenzene	1	9.920	9.919	0.001	48177	0.2505	0.2424	
	12 Tetryl	1	10.240	10.239	0.001	49094	0.2500	0.3004	
	13 Nitroglycerin	2	10.740	10.746	-0.006	199587	2.50	2.94	
	14 2,4,6-Trinitrotoluene	1	11.193	11.192	0.001	62074	0.2510	0.2894	
	15 4-Amino-2,6-dinitrotoluene	1	11.360	11.366	-0.006	43628	0.2508	0.2636	
	16 2-Amino-4,6-dinitrotoluene	1	11.640	11.646	-0.006	56183	0.2508	0.2817	
	17 2,6-Dinitrotoluene	1	11.800	11.799	0.001	40964	0.2508	0.2676	
	18 2,4-Dinitrotoluene	1	11.986	11.992	-0.006	79732	0.2505	0.2673	
	19 o-Nitrotoluene	1	12.826	12.832	-0.006	30933	0.2508	0.2339	
	20 p-Nitrotoluene	1	13.260	13.266	-0.006	27066	0.2510	0.2381	
	21 m-Nitrotoluene	1	13.853	13.859	-0.006	34174	0.2510	0.2307	
	22 PETN	2	14.953	14.966	-0.013	211082	2.50	2.82	

Reagents:

8330IntermStk_00056 Amount Added: 12.50 Units: uL

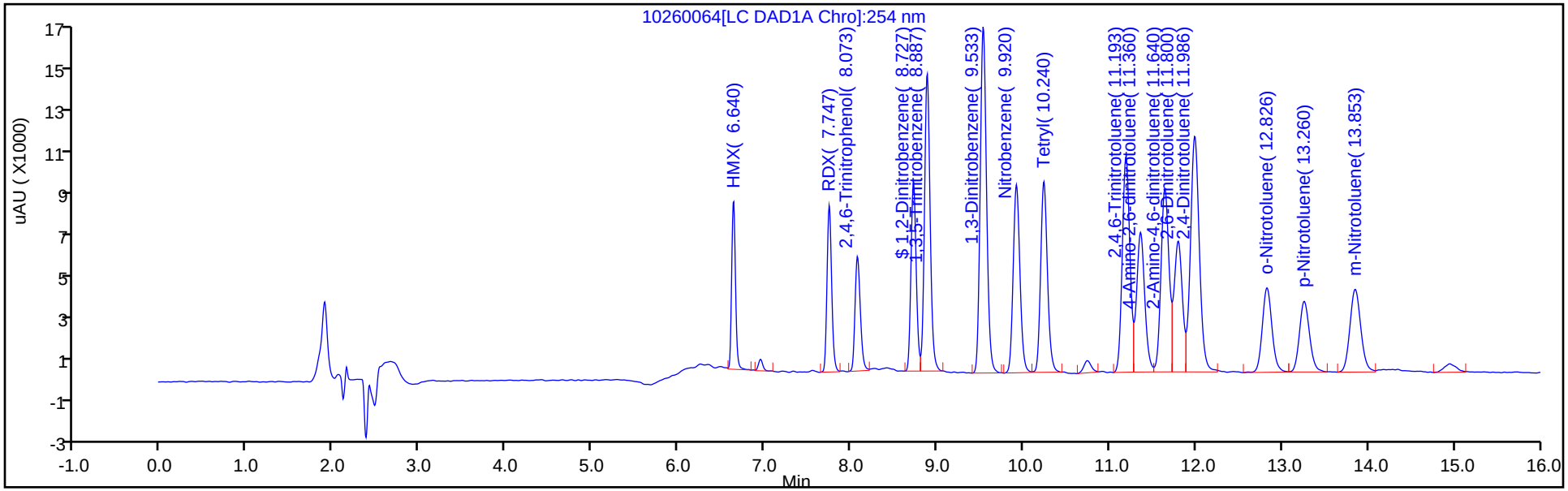
Report Date: 29-Oct-2018 11:14:32 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

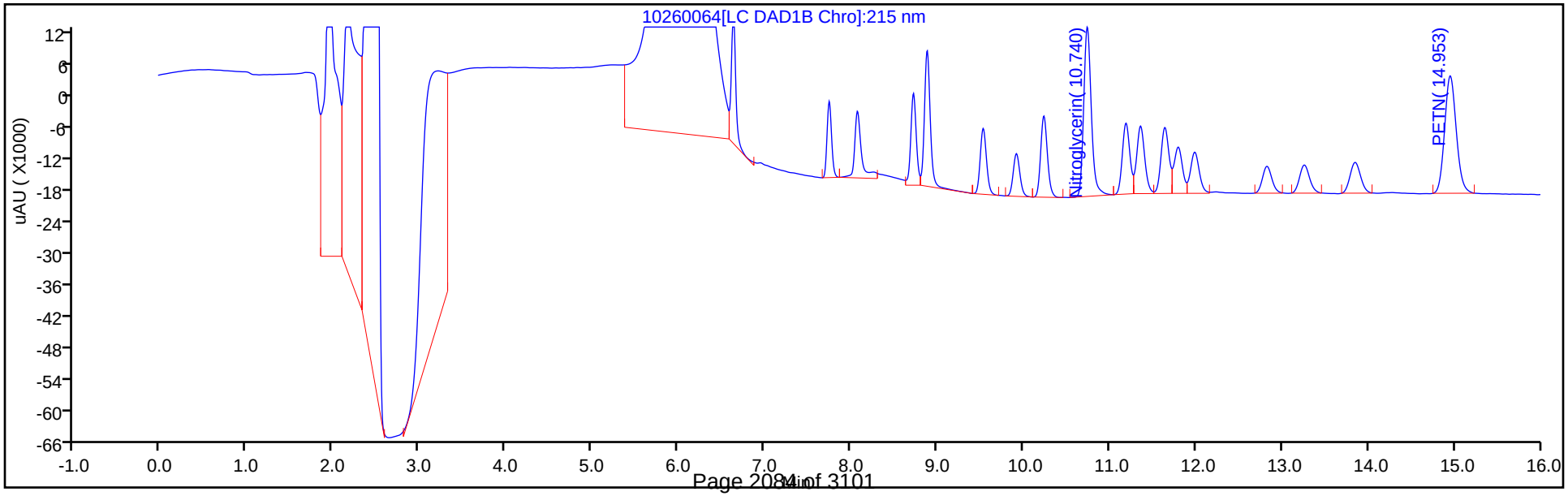
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260064.D

Injection Date:	27-Oct-2018 10:27:51	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	CCV INT			Worklist Smp#:	64
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-434708/1-A

Matrix: Water | Lab File ID: 10260044.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 10/24/2018 12:14

Sample wt/vol: 500(mL) | Date Analyzed: 10/27/2018 02:48

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435098 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.40	U	1.0	0.40	0.20
99-65-0	1,3-Dinitrobenzene	0.20	U	0.40	0.20	0.089
118-96-7	2,4,6-Trinitrotoluene	0.20	U	0.40	0.20	0.072
121-14-2	2,4-Dinitrotoluene	0.20	U	0.40	0.20	0.084
606-20-2	2,6-Dinitrotoluene	0.20	U	0.20	0.20	0.065
35572-78-2	2-Amino-4,6-dinitrotoluene	0.12	U	0.20	0.12	0.051
88-72-2	2-Nitrotoluene	0.20	U	0.40	0.20	0.086
99-08-1	3-Nitrotoluene	0.20	U	0.40	0.20	0.083
19406-51-0	4-Amino-2,6-dinitrotoluene	0.12	U	0.20	0.12	0.058
99-99-0	4-Nitrotoluene	0.40	U	1.0	0.40	0.20
2691-41-0	HMX	0.20	U	0.40	0.20	0.088
98-95-3	Nitrobenzene	0.20	U	0.40	0.20	0.091
55-63-0	Nitroglycerin	2.0	U	3.0	2.0	0.92
78-11-5	PETN	1.2	U	2.0	1.2	0.42
121-82-4	RDX	0.12	U	0.20	0.12	0.052
479-45-8	Tetryl	0.20	U	0.24	0.20	0.079

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	103		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260044.D
Lims ID: MB 280-434708/1-A
Client ID:
Sample Type: MB
Inject. Date: 27-Oct-2018 02:48:18 ALS Bottle#: 44 Worklist Smp#: 44
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-434708/1-
Misc. Info.: 280-0075517-044
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2018 11:14:03 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK002

First Level Reviewer: fiedlerh Date: 29-Oct-2018 11:05:57

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	1 2,6-diamino-4-nitrotoluene	1		6.493				ND	
	25 TNX	1		6.546				ND	
	2 HMX	1		6.639				ND	
	3 2,4-diamino-6-nitrotoluene	1		6.673				ND	
	24 DNX	1		6.866				ND	
	4 MNX	1		7.326				ND	
	5 RDX	1		7.739				ND	
	6 2,4,6-Trinitrophenol	1		8.059				ND	
$	7 1,2-Dinitrobenzene	1	8.716	8.719	-0.003	26467	0.2000	0.2056	
	8 1,3,5-Trinitrobenzene	1		8.879				ND	
	9 1,3-Dinitrobenzene	1		9.532				ND	
	11 Nitrobenzene	1		9.919				ND	
	10 3,5-Dinitroaniline	1		10.146				ND	
	12 Tetryl	1		10.239				ND	
	13 Nitroglycerin	2		10.746				ND	
	14 2,4,6-Trinitrotoluene	1		11.192				ND	
	15 4-Amino-2,6-dinitrotoluene	1		11.366				ND	
	16 2-Amino-4,6-dinitrotoluene	1		11.646				ND	
	17 2,6-Dinitrotoluene	1		11.799				ND	
	18 2,4-Dinitrotoluene	1		11.992				ND	
	19 o-Nitrotoluene	1		12.832				ND	
	20 p-Nitrotoluene	1		13.266				ND	
	21 m-Nitrotoluene	1		13.859				ND	
	22 PETN	2		14.966				ND	
	23 Ammonium Picrate	1		0.000				ND	

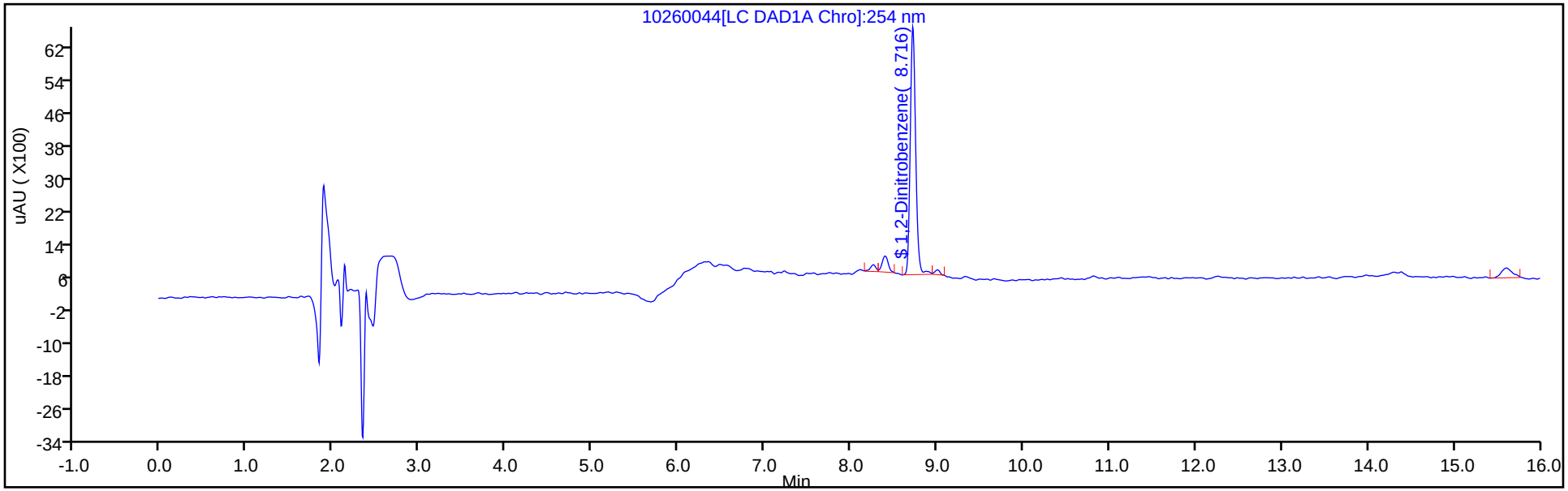
Report Date: 29-Oct-2018 11:14:04 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

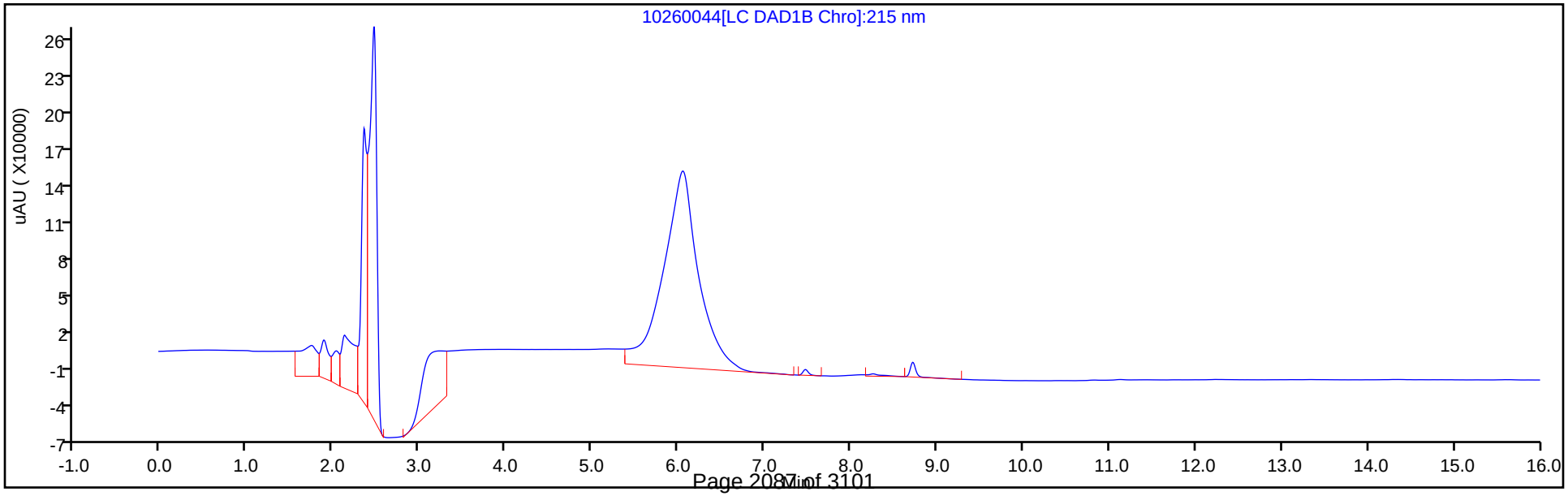
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260044.D

Injection Date:	27-Oct-2018 02:48:18	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	MB 280-434708/1-A			Worklist Smp#:	44
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	44
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260044.D				
Lims ID:	MB 280-434708/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	27-Oct-2018 02:48:18	ALS Bottle#:	44	Worklist Smp#:	44
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	MB 280-434708/1-				
Misc. Info.:	280-0075517-044				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	29-Oct-2018 11:14:03	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	XAWRK002				

First Level Reviewer: fiedlerh Date: 29-Oct-2018 11:05:57

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.2056	102.80

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-434708/2-A

Matrix: Water | Lab File ID: 10260045.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 10/24/2018 12:14

Sample wt/vol: 500(mL) | Date Analyzed: 10/27/2018 03:11

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435098 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	2.15		1.0	0.40	0.20
99-65-0	1,3-Dinitrobenzene	2.04		0.40	0.20	0.089
118-96-7	2,4,6-Trinitrotoluene	1.97		0.40	0.20	0.072
121-14-2	2,4-Dinitrotoluene	1.93		0.40	0.20	0.084
606-20-2	2,6-Dinitrotoluene	1.93		0.20	0.20	0.065
35572-78-2	2-Amino-4,6-dinitrotoluene	1.97		0.20	0.12	0.051
88-72-2	2-Nitrotoluene	1.53		0.40	0.20	0.086
99-08-1	3-Nitrotoluene	1.57		0.40	0.20	0.083
19406-51-0	4-Amino-2,6-dinitrotoluene	1.82		0.20	0.12	0.058
99-99-0	4-Nitrotoluene	1.74		1.0	0.40	0.20
2691-41-0	HMX	1.97		0.40	0.20	0.088
98-95-3	Nitrobenzene	1.76		0.40	0.20	0.091
55-63-0	Nitroglycerin	21.3		3.0	2.0	0.92
78-11-5	PETN	20.2		2.0	1.2	0.42
121-82-4	RDX	2.02		0.20	0.12	0.052
479-45-8	Tetryl	2.15		0.24	0.20	0.079

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	104		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260045.D
Lims ID: LCS 280-434708/2-A
Client ID:
Sample Type: LCS
Inject. Date: 27-Oct-2018 03:11:17 ALS Bottle#: 45 Worklist Smp#: 45
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-434708/2
Misc. Info.: 280-0075517-045
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2018 11:14:03 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK002

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.640	6.639	0.001	16714	0.2000	0.1968	
	5 RDX	1	7.740	7.739	0.001	21151	0.2000	0.2023	
	6 2,4,6-Trinitrophenol	1	8.054	8.059	-0.005	17901	0.2000	0.2122	
$	7 1,2-Dinitrobenzene	1	8.714	8.719	-0.005	26821	0.2000	0.2084	
	8 1,3,5-Trinitrobenzene	1	8.880	8.879	0.001	49020	0.2000	0.2146	
	9 1,3-Dinitrobenzene	1	9.527	9.532	-0.005	61504	0.2000	0.2043	
	11 Nitrobenzene	1	9.913	9.919	-0.006	34977	0.2000	0.1760	
	12 Tetryl	1	10.233	10.239	-0.006	35106	0.2000	0.2148	
	13 Nitroglycerin	2	10.740	10.746	-0.006	145033	2.00	2.13	
	14 2,4,6-Trinitrotoluene	1	11.193	11.192	0.001	42220	0.2000	0.1969	
	15 4-Amino-2,6-dinitrotoluene	1	11.360	11.366	-0.006	30057	0.2000	0.1816	
	16 2-Amino-4,6-dinitrotoluene	1	11.640	11.646	-0.006	39386	0.2000	0.1975	
	17 2,6-Dinitrotoluene	1	11.800	11.799	0.001	29610	0.2000	0.1934	
	18 2,4-Dinitrotoluene	1	11.987	11.992	-0.005	57627	0.2000	0.1932	
	19 o-Nitrotoluene	1	12.827	12.832	-0.005	20273	0.2000	0.1533	
	20 p-Nitrotoluene	1	13.260	13.266	-0.006	19817	0.2000	0.1744	
	21 m-Nitrotoluene	1	13.847	13.859	-0.012	23324	0.2000	0.1575	
	22 PETN	2	14.953	14.966	-0.013	151226	2.00	2.02	

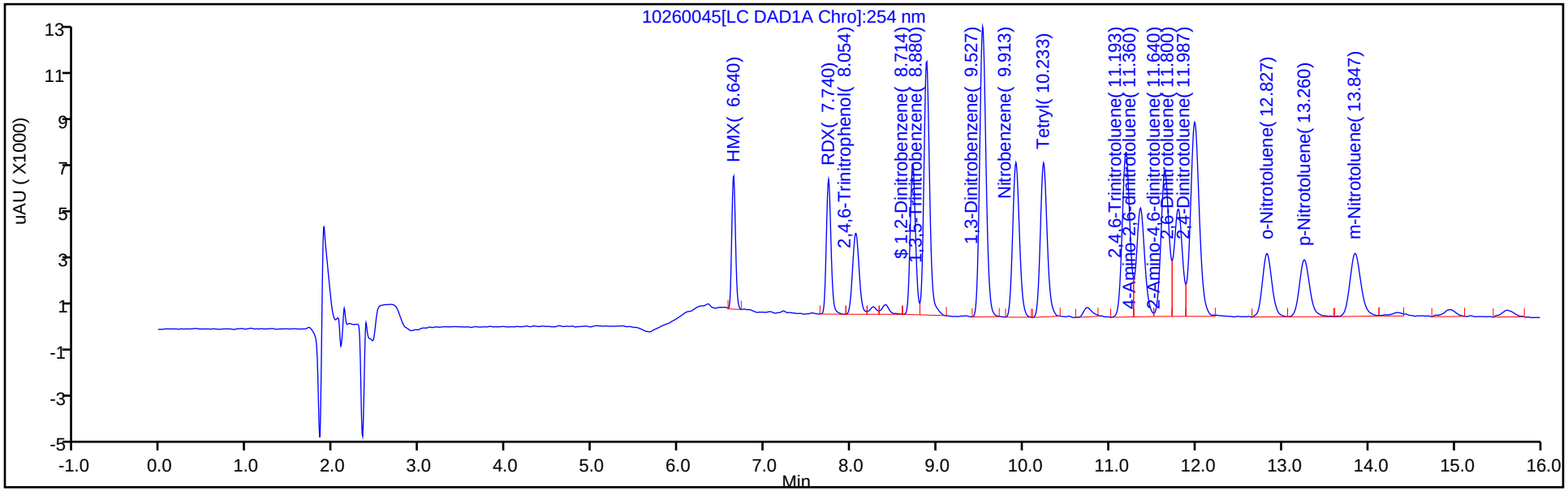
Report Date: 29-Oct-2018 11:14:06 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

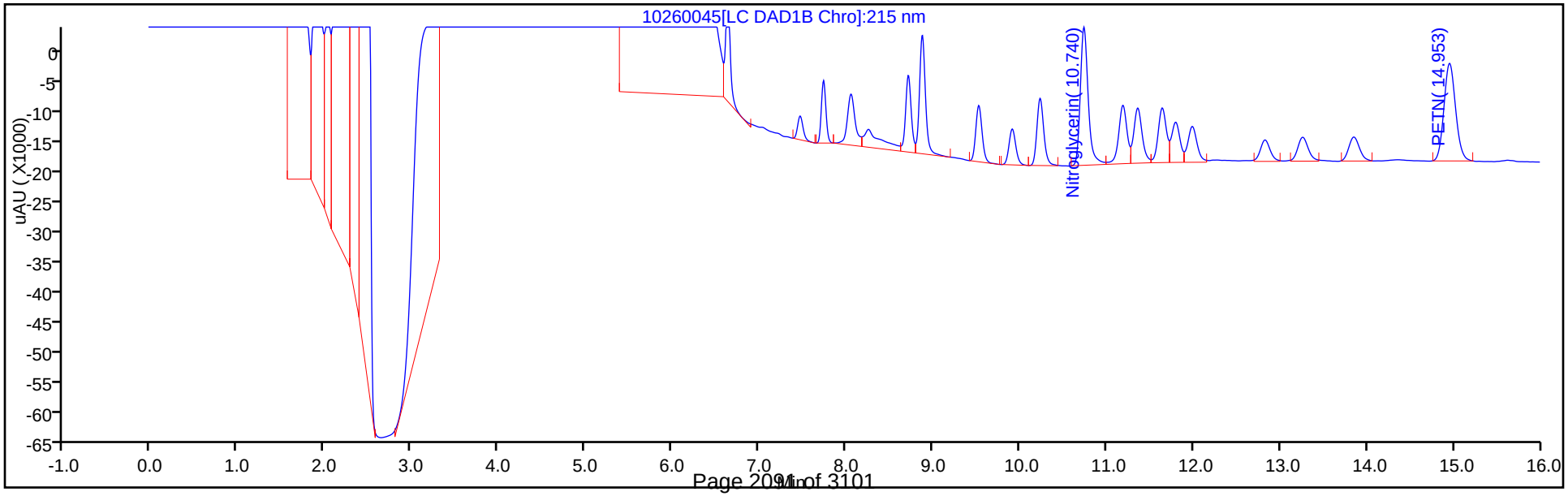
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260045.D

Injection Date:	27-Oct-2018 03:11:17	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	LCS 280-434708/2-A			Worklist Smp#:	45
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	45
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260045.D				
Lims ID:	LCS 280-434708/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	27-Oct-2018 03:11:17	ALS Bottle#:	45	Worklist Smp#:	45
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCS 280-434708/2				
Misc. Info.:	280-0075517-045				
Operator ID:	hkf	Instrument ID:	CHHPLC_X3		
Method:	\\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	29-Oct-2018 11:14:03	Calib Date:	21-Aug-2018 19:41:12		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	XAWRK002				

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.2084	104.18

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver | Job No.: 280-115950-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-434708/3-A

Matrix: Water | Lab File ID: 10260046.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 10/24/2018 12:14

Sample wt/vol: 500(mL) | Date Analyzed: 10/27/2018 03:34

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 435098 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	2.18		1.0	0.40	0.20
99-65-0	1,3-Dinitrobenzene	2.07		0.40	0.20	0.089
118-96-7	2,4,6-Trinitrotoluene	2.01		0.40	0.20	0.072
121-14-2	2,4-Dinitrotoluene	1.97		0.40	0.20	0.084
606-20-2	2,6-Dinitrotoluene	1.96		0.20	0.20	0.065
35572-78-2	2-Amino-4,6-dinitrotoluene	1.97		0.20	0.12	0.051
88-72-2	2-Nitrotoluene	1.44		0.40	0.20	0.086
99-08-1	3-Nitrotoluene	1.52		0.40	0.20	0.083
19406-51-0	4-Amino-2,6-dinitrotoluene	1.78		0.20	0.12	0.058
99-99-0	4-Nitrotoluene	1.65		1.0	0.40	0.20
2691-41-0	HMX	2.02		0.40	0.20	0.088
98-95-3	Nitrobenzene	1.72		0.40	0.20	0.091
55-63-0	Nitroglycerin	20.9		3.0	2.0	0.92
78-11-5	PETN	20.4		2.0	1.2	0.42
121-82-4	RDX	2.06		0.20	0.12	0.052
479-45-8	Tetryl	2.18		0.24	0.20	0.079

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	105		83-119

TestAmerica Denver
Target Compound Quantitation Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260046.D
Lims ID: LCSD 280-434708/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 27-Oct-2018 03:34:14 ALS Bottle#: 46 Worklist Smp#: 46
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-434708/
Misc. Info.: 280-0075517-046
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2018 11:14:03 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK002

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 HMX	1	6.637	6.639	-0.002	17122	0.2000	0.2016	
	5 RDX	1	7.744	7.739	0.005	21508	0.2000	0.2057	
	6 2,4,6-Trinitrophenol	1	8.064	8.059	0.005	19652	0.2000	0.2330	
$	7 1,2-Dinitrobenzene	1	8.717	8.719	-0.002	27136	0.2000	0.2108	
	8 1,3,5-Trinitrobenzene	1	8.877	8.879	-0.002	49789	0.2000	0.2180	
	9 1,3-Dinitrobenzene	1	9.530	9.532	-0.002	62176	0.2000	0.2065	
	11 Nitrobenzene	1	9.910	9.919	-0.009	34170	0.2000	0.1719	
	12 Tetryl	1	10.230	10.239	-0.009	35637	0.2000	0.2180	
	13 Nitroglycerin	2	10.737	10.746	-0.009	141743	2.00	2.09	
	14 2,4,6-Trinitrotoluene	1	11.184	11.192	-0.008	43191	0.2000	0.2014	
	15 4-Amino-2,6-dinitrotoluene	1	11.350	11.366	-0.016	29411	0.2000	0.1777	
	16 2-Amino-4,6-dinitrotoluene	1	11.630	11.646	-0.016	39378	0.2000	0.1974	
	17 2,6-Dinitrotoluene	1	11.790	11.799	-0.009	29938	0.2000	0.1956	
	18 2,4-Dinitrotoluene	1	11.977	11.992	-0.015	58888	0.2000	0.1974	
	19 o-Nitrotoluene	1	12.817	12.832	-0.015	19002	0.2000	0.1437	
	20 p-Nitrotoluene	1	13.250	13.266	-0.016	18742	0.2000	0.1649	
	21 m-Nitrotoluene	1	13.837	13.859	-0.022	22551	0.2000	0.1523	
	22 PETN	2	14.937	14.966	-0.029	152565	2.00	2.04	

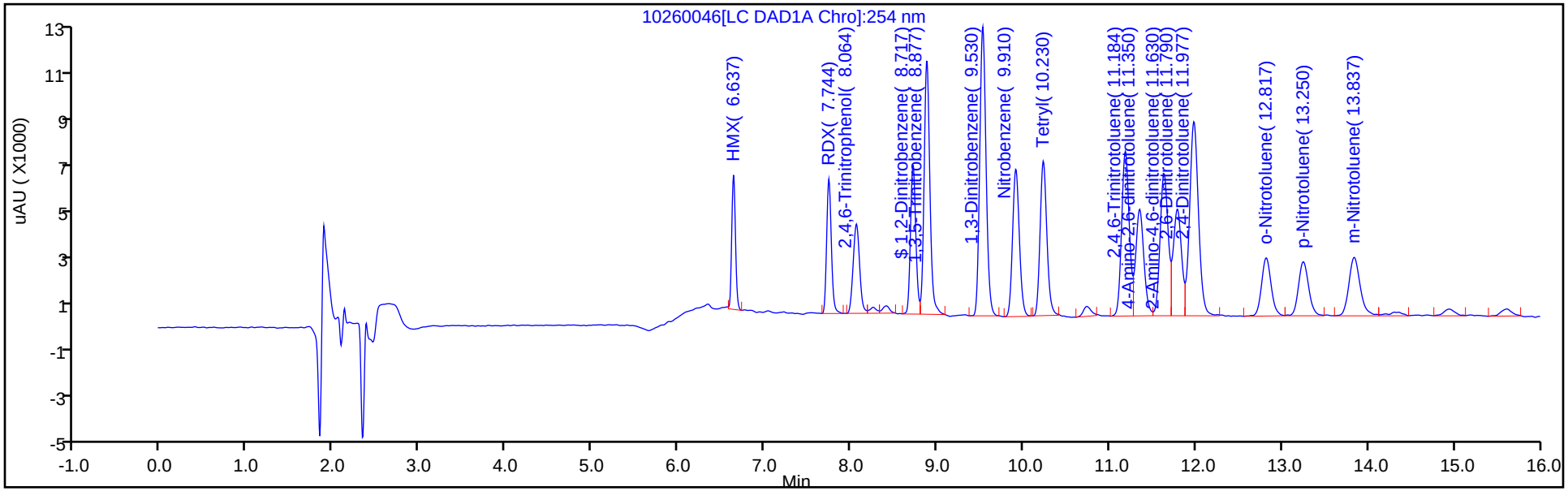
Report Date: 29-Oct-2018 11:14:08 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Denver

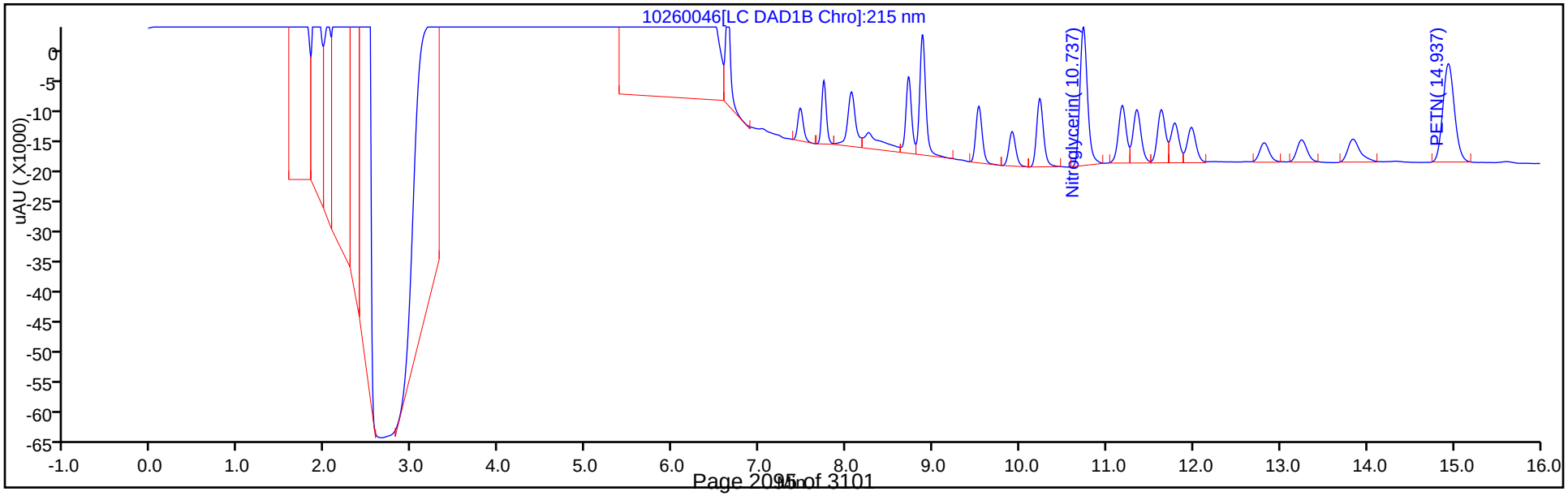
Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260046.D

Injection Date:	27-Oct-2018 03:34:14	Instrument ID:	CHHPLC_X3	Operator ID:	hkf
Lims ID:	LCSD 280-434708/3-A			Worklist Smp#:	46
Client ID:					
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	46
Method:	8330_X3	Limit Group:	GCSV - 8330		

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



TestAmerica Denver
Recovery Report

Data File: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\10260046.D
Lims ID: LCSD 280-434708/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 27-Oct-2018 03:34:14 ALS Bottle#: 46 Worklist Smp#: 46
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-434708/
Misc. Info.: 280-0075517-046
Operator ID: hkf Instrument ID: CHHPLC_X3

Method: \\ChromNA\Denver\ChromData\CHHPLC_X\20181026-75517.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 29-Oct-2018 11:14:03 Calib Date: 21-Aug-2018 19:41:12
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Denver\ChromData\CHHPLC_X\20180821-73257.b\08210027.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: XAWRK002

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,2-Dinitrobenzene	0.2000	0.2108	105.40

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 05/18/2018 10:34

Analysis Batch Number: 415256 End Date: 05/18/2018 18:36

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-415256/7		05/18/2018 10:34	1	05180007.D	UltraCarb5uODS 4.6(mm)
IC 280-415256/8		05/18/2018 10:57	1	05180008.D	UltraCarb5uODS 4.6(mm)
IC 280-415256/9		05/18/2018 11:19	1	05180009.D	UltraCarb5uODS 4.6(mm)
IC 280-415256/10		05/18/2018 11:42	1	05180010.D	UltraCarb5uODS 4.6(mm)
IC 280-415256/11		05/18/2018 12:05	1	05180011.D	UltraCarb5uODS 4.6(mm)
IC 280-415256/12		05/18/2018 12:28	1	05180012.D	UltraCarb5uODS 4.6(mm)
IC 280-415256/13		05/18/2018 12:51	1	05180013.D	UltraCarb5uODS 4.6(mm)
IC 280-415256/14		05/18/2018 13:14	1	05180014.D	UltraCarb5uODS 4.6(mm)
ICV 280-415256/15		05/18/2018 13:37	1	05180015.D	UltraCarb5uODS 4.6(mm)
IC 280-415256/16		05/18/2018 14:00	1		UltraCarb5uODS 4.6(mm)
IC 280-415256/17		05/18/2018 14:23	1		UltraCarb5uODS 4.6(mm)
IC 280-415256/18		05/18/2018 14:46	1		UltraCarb5uODS 4.6(mm)
IC 280-415256/19		05/18/2018 15:09	1		UltraCarb5uODS 4.6(mm)
IC 280-415256/20		05/18/2018 15:32	1		UltraCarb5uODS 4.6(mm)
IC 280-415256/21		05/18/2018 15:55	1		UltraCarb5uODS 4.6(mm)
IC 280-415256/22		05/18/2018 16:18	1		UltraCarb5uODS 4.6(mm)
IC 280-415256/23		05/18/2018 16:41	1		UltraCarb5uODS 4.6(mm)
ICV 280-415256/24		05/18/2018 17:04	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		05/18/2018 17:27	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		05/18/2018 17:50	10		UltraCarb5uODS 4.6(mm)
CCV 280-415256/27		05/18/2018 18:13	1		UltraCarb5uODS 4.6(mm)
CCV 280-415256/28		05/18/2018 18:36	1		UltraCarb5uODS 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: CHHPLC_G2_LUNA Start Date: 10/13/2018 16:23

Analysis Batch Number: 433312 End Date: 10/14/2018 07:32

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-433312/7		10/13/2018 16:23	1	10130007.D	Luna-phenylhex 4.6(mm)
IC 280-433312/8		10/13/2018 16:58	1	10130008.D	Luna-phenylhex 4.6(mm)
IC 280-433312/9		10/13/2018 17:33	1	10130009.D	Luna-phenylhex 4.6(mm)
IC 280-433312/10		10/13/2018 18:08	1	10130010.D	Luna-phenylhex 4.6(mm)
IC 280-433312/11		10/13/2018 18:43	1	10130011.D	Luna-phenylhex 4.6(mm)
IC 280-433312/12		10/13/2018 19:18	1	10130012.D	Luna-phenylhex 4.6(mm)
IC 280-433312/13		10/13/2018 19:53	1	10130013.D	Luna-phenylhex 4.6(mm)
IC 280-433312/14		10/13/2018 20:28	1	10130014.D	Luna-phenylhex 4.6(mm)
ICV 280-433312/15		10/13/2018 21:03	1	10130015.D	Luna-phenylhex 4.6(mm)
IC 280-433312/16		10/13/2018 21:38	1		Luna-phenylhex 4.6(mm)
IC 280-433312/17		10/13/2018 22:13	1		Luna-phenylhex 4.6(mm)
IC 280-433312/18		10/13/2018 22:48	1		Luna-phenylhex 4.6(mm)
IC 280-433312/19		10/13/2018 23:23	1		Luna-phenylhex 4.6(mm)
IC 280-433312/20		10/13/2018 23:58	1		Luna-phenylhex 4.6(mm)
IC 280-433312/21		10/14/2018 00:33	1		Luna-phenylhex 4.6(mm)
IC 280-433312/22		10/14/2018 01:08	1		Luna-phenylhex 4.6(mm)
IC 280-433312/23		10/14/2018 01:43	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/14/2018 02:18	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/14/2018 02:53	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/14/2018 03:28	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/14/2018 04:02	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/14/2018 04:37	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/14/2018 05:12	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/14/2018 05:47	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/14/2018 06:22	1		Luna-phenylhex 4.6(mm)
CCV 280-433312/32		10/14/2018 06:57	1		Luna-phenylhex 4.6(mm)
CCV 280-433312/33		10/14/2018 07:32	1		Luna-phenylhex 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 10/27/2018 02:02

Analysis Batch Number: 435098 End Date: 10/27/2018 10:50

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-435098/42		10/27/2018 02:02	1	10260042.D	UltraCarb5uODS 4.6(mm)
CCV 280-435098/43		10/27/2018 02:25	1		UltraCarb5uODS 4.6(mm)
MB 280-434708/1-A		10/27/2018 02:48	1	10260044.D	UltraCarb5uODS 4.6(mm)
LCS 280-434708/2-A		10/27/2018 03:11	1	10260045.D	UltraCarb5uODS 4.6(mm)
LCSD 280-434708/3-A		10/27/2018 03:34	1	10260046.D	UltraCarb5uODS 4.6(mm)
ZZZZZ		10/27/2018 03:57	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/27/2018 04:20	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/27/2018 04:43	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/27/2018 05:06	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/27/2018 05:29	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/27/2018 05:52	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/27/2018 06:15	1		UltraCarb5uODS 4.6(mm)
CCV 280-435098/54		10/27/2018 06:38	1	10260054.D	UltraCarb5uODS 4.6(mm)
CCV 280-435098/55		10/27/2018 07:01	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/27/2018 07:24	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/27/2018 07:46	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		10/27/2018 08:09	1		UltraCarb5uODS 4.6(mm)
280-115950-1		10/27/2018 08:32	1	10260059.D	UltraCarb5uODS 4.6(mm)
280-115950-2		10/27/2018 08:55	1	10260060.D	UltraCarb5uODS 4.6(mm)
280-115950-3		10/27/2018 09:18	1	10260061.D	UltraCarb5uODS 4.6(mm)
280-115950-4		10/27/2018 09:41	1	10260062.D	UltraCarb5uODS 4.6(mm)
280-115950-5		10/27/2018 10:04	1	10260063.D	UltraCarb5uODS 4.6(mm)
CCV 280-435098/64		10/27/2018 10:27	1	10260064.D	UltraCarb5uODS 4.6(mm)
CCV 280-435098/65		10/27/2018 10:50	1		UltraCarb5uODS 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: CHHPLC_G2_LUNA Start Date: 10/30/2018 10:44

Analysis Batch Number: 435336 End Date: 10/30/2018 18:18

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-435336/43		10/30/2018 10:44	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/30/2018 11:19	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/30/2018 11:54	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/30/2018 12:29	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/30/2018 13:04	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/30/2018 13:39	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/30/2018 14:14	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/30/2018 14:49	1		Luna-phenylhex 4.6(mm)
ZZZZZ		10/30/2018 15:24	1		Luna-phenylhex 4.6(mm)
CCV 280-435336/52		10/30/2018 15:59	1	10290052.D	Luna-phenylhex 4.6(mm)
ZZZZZ		10/30/2018 16:34	1		Luna-phenylhex 4.6(mm)
280-115950-3		10/30/2018 17:09	1	10290054.D	Luna-phenylhex 4.6(mm)
280-115950-5		10/30/2018 17:44	1	10290055.D	Luna-phenylhex 4.6(mm)
CCV 280-435336/56		10/30/2018 18:18	1	10290056.D	Luna-phenylhex 4.6(mm)

HPLC/IC BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 434708 Batch Start Date: 10/24/18 12:14 Batch Analyst: Becker, Chad B

Batch Method: 3535 Batch End Date: 10/24/18 14:29

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	8330 LCS 00083	8330Surrogate 00100
MB 280-434708/1		3535, 8330B				500 mL	5 mL		0.1 mL
LCS 280-434708/2		3535, 8330B				500 mL	5 mL	0.1 mL	0.1 mL
LCSD 280-434708/3		3535, 8330B				500 mL	5 mL	0.1 mL	0.1 mL
280-115950-A-1	LL1mw-064-181001-GW	3535, 8330B	T	775.8 g	286.3 g	489.5 mL	5 mL		0.1 mL
280-115950-F-2	LL1mw-088-181001-GW	3535, 8330B	T	759.4 g	286.2 g	473.2 mL	5 mL		0.1 mL
280-115950-E-3	LL1mw-088-181002-GW	3535, 8330B	T	756.7 g	285.4 g	471.3 mL	5 mL		0.1 mL
280-115950-E-4	RQLmw-007-181001-GW	3535, 8330B	T	760.5 g	286.0 g	474.5 mL	5 mL		0.1 mL
280-115950-F-5	RQLmw-008-181001-GW	3535, 8330B	T	759.9 g	285.6 g	474.3 mL	5 mL		0.1 mL

Batch Notes	
Acid ID	0.1% AAinACN_00119
Acid Name	0.1% Acetic Acid in ACN
Balance ID	24950431
Batch Comment	Reviewer: MF
First End time	10/24/2018 14:29
Pipette/Syringe/Dispenser ID	jiji,soot
Solvent Lot #	Acetonitrile_00017; MeCL2_Cycl_00407
Solvent Name	ACN; MeCL2
SPE Cartridge Type	Porapak Rdx WAT047220
Solid Phase Extraction Disk ID	004838184A
First Start time	10/24/2018 12:20

Basis	Basis Description
T	Total/NA

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

METALS

COVER PAGE
METALS

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG No.:

Project: Leidos RFP# 001088 - Ravenna AAP-66

Client Sample ID	Lab Sample ID
LL1mw-064-181001-GW	280-115950-1
LL1mw-088-181001-GW	280-115950-2
LL1mw-088-181002-GW	280-115950-3
RQLmw-007-181001-GW	280-115950-4
RQLmw-008-181001-GW	280-115950-5

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: LL1mw-064-181001-GW
Lab Sample ID: 280-115950-1
Lab Name: TestAmerica Denver
Job No.: 280-115950-1
SDG ID.:
Matrix: Water
Date Sampled: 10/22/2018 12:20
Reporting Basis: WET
Date Received: 10/23/2018 08:50

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Aluminum	44	300	70	18	ug/L	J		1	6010C
Calcium	62000	1000	140	35	ug/L			1	6010C
Iron	1100	100	85	22	ug/L			1	6010C
Magnesium	9500	500	40	11	ug/L			1	6010C
Potassium	1000	3000	940	240	ug/L	J		1	6010C
Sodium	5000	5000	350	120	ug/L			1	6010C
Antimony	1.0	6.0	1.0	0.40	ug/L	U		1	6020A
Arsenic	4.9	5.0	1.0	0.33	ug/L	J		1	6020A
Barium	54	3.0	0.95	0.29	ug/L			1	6020A
Beryllium	0.30	1.0	0.30	0.080	ug/L	U		1	6020A
Cadmium	1.0	1.0	1.0	0.27	ug/L	U		1	6020A
Chromium	1.8	10	1.8	0.50	ug/L	U		1	6020A
Cobalt	0.28	1.0	0.20	0.054	ug/L	J		1	6020A
Copper	1.8	2.0	1.8	0.56	ug/L	U		1	6020A
Lead	0.18	3.0	0.70	0.18	ug/L	J		1	6020A
Manganese	190	3.5	0.95	0.31	ug/L			1	6020A
Nickel	1.0	3.0	1.0	0.30	ug/L	U		1	6020A
Selenium	2.0	5.0	2.0	0.70	ug/L	U		1	6020A
Silver	0.10	5.0	0.10	0.033	ug/L	U		1	6020A
Thallium	0.20	1.0	0.20	0.050	ug/L	U		1	6020A
Vanadium	2.0	6.0	2.0	0.50	ug/L	U		1	6020A
Zinc	8.0	20	8.0	2.0	ug/L	U		1	6020A
Mercury	0.080	0.20	0.080	0.027	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: LL1mw-088-181001-GW
Lab Sample ID: 280-115950-2
Lab Name: TestAmerica Denver
Job No.: 280-115950-1
SDG ID.:
Matrix: Water
Date Sampled: 10/22/2018 10:40
Reporting Basis: WET
Date Received: 10/23/2018 08:50

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Aluminum	39	300	70	18	ug/L	J		1	6010C
Calcium	88000	1000	140	35	ug/L			1	6010C
Iron	1600	100	85	22	ug/L			1	6010C
Magnesium	35000	500	40	11	ug/L			1	6010C
Potassium	2500	3000	940	240	ug/L	J		1	6010C
Sodium	25000	5000	350	120	ug/L			1	6010C
Antimony	1.0	6.0	1.0	0.40	ug/L	U		1	6020A
Arsenic	29	5.0	1.0	0.33	ug/L			1	6020A
Barium	37	3.0	0.95	0.29	ug/L			1	6020A
Beryllium	0.30	1.0	0.30	0.080	ug/L	U		1	6020A
Cadmium	1.0	1.0	1.0	0.27	ug/L	U		1	6020A
Chromium	1.8	10	1.8	0.50	ug/L	U		1	6020A
Cobalt	0.096	1.0	0.20	0.054	ug/L	J		1	6020A
Copper	1.8	2.0	1.8	0.56	ug/L	U		1	6020A
Lead	0.70	3.0	0.70	0.18	ug/L	U		1	6020A
Manganese	45	3.5	0.95	0.31	ug/L			1	6020A
Nickel	1.0	3.0	1.0	0.30	ug/L	U		1	6020A
Selenium	2.0	5.0	2.0	0.70	ug/L	U		1	6020A
Silver	0.10	5.0	0.10	0.033	ug/L	U		1	6020A
Thallium	0.20	1.0	0.20	0.050	ug/L	U		1	6020A
Vanadium	2.0	6.0	2.0	0.50	ug/L	U		1	6020A
Zinc	8.0	20	8.0	2.0	ug/L	U		1	6020A
Mercury	0.080	0.20	0.080	0.027	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: LL1mw-088-181002-GW
Lab Sample ID: 280-115950-3
Lab Name: TestAmerica Denver
Job No.: 280-115950-1
SDG ID.:
Matrix: Water
Date Sampled: 10/22/2018 10:40
Reporting Basis: WET
Date Received: 10/23/2018 08:50

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Aluminum	38	300	70	18	ug/L	J		1	6010C
Calcium	87000	1000	140	35	ug/L			1	6010C
Iron	1600	100	85	22	ug/L			1	6010C
Magnesium	35000	500	40	11	ug/L			1	6010C
Potassium	2500	3000	940	240	ug/L	J		1	6010C
Sodium	25000	5000	350	120	ug/L			1	6010C
Antimony	0.72	6.0	1.0	0.40	ug/L	J		1	6020A
Arsenic	30	5.0	1.0	0.33	ug/L			1	6020A
Barium	35	3.0	0.95	0.29	ug/L			1	6020A
Beryllium	0.21	1.0	0.30	0.080	ug/L	J		1	6020A
Cadmium	1.0	1.0	1.0	0.27	ug/L	U		1	6020A
Chromium	1.8	10	1.8	0.50	ug/L	U		1	6020A
Cobalt	0.14	1.0	0.20	0.054	ug/L	J		1	6020A
Copper	1.8	2.0	1.8	0.56	ug/L	U		1	6020A
Lead	0.70	3.0	0.70	0.18	ug/L	U		1	6020A
Manganese	47	3.5	0.95	0.31	ug/L			1	6020A
Nickel	1.0	3.0	1.0	0.30	ug/L	U		1	6020A
Selenium	2.0	5.0	2.0	0.70	ug/L	U		1	6020A
Silver	0.10	5.0	0.10	0.033	ug/L	U		1	6020A
Thallium	0.057	1.0	0.20	0.050	ug/L	J		1	6020A
Vanadium	2.0	6.0	2.0	0.50	ug/L	U		1	6020A
Zinc	3.5	20	8.0	2.0	ug/L	J		1	6020A
Mercury	0.080	0.20	0.080	0.027	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: RQLmw-007-181001-GW
Lab Sample ID: 280-115950-4
Lab Name: TestAmerica Denver
Job No.: 280-115950-1
SDG ID.:
Matrix: Water
Date Sampled: 10/22/2018 12:50
Reporting Basis: WET
Date Received: 10/23/2018 08:50

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Aluminum	70	300	70	18	ug/L	U		1	6010C
Phosphorus	56	3000	50	14	ug/L	J		1	6010C
Calcium	150000	1000	140	35	ug/L			1	6010C
Iron	12000	100	85	22	ug/L			1	6010C
Magnesium	97000	500	40	11	ug/L			1	6010C
Potassium	6900	3000	940	240	ug/L			1	6010C
Sodium	5100	5000	350	120	ug/L			1	6010C
Antimony	1.0	6.0	1.0	0.40	ug/L	U		1	6020A
Arsenic	32	5.0	1.0	0.33	ug/L			1	6020A
Barium	50	3.0	0.95	0.29	ug/L			1	6020A
Beryllium	0.30	1.0	0.30	0.080	ug/L	U		1	6020A
Cadmium	1.0	1.0	1.0	0.27	ug/L	U		1	6020A
Chromium	1.8	10	1.8	0.50	ug/L	U		1	6020A
Cobalt	4.1	1.0	0.20	0.054	ug/L			1	6020A
Copper	1.8	2.0	1.8	0.56	ug/L	U		1	6020A
Lead	0.70	3.0	0.70	0.18	ug/L	U		1	6020A
Manganese	1100	3.5	0.95	0.31	ug/L			1	6020A
Nickel	10	3.0	1.0	0.30	ug/L			1	6020A
Selenium	2.0	5.0	2.0	0.70	ug/L	U		1	6020A
Silver	0.10	5.0	0.10	0.033	ug/L	U		1	6020A
Thallium	0.20	1.0	0.20	0.050	ug/L	U		1	6020A
Vanadium	2.0	6.0	2.0	0.50	ug/L	U		1	6020A
Zinc	3.5	20	8.0	2.0	ug/L	J		1	6020A
Mercury	0.080	0.20	0.080	0.027	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: RQLmw-008-181001-GW
Lab Sample ID: 280-115950-5
Lab Name: TestAmerica Denver
Job No.: 280-115950-1
SDG ID.:
Matrix: Water
Date Sampled: 10/22/2018 10:05
Reporting Basis: WET
Date Received: 10/23/2018 08:50

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Aluminum	70	300	70	18	ug/L	U		1	6010C
Calcium	58000	1000	140	35	ug/L			1	6010C
Iron	53000	100	85	22	ug/L			1	6010C
Magnesium	49000	500	40	11	ug/L			1	6010C
Potassium	3900	3000	940	240	ug/L			1	6010C
Sodium	3600	5000	350	120	ug/L	J		1	6010C
Antimony	0.43	6.0	1.0	0.40	ug/L	J		1	6020A
Arsenic	20	5.0	1.0	0.33	ug/L			1	6020A
Barium	55	3.0	0.95	0.29	ug/L			1	6020A
Beryllium	0.30	1.0	0.30	0.080	ug/L	U		1	6020A
Cadmium	1.0	1.0	1.0	0.27	ug/L	U		1	6020A
Chromium	1.8	10	1.8	0.50	ug/L	U		1	6020A
Cobalt	4.2	1.0	0.20	0.054	ug/L			1	6020A
Copper	1.8	2.0	1.8	0.56	ug/L	U		1	6020A
Lead	0.70	3.0	0.70	0.18	ug/L	U		1	6020A
Manganese	500	3.5	0.95	0.31	ug/L			1	6020A
Nickel	9.5	3.0	1.0	0.30	ug/L			1	6020A
Selenium	2.0	5.0	2.0	0.70	ug/L	U		1	6020A
Silver	0.10	5.0	0.10	0.033	ug/L	U		1	6020A
Thallium	0.26	1.0	0.20	0.050	ug/L	J		1	6020A
Vanadium	2.0	6.0	2.0	0.50	ug/L	U		1	6020A
Zinc	820	20	8.0	2.0	ug/L			1	6020A
Mercury	0.31	0.20	0.080	0.027	ug/L			1	7470A

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

ICV Source: ICP ICVH_00784 Concentration Units: ug/L

CCV Source: ICP CCVH_00612

Analyte	ICVH 280-435469/6 10/29/2018 10:31				ICVH 280-435469/7 10/29/2018 10:35				CCVH 280-435469/111 10/30/2018 00:09			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	39800		40000	99	39800		40000	100	49000		50000	98
Iron	80600		80000	101	80800		80000	101	52900		50000	106
Sodium	41100		40000	103	40900		40000	102	236000		250000	94

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

ICV Source: ICP ICVH_00784 Concentration Units: ug/L

CCV Source: ICP CCVH_00612

Analyte	CCVH 280-435469/125 10/30/2018 00:57				CCVH 280-435469/138 10/30/2018 01:40							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	49000		50000	98	48900		50000	98				
Iron	52700		50000	105	52500		50000	105				
Sodium	238000		250000	95	239000		250000	96				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

ICV Source: ICP ICV_00671 Concentration Units: ug/L

CCV Source: ICP CCV_00349

Analyte	ICV 280-435469/8 10/29/2018 10:38				ICV 280-435469/9 10/29/2018 10:42				CCV 280-435469/112 10/30/2018 00:13			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	244	J	250	97	252	J	250	101	531		500	106
Calcium	2020		2000	101	2020		2000	101	5300		5000	106
Iron	254		250	102	256		250	102	2560		2500	102
Magnesium	9790		10000	98	9770		10000	98	19500		20000	97
Phosphorus	1920	J	2000	96	1920	J	2000	96	1000	J	1000	100
Potassium	20000		20000	100	20000		20000	100	47900		50000	96
Sodium	2030	J	2000	101	2030	J	2000	101	4750	J	5000	95

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

ICV Source: ICP ICV_00671 Concentration Units: ug/L

CCV Source: ICP CCV_00349

Analyte	CCV 280-435469/126 10/30/2018 01:00				CCV 280-435469/139 10/30/2018 01:44							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	524		500	105	521		500	104				
Calcium	5280		5000	106	5270		5000	105				
Iron	2550		2500	102	2540		2500	102				
Magnesium	19500		20000	98	19400		20000	97				
Phosphorus	1010	J	1000	101	948	J	1000	95				
Potassium	48300		50000	97	48100		50000	96				
Sodium	4790	J	5000	96	4780	J	5000	96				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

ICV Source: ICP LLCCV_02387 Concentration Units: ug/L

CCV Source: ICP LLCCV_02387

Analyte	ICVL 280-435469/10 10/29/2018 10:45				CCVL 280-435469/114 10/30/2018 00:19				CCVL 280-435469/128 10/30/2018 01:07			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	104	J	100	104	103	J	100	103	105	J	100	105
Calcium	204	J	200	102	237	J	200	118	236	J	200	118
Iron	102		100	102	105		100	105	106		100	106
Magnesium	201	J	200	101	192	J	200	96	195	J	200	97
Phosphorus	2810	J	3000	94	2850	J	3000	95	2840	J	3000	95
Potassium	3160		3000	105	3160		3000	105	3190		3000	106
Sodium	1060	J	1000	106	963	J	1000	96	970	J	1000	97

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

ICV Source: ICP LLCCV_02387 Concentration Units: ug/L

CCV Source: ICP LLCCV_02387

Analyte	CCVL 280-435469/141 10/30/2018 01:51											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	105	J	100	105								
Calcium	226	J	200	113								
Iron	103		100	103								
Magnesium	192	J	200	96								
Phosphorus	2810	J	3000	94								
Potassium	3190		3000	106								
Sodium	969	J	1000	97								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

ICV Source: MS 77 ICV_01902 Concentration Units: ug/L

CCV Source: ms 77 ccv_01905

Analyte	ICV 280-436227/8 11/02/2018 16:07				CCV 280-436227/51 11/02/2018 18:54				CCV 280-436227/113 11/02/2018 22:49			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	42.8		40.0	107	49.9		50.0	100	51.1		50.0	102
Arsenic	38.3		40.0	96	49.8		50.0	100	47.9		50.0	96
Barium	41.3		40.0	103	46.7		50.0	93	49.1		50.0	98
Beryllium	41.5		40.0	104	50.9		50.0	102	50.1		50.0	100
Cadmium	39.5		40.0	99	48.5		50.0	97	47.8		50.0	96
Chromium	40.7		40.0	102	49.8		50.0	100	47.5		50.0	95
Cobalt	40.4		40.0	101	50.6		50.0	101	48.6		50.0	97
Copper	41.3		40.0	103	49.8		50.0	100	47.6		50.0	95
Lead	40.2		40.0	101	49.9		50.0	100	49.6		50.0	99
Manganese	42.6		40.0	107	50.9		50.0	102	49.8		50.0	100
Nickel	40.9		40.0	102	50.8		50.0	102	47.8		50.0	96
Selenium	39.8		40.0	100	50.1		50.0	100	48.1		50.0	96
Silver	38.4		40.0	96	48.9		50.0	98	46.2		50.0	92
Thallium	40.8		40.0	102	50.0		50.0	100	49.5		50.0	99
Vanadium	40.9		40.0	102	51.1		50.0	102	47.4		50.0	95
Zinc	42.1		40.0	105	51.2		50.0	102	49.6		50.0	99

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

ICV Source: MS 77 ICV_01902 Concentration Units: ug/L

CCV Source: ms 77 ccv_01905

Analyte	CCV 280-436227/122 11/02/2018 23:23				CCV 280-436227/134 11/03/2018 00:09							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	50.2		50.0	100	49.9		50.0	100				
Arsenic	49.3		50.0	99	48.8		50.0	98				
Barium	49.0		50.0	98	48.6		50.0	97				
Beryllium	48.6		50.0	97	51.2		50.0	102				
Cadmium	48.0		50.0	96	46.8		50.0	94				
Chromium	48.5		50.0	97	47.8		50.0	96				
Cobalt	48.3		50.0	97	48.6		50.0	97				
Copper	47.6		50.0	95	47.4		50.0	95				
Lead	49.3		50.0	99	50.0		50.0	100				
Manganese	50.5		50.0	101	50.5		50.0	101				
Nickel	49.4		50.0	99	48.5		50.0	97				
Selenium	49.3		50.0	99	50.4		50.0	101				
Silver	47.4		50.0	95	46.6		50.0	93				
Thallium	49.8		50.0	100	50.0		50.0	100				
Vanadium	47.6		50.0	95	46.7		50.0	93				
Zinc	49.2		50.0	98	48.5		50.0	97				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

ICV Source: MS 77 LLCCV_01708 Concentration Units: ug/L

CCV Source: MS 77 LLCCV_01708

Analyte	ICVL 280-436227/11 11/02/2018 16:20				CCVL 280-436227/53 11/02/2018 19:01				CCVL 280-436227/115 11/02/2018 22:57			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	2.11		2.00	106	2.24		2.00	112	2.21		2.00	110
Arsenic	4.18	J	5.00	84	5.02		5.00	100	4.63	J	5.00	93
Barium	0.869	J	1.00	87	0.972	J	1.00	97	1.08		1.00	108
Beryllium	0.981	J	1.00	98	0.907	J	1.00	91	1.02		1.00	102
Cadmium	0.916	J	1.00	92	0.779	J	1.00	78	0.959	J	1.00	96
Chromium	1.79	J	2.00	90	1.99	J	2.00	99	1.73	J	2.00	87
Cobalt	0.975	J	1.00	98	1.09		1.00	109	0.946	J	1.00	95
Copper	1.91	J	2.00	96	2.06		2.00	103	2.19		2.00	109
Lead	0.954	J	1.00	95	1.01		1.00	101	1.03		1.00	103
Manganese	0.852	J	1.00	85	0.838	J	1.00	84	0.966	J	1.00	97
Nickel	1.79	J	2.00	90	1.84	J	2.00	92	1.96	J	2.00	98
Selenium	4.66	J	5.00	93	4.76	J	5.00	95	5.19		5.00	104
Silver	5.02		5.00	100	5.12		5.00	102	4.71	J	5.00	94
Thallium	1.05		1.00	105	0.994	J	1.00	99	1.06		1.00	106
Vanadium	5.30		5.00	106	4.95	J	5.00	99	4.54	J	5.00	91
Zinc	9.98	J	10.0	100	10.6		10.0	106	9.63	J	10.0	96

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

ICV Source: MS 77 LLCCV_01708 Concentration Units: ug/L

CCV Source: MS 77 LLCCV_01708

Analyte	CCVL 280-436227/124 11/02/2018 23:31				CCVL 280-436227/136 11/03/2018 00:17							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	2.06		2.00	103	2.21		2.00	111				
Arsenic	4.75	J	5.00	95	4.69	J	5.00	94				
Barium	1.01		1.00	101	1.01		1.00	101				
Beryllium	1.07		1.00	107	1.28		1.00	128				
Cadmium	1.07		1.00	107	0.955	J	1.00	96				
Chromium	1.93	J	2.00	97	1.97	J	2.00	99				
Cobalt	0.975	J	1.00	98	1.04		1.00	104				
Copper	1.82	J	2.00	91	1.86	J	2.00	93				
Lead	0.980	J	1.00	98	0.996	J	1.00	100				
Manganese	1.09		1.00	109	0.993	J	1.00	99				
Nickel	2.04		2.00	102	1.99	J	2.00	99				
Selenium	4.94	J	5.00	99	4.77	J	5.00	95				
Silver	4.75	J	5.00	95	4.75	J	5.00	95				
Thallium	1.02		1.00	102	0.990	J	1.00	99				
Vanadium	5.03		5.00	101	4.34	J	5.00	87				
Zinc	9.46	J	10.0	95	10.6		10.0	106				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

ICV Source: Hg Biwk ICV_00260 Concentration Units: ug/L

CCV Source: Hg Daily Spk_02282

Analyte	ICV 280-436183/9-A 11/03/2018 16:25				CCV 280-436183/12-A 11/03/2018 18:18				CCV 280-436183/12-A 11/03/2018 18:45			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	4.00		4.00	100	4.96		5.00	99	4.97		5.00	99

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

ICV Source: Hg Biwk ICV_00260 Concentration Units: ug/L

CCV Source: Hg Daily Spk_02282

Analyte	CCV 280-436183/12-A 11/04/2018 08:31				CCV 280-436183/12-A 11/04/2018 08:58				CCV 280-436183/12-A 11/04/2018 09:25			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	5.30		5.00	106	5.20		5.00	104	4.93		5.00	99

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Method: 6010C Instrument ID: MT_051

Lab Sample ID: CRI 280-435469/14 Concentration Units: ug/L

CRQL Check Standard Source: ICP LLCCV_02387

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	100	102	J	102	80-120
Phosphorus	3000	2810	J	94	80-120
Calcium	200	214	J	107	80-120
Magnesium	200	201	J	101	80-120
Potassium	3000	3130		104	80-120
Sodium	1000	1050	J	105	80-120

Lab Sample ID: CRI 280-435469/22 Concentration Units: ug/L

CRQL Check Standard Source: Alt CRI_00302

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Iron	100	103		103	80-120

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

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Method: 6020A Instrument ID: MT_077

Lab Sample ID: CRI 280-436227/12 Concentration Units: ug/L

CRQL Check Standard Source: ms 77 RL_01790

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Antimony	1.00	0.955	J	96	80-120
Arsenic	1.00	0.903	J	90	80-120
Barium	1.00	0.905	J	91	80-120
Beryllium	1.00	0.886	J	89	80-120
Cadmium	1.00	0.980	J	98	80-120
Chromium	1.00	0.892	J	89	80-120
Cobalt	1.00	0.947	J	95	80-120
Copper	1.00	1.04	J	104	80-120
Lead	1.00	0.934	J	93	80-120
Manganese	1.00	1.07		107	80-120
Nickel	1.00	1.01	J	101	80-120
Selenium	1.00	1.02	J	102	80-120
Silver	1.00	1.00	J	100	80-120
Thallium	1.00	0.974	J	97	80-120
Zinc	1.00	8.0	U	115	80-120

Lab Sample ID: CRI 280-436227/13 Concentration Units: ug/L

CRQL Check Standard Source: ms 77 alt RL_01066

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Vanadium	5.00	5.46		109	80-120

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

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 280-435469/13 10/29/2018 10:55		CCB 280-435469/113 10/30/2018 00:16		CCB 280-435469/127 10/30/2018 01:03		CCB 280-435469/140 10/30/2018 01:47	
		Found	C	Found	C	Found	C	Found	C
Aluminum	300	70	U	70	U	70	U	70	U
Calcium	1000	140	U	140	U	140	U	140	U
Iron	100	85	U	85	U	85	U	85	U
Magnesium	500	40	U	40	U	40	U	40	U
Phosphorus	3000	50	U	50	U	50	U	50	U
Potassium	3000	940	U	940	U	940	U	940	U
Sodium	5000	350	U	350	U	350	U	350	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 280-436227/9 11/02/2018 16:11		CCB 280-436227/52 11/02/2018 18:57		CCB 280-436227/114 11/02/2018 22:53		CCB 280-436227/123 11/02/2018 23:27	
		Found	C	Found	C	Found	C	Found	C
Antimony	2.0	1.0	U	0.483	J	0.448	J	1.0	U
Arsenic	5.0	1.0	U	1.0	U	1.0	U	1.0	U
Barium	1.0	0.95	U	0.95	U	0.95	U	0.95	U
Beryllium	1.0	0.30	U	0.30	U	0.30	U	0.30	U
Cadmium	1.0	1.0	U	1.0	U	1.0	U	1.0	U
Chromium	2.0	1.8	U	1.8	U	1.8	U	1.8	U
Cobalt	1.0	0.20	U	0.20	U	0.20	U	0.20	U
Copper	2.0	1.8	U	1.8	U	1.8	U	1.8	U
Lead	1.0	0.70	U	0.70	U	0.70	U	0.70	U
Manganese	1.0	0.95	U	0.95	U	0.95	U	0.95	U
Nickel	2.0	1.0	U	1.0	U	1.0	U	1.0	U
Selenium	5.0	2.0	U	2.0	U	2.0	U	2.0	U
Silver	5.0	0.10	U	0.10	U	0.10	U	0.10	U
Thallium	1.0	0.20	U	0.20	U	0.20	U	0.20	U
Vanadium	5.0	1.11	J	0.544	J	2.0	U	2.0	U
Zinc	10	8.0	U	8.0	U	8.0	U	8.0	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 280-436227/135 11/03/2018 00:13							
		Found	C	Found	C	Found	C	Found	C
Antimony	2.0	1.0	U						
Arsenic	5.0	1.0	U						
Barium	1.0	0.95	U						
Beryllium	1.0	0.30	U						
Cadmium	1.0	1.0	U						
Chromium	2.0	1.8	U						
Cobalt	1.0	0.20	U						
Copper	2.0	1.8	U						
Lead	1.0	0.70	U						
Manganese	1.0	0.95	U						
Nickel	2.0	1.0	U						
Selenium	5.0	2.0	U						
Silver	5.0	0.10	U						
Thallium	1.0	0.20	U						
Vanadium	5.0	2.0	U						
Zinc	10	8.0	U						

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 280-436183/10-A 11/03/2018 16:27		CCB 280-436183/13-A 11/03/2018 18:20		CCB 280-436183/13-A 11/03/2018 18:47		CCB 280-436183/13-A 11/04/2018 08:34	
		Found	C	Found	C	Found	C	Found	C
Mercury	0.20	0.080	U	0.080	U	0.080	U	0.080	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 280-436183/13-A 11/04/2018 09:00		CCB 280-436183/13-A 11/04/2018 09:27					
		Found	C	Found	C	Found	C	Found	C
Mercury	0.20	0.080	U	0.080	U				

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 280-434973/1-A

Instrument Code: MT_051 Batch No.: 435469

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum	70	U		6010C_DOD5
7723-14-0	Phosphorus	50	U		6010C_DOD5
7440-70-2	Calcium	54.2	J		6010C_DOD5
7439-89-6	Iron	85	U		6010C_DOD5
7439-95-4	Magnesium	40	U		6010C_DOD5
7440-09-7	Potassium	940	U		6010C_DOD5
7440-23-5	Sodium	350	U		6010C_DOD5

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 280-434761/1-A

Instrument Code: MT_077 Batch No.: 436227

CAS No.	Analyte	Concentration	C	Q	Method
7440-36-0	Antimony	1.0	U		6020A_DOD5
7440-38-2	Arsenic	1.0	U		6020A_DOD5
7440-39-3	Barium	0.95	U		6020A_DOD5
7440-41-7	Beryllium	0.30	U		6020A_DOD5
7440-43-9	Cadmium	1.0	U		6020A_DOD5
7440-47-3	Chromium	1.8	U		6020A_DOD5
7440-48-4	Cobalt	0.20	U		6020A_DOD5
7440-50-8	Copper	1.8	U		6020A_DOD5
7439-92-1	Lead	0.70	U		6020A_DOD5
7439-96-5	Manganese	0.624	J		6020A_DOD5
7440-02-0	Nickel	1.0	U		6020A_DOD5
7782-49-2	Selenium	2.0	U		6020A_DOD5
7440-22-4	Silver	0.10	U		6020A_DOD5
7440-28-0	Thallium	0.20	U		6020A_DOD5
7440-62-2	Vanadium	2.0	U		6020A_DOD5
7440-66-6	Zinc	8.0	U		6020A_DOD5

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 280-436187/1-A

Instrument Code: MT_033 Batch No.: 436252

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	0.080	U		7470A_DOD5

FORM III-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICSA 280-435469/15 Instrument ID: MT_051

Lab File ID: 51A102918B.csv ICS Source: ICP ICSA_00173

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**500000**	**520883**	**104**
Calcium	**500000**	**487777**	**98**
Iron	**200000**	**194061**	**97**
Magnesium	**500000**	**511148**	**102**
Phosphorus		**3.81**	
Potassium		**-1.63**	
Sodium		**10.7**	
Antimony		*-6.91*	
Arsenic		*1.17*	
Barium		*-0.853*	
Beryllium		*0.118*	
Boron		*4.18*	
Cadmium		*-0.936*	
Chromium		*-0.557*	
Cobalt		*-2.53*	
Copper		*-6.22*	
Lead		*-3.08*	
Lithium		*3.81*	
Manganese		*0.571*	
Molybdenum		*0.237*	
Nickel		*-1.43*	
Selenium		*0.550*	
Silicon		*15.5*	
Silver		*-0.0040*	
Thallium		*2.99*	
Tin		*5.96*	
Titanium		*-0.468*	
Vanadium		*2.05*	
Zinc		*1.79*	

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICSAB 280-435469/16 Instrument ID: MT_051

Lab File ID: 51A102918B.csv ICS Source: ICP ICSAB_00193

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum	**500000**	**510494**	**102**
Calcium	**500000**	**502567**	**101**
Iron	**200000**	**198220**	**99**
Magnesium	**500000**	**513279**	**103**
Phosphorus	**2000**	**2042**	**102**
Potassium	**50000**	**55327**	**111**
Sodium	**50000**	**54779**	**110**
Antimony	*1000*	*1040*	*104*
Arsenic	*2000*	*2096*	*105*
Barium	*500*	*498*	*100*
Beryllium	*500*	*490*	*98*
Boron	*2000*	*2177*	*109*
Cadmium	*1000*	*954*	*95*
Chromium	*500*	*491*	*98*
Cobalt	*500*	*467*	*93*
Copper	*500*	*527*	*105*
Lead	*1000*	*975*	*97*
Lithium	*1000*	*1079*	*108*
Manganese	*500*	*494*	*99*
Molybdenum	*1000*	*990*	*99*
Nickel	*1000*	*927*	*93*
Selenium	*5000*	*5158*	*103*
Silicon	*10000*	*10810*	*108*
Silver	*1000*	*1134*	*113*
Strontium	*1000*	*1010*	*101*
Thallium	*10000*	*9622*	*96*
Tin	*10000*	*9527*	*95*
Titanium	*1000*	*1030*	*103*
Vanadium	*500*	*513*	*103*
Zinc	*1000*	*937*	*94*

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICSA 280-436227/15 Instrument ID: MT_077

Lab File ID: 015ICSA_li110218.D ICS Source: ms 77 icsa_00385

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Antimony		**0.0640**	
Arsenic		**0.0930**	
Barium		**0.0610**	
Beryllium		**0.0230**	
Cadmium		**0.376**	
Chromium		**0.316**	
Cobalt		**0.0110**	
Copper		**0.380**	
Lead		**0.0600**	
Manganese		**0.784**	
Nickel		**0.258**	
Selenium		**-0.0020**	
Silver		**0.0440**	
Thallium		**0.0040**	
Vanadium		**1.34**	
Zinc		**0.761**	
Molybdenum	*2000*	*2057*	*103*

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICSAB 280-436227/16 Instrument ID: MT_077

Lab File ID: 016ICSB_li110218.D ICS Source: ms 77 icsab_00384

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Antimony	**100**	**100**	**100**
Arsenic	**100**	**96.2**	**96**
Barium	**100**	**97.4**	**97**
Beryllium	**100**	**96.7**	**97**
Cadmium	**100**	**94.4**	**94**
Chromium	**100**	**97.4**	**97**
Cobalt	**100**	**97.6**	**98**
Copper	**100**	**97.7**	**98**
Lead	**100**	**93.0**	**93**
Manganese	**100**	**98.3**	**98**
Nickel	**100**	**95.7**	**96**
Selenium	**100**	**97.0**	**97**
Silver	**100**	**89.0**	**89**
Thallium	**100**	**93.4**	**93**
Vanadium	**100**	**101**	**101**
Zinc	**100**	**99.2**	**99**
Molybdenum	*2100*	*2062*	*98*

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICSA 280-436227/148 Instrument ID: MT_077

Lab File ID: 148ICSA_li110218.D ICS Source: ms 77 icsa_00385

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Antimony		**0.123**	
Arsenic		**0.157**	
Barium		**0.0570**	
Beryllium		**-0.0070**	
Cadmium		**0.318**	
Chromium		**0.159**	
Cobalt		**0.0170**	
Copper		**0.422**	
Lead		**0.0720**	
Manganese		**0.642**	
Nickel		**0.177**	
Selenium		**0.111**	
Silver		**0.0140**	
Thallium		**0.0060**	
Vanadium		**-1.17**	
Zinc		**0.297**	
Molybdenum	*2000*	*1902*	*95*

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Lab Sample ID: ICSAB 280-436227/149 Instrument ID: MT_077

Lab File ID: 149ICSB_li110218.D ICS Source: ms 77 icsab_00384

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Antimony	**100**	**97.1**	**97**
Arsenic	**100**	**89.5**	**90**
Barium	**100**	**95.3**	**95**
Beryllium	**100**	**96.3**	**96**
Cadmium	**100**	**87.9**	**88**
Chromium	**100**	**90.1**	**90**
Cobalt	**100**	**91.4**	**91**
Copper	**100**	**87.7**	**88**
Lead	**100**	**89.7**	**90**
Manganese	**100**	**98.1**	**98**
Nickel	**100**	**90.8**	**91**
Selenium	**100**	**90.9**	**91**
Silver	**100**	**79.9**	**80**
Thallium	**100**	**89.4**	**89**
Vanadium	**100**	**91.4**	**91**
Zinc	**100**	**92.4**	**92**
Molybdenum	*2100*	*1938*	*92*

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

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS

Client ID: LL1mw-088-181001-GW MS
Lab ID: 280-115950-2 MS
Lab Name: TestAmerica Denver
Job No.: 280-115950-1
SDG No.:
Matrix: Water
Concentration Units: ug/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Aluminum	2150		39	J	2000	105	86-115		6010C
Calcium	139000		88000		50000	103	87-113		6010C
Iron	2640		1600		1000	100	87-115		6010C
Magnesium	85300		35000		50000	100	85-113		6010C
Potassium	53800		2500	J	50000	102	86-114		6010C
Sodium	76900		25000		50000	103	87-115		6010C
Antimony	39.8		1.0	U	40.0	99	85-117		6020A
Arsenic	68.1		29		40.0	97	84-116		6020A
Barium	75.9		37		40.0	98	86-114		6020A
Beryllium	39.4		0.30	U	40.0	98	83-121		6020A
Cadmium	38.0		1.0	U	40.0	95	87-115		6020A
Chromium	39.0		1.8	U	40.0	98	85-116		6020A
Cobalt	37.6		0.096	J	40.0	94	86-115		6020A
Copper	36.5		1.8	U	40.0	91	85-118		6020A
Lead	39.5		0.70	U	40.0	99	88-115		6020A
Manganese	85.1		45		40.0	100	87-115		6020A
Nickel	36.7		1.0	U	40.0	92	85-117		6020A
Selenium	37.4		2.0	U	40.0	94	80-120		6020A
Silver	38.2		0.10	U	40.0	96	85-116		6020A
Thallium	39.3		0.20	U	40.0	98	82-116		6020A
Vanadium	37.6		2.0	U	40.0	94	86-115		6020A
Zinc	37.5		8.0	U	40.0	94	83-119		6020A
Mercury	5.28		0.080	U	5.00	106	82-119		7470A

SSR = Spiked Sample Result

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

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID: LL1mw-088-181001-GW MSD
Lab ID: 280-115950-2 MSD
Lab Name: TestAmerica Denver
Job No.: 280-115950-1
SDG No.:
Matrix: Water
Concentration Units: ug/L
% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Aluminum	2130		2000	105	86-115	1	20		6010C
Calcium	140000		50000	104	87-113	1	20		6010C
Iron	2670		1000	103	87-115	1	20		6010C
Magnesium	85300		50000	100	85-113	0	20		6010C
Potassium	53200		50000	101	86-114	1	20		6010C
Sodium	76700		50000	103	87-115	0	20		6010C
Antimony	41.0		40.0	102	85-117	3	20		6020A
Arsenic	68.3		40.0	97	84-116	0	20		6020A
Barium	74.0		40.0	93	86-114	3	20		6020A
Beryllium	40.1		40.0	100	83-121	2	20		6020A
Cadmium	36.4		40.0	91	87-115	4	20		6020A
Chromium	39.5		40.0	99	85-116	1	20		6020A
Cobalt	38.5		40.0	96	86-115	2	20		6020A
Copper	37.2		40.0	93	85-118	2	20		6020A
Lead	39.8		40.0	99	88-115	1	20		6020A
Manganese	87.6		40.0	107	87-115	3	20		6020A
Nickel	37.3		40.0	93	85-117	2	20		6020A
Selenium	37.3		40.0	93	80-120	0	20		6020A
Silver	38.8		40.0	97	85-116	2	20		6020A
Thallium	39.9		40.0	100	82-116	2	20		6020A
Vanadium	36.8		40.0	92	86-115	2	20		6020A
Zinc	37.2		40.0	93	83-119	1	20		6020A
Mercury	5.31		5.00	106	82-119	1	20		7470A

SDR = Sample Duplicate Result

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

FORM VD - IN

5B-IN
POST DIGESTION SPIKE SAMPLE RECOVERY
METALS

Client ID: LL1mw-088-181001-GW PDS Lab ID: 280-115950-2 PDS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water Concentration Units: ug/L

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Aluminum	1060		39	J	1000	102	80-120		6010C
Phosphorus	2130	J	50	U	2000	106	80-120		6010C
Calcium	108000		88000		20000	99	80-120		6010C
Iron	2650		1600		1000	102	80-120		6010C
Magnesium	55100		35000		20000	100	80-120		6010C
Potassium	22300		2500	J	20000	99	80-120		6010C
Sodium	45100		25000		20000	100	80-120		6010C
Antimony	207		1.0	U	200	104	80-120		6020A
Arsenic	219		29		200	95	80-120		6020A
Barium	240		37		200	101	80-120		6020A
Beryllium	206		0.30	U	200	103	80-120		6020A
Cadmium	196		1.0	U	200	98	80-120		6020A
Chromium	199		1.8	U	200	99	80-120		6020A
Cobalt	192		0.096	J	200	96	80-120		6020A
Copper	189		1.8	U	200	95	80-120		6020A
Lead	207		0.70	U	200	104	80-120		6020A
Manganese	255		45		200	105	80-120		6020A
Nickel	192		1.0	U	200	96	80-120		6020A
Selenium	192		2.0	U	200	96	80-120		6020A
Silver	44.8		0.10	U	50.0	90	80-120		6020A
Thallium	220		0.20	U	200	110	80-120		6020A
Vanadium	200		2.0	U	200	100	80-120		6020A
Zinc	211		8.0	U	200	106	80-120		6020A

SSR = Spiked Sample Result

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

FORM VB - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 280-434973/2-A

Lab Name: TestAmerica Denver Job No.: 280-115950-1

Sample Matrix: Water LCS Source: ICP SPK 3A_00154

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Aluminum	2000	2120		106	86	115		6010C
Phosphorus	10000	10700		107	88	113		6010C
Calcium	50000	53900		108	87	113		6010C
Iron	1000	1060		106	87	115		6010C
Magnesium	50000	50200		100	85	113		6010C
Potassium	50000	50300		101	86	114		6010C
Sodium	50000	50400		101	87	115		6010C

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

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS

Lab ID: LCSD 280-434973/3-A

Lab Name: TestAmerica Denver Job No.: 280-115950-1

Sample Matrix: Water LCS Source: ICP SPK 3A_00154

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Aluminum	2110		2000	105	86-115	0	20		6010C
Phosphorus	10600		10000	106	88-113	0	20		6010C
Calcium	53700		50000	107	87-113	0	20		6010C
Iron	1070		1000	107	87-115	1	20		6010C
Magnesium	50100		50000	100	85-113	0	20		6010C
Potassium	50000		50000	100	86-114	1	20		6010C
Sodium	50200		50000	100	87-115	0	20		6010C

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 280-434761/2-A

Lab Name: TestAmerica Denver Job No.: 280-115950-1

Sample Matrix: Water LCS Source: MS spike 2_00072

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Antimony	40.0	39.4		99	85	117		6020A
Arsenic	40.0	37.3		93	84	116		6020A
Barium	40.0	40.8		102	86	114		6020A
Beryllium	40.0	39.9		100	83	121		6020A
Cadmium	40.0	38.7		97	87	115		6020A
Chromium	40.0	40.1		100	85	116		6020A
Cobalt	40.0	39.9		100	86	115		6020A
Copper	40.0	38.8		97	85	118		6020A
Lead	40.0	40.6		102	88	115		6020A
Manganese	40.0	42.4		106	87	115		6020A
Nickel	40.0	38.9		97	85	117		6020A
Selenium	40.0	37.8		94	80	120		6020A
Silver	40.0	39.7		99	85	116		6020A
Thallium	40.0	39.9		100	82	116		6020A
Vanadium	40.0	37.7		94	86	115		6020A
Zinc	40.0	39.5		99	83	119		6020A

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

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS

Lab ID: LCSD 280-434761/3-A

Lab Name: TestAmerica Denver Job No.: 280-115950-1

Sample Matrix: Water LCS Source: MS spike 2_00072

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Antimony	39.0		40.0	98	85-117	1	20		6020A
Arsenic	38.0		40.0	95	84-116	2	20		6020A
Barium	38.1		40.0	95	86-114	7	20		6020A
Beryllium	38.8		40.0	97	83-121	3	20		6020A
Cadmium	38.2		40.0	96	87-115	1	20		6020A
Chromium	39.5		40.0	99	85-116	1	20		6020A
Cobalt	40.1		40.0	100	86-115	1	20		6020A
Copper	39.1		40.0	98	85-118	1	20		6020A
Lead	40.4		40.0	101	88-115	1	20		6020A
Manganese	41.6		40.0	104	87-115	2	20		6020A
Nickel	40.0		40.0	100	85-117	3	20		6020A
Selenium	38.0		40.0	95	80-120	1	20		6020A
Silver	39.2		40.0	98	85-116	1	20		6020A
Thallium	39.9		40.0	100	82-116	0	20		6020A
Vanadium	38.7		40.0	97	86-115	3	20		6020A
Zinc	41.1		40.0	103	83-119	4	20		6020A

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 280-436187/2-A

Lab Name: TestAmerica Denver Job No.: 280-115950-1

Sample Matrix: Water LCS Source: Hg Daily Spk_02282

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	5.00	4.99		100	82	119		7470A

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

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS

Lab ID: LCSD 280-436187/3-A

Lab Name: TestAmerica Denver Job No.: 280-115950-1

Sample Matrix: Water LCS Source: Hg Daily Spk_02282

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	5.10		5.00	102	82-119	2	20		7470A

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS

Lab ID: 280-115950-2

SDG No:

Lab Name: TestAmerica Denver Job No: 280-115950-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Aluminum	39	J	350	U	NC		6010C
Phosphorus	50	U	250	U	NC		6010C
Calcium	88000		90400		2.7	D	6010C
Iron	1600		1670		NC	D	6010C
Magnesium	35000		35400		0.54	D	6010C
Potassium	2500	J	3270	J	NC	D	6010C
Sodium	25000		25400		NC	D	6010C

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

FORM VIII-IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS

Lab ID: 280-115950-2

SDG No:

Lab Name: TestAmerica Denver Job No: 280-115950-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Antimony	1.0	U	5.0	U	NC		6020A
Arsenic	29		5.0	U	NC		6020A
Barium	37		4.8	U	NC		6020A
Beryllium	0.30	U	1.5	U	NC		6020A
Cadmium	1.0	U	5.0	U	NC		6020A
Chromium	1.8	U	9.0	U	NC		6020A
Cobalt	0.096	J	1.0	U	NC		6020A
Copper	1.8	U	9.0	U	NC		6020A
Lead	0.70	U	3.5	U	NC		6020A
Manganese	45		4.8	U	NC		6020A
Nickel	1.0	U	5.0	U	NC		6020A
Selenium	2.0	U	10	U	NC		6020A
Silver	0.10	U	0.50	U	NC		6020A
Thallium	0.20	U	1.0	U	NC		6020A
Vanadium	2.0	U	10	U	NC		6020A
Zinc	8.0	U	40	U	NC		6020A

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

FORM VIII-IN

9-IN
DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG Number:

Matrix: Water Instrument ID: MT_051

Method: 6010C DL Date: 08/01/2018 00:00

Prep Method: 3010A

Analyte	Wavelength/ Mass	LOQ (ug/L)	DL (ug/L)
Aluminum	167	300	18
Calcium	317.9	1000	34.5
Iron	259.9	100	22
Magnesium	279	500	10.7
Phosphorus	178.2	3000	13.5
Potassium	766.4	3000	237
Sodium	589.5	5000	117

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG Number:

Matrix: Water Instrument ID: MT_051

Method: 6010C XMDL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Aluminum		300	18
Calcium		1000	34.5
Iron		100	22
Magnesium		500	10.7
Phosphorus		3000	13.5
Potassium		3000	237
Sodium		5000	117

9-IN
DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG Number:

Matrix: Water Instrument ID: MT_077

Method: 6020A DL Date: 08/01/2018 00:00

Prep Method: 3020A

Analyte	Wavelength/ Mass	LOQ (ug/L)	DL (ug/L)
Antimony	121	6	0.4
Arsenic	75	5	0.33
Barium	137	3	0.29
Beryllium	9	1	0.08
Cadmium	111	1	0.265
Chromium	52	10	0.5
Cobalt	59	1	0.054
Copper	63	2	0.56
Lead	208	3	0.18
Manganese	55	3.5	0.31
Nickel	60	3	0.3
Selenium	78	5	0.7
Silver	107	5	0.033
Thallium	205	1	0.05
Vanadium	51	6	0.5
Zinc	66	20	2

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG Number:

Matrix: Water Instrument ID: MT_077

Method: 6020A XMDL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Antimony		2	0.4
Arsenic		5	0.33
Barium		1	0.29
Beryllium		1	0.08
Cadmium		1	0.265
Chromium		2	0.5
Cobalt		1	0.054
Copper		2	0.56
Lead		1	0.18
Manganese		1	0.31
Nickel		2	0.3
Selenium		5	0.7
Silver		5	0.033
Thallium		1	0.05
Vanadium		5	0.5
Zinc		10	2

9-IN
DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG Number:

Matrix: Water Instrument ID: MT_033

Method: 7470A DL Date: 08/09/2015 00:00

Prep Method: 7470A

Analyte	Wavelength/ Mass	LOQ (ug/L)	DL (ug/L)
Mercury	253.7	0.2	0.027

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG Number:

Matrix: Water Instrument ID: MT_033

Method: 7470A XMDL Date: 02/16/2014 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury		0.2	0.027

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG No.:

ICP-AES Instrument ID: MT_051 Date: 06/14/2018

Analyte	Wave Length	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K
Aluminum	167.019													0.0012	
Aluminum	396.152								0.000173						
Antimony	206.834		-0.000014									0.011394		-0.000086	
Arsenic	188.98													-0.000007	
Barium	493.408			-0.000045			0.000255		0.000002					0.000008	
Beryllium	234.861							0.000015						0.000104	
Bismuth	223.061													0.000065	
Boron	249.678		.0								0.001755			-0.00006	
Cadmium	214.439										0.000016			0.0000116	
Calcium	315.887									0.000711					
Chromium	205.56						-0.00057							-0.000018	
Cobalt	237.863														
Copper	324.754		0.000007						-0.000011					0.000016	
Iron	238.204														
Iron	259.94														
Lead	220.353		-0.0001111											0.00003	
Lithium	670.783														
Magnesium	279.078													-0.00029	
Manganese	257.61														
Molybdenum	202.032														
Nickel	231.604													0.000006	
Phosphorus	213.618														
Potassium	766.491														
Selenium	196.026		0.000015											-0.0002	
Silicon	288.158														
Silver	328.066														
Sodium	589.592					0.451997									
Sodium	589.593					0.38916									
Strontium	407.771														
Sulfur	181.972														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG No.:

ICP-AES Instrument ID: MT_051 Date: 06/14/2018

Analyte	Wave Length	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K
Thallium	190.794								0		0.001808	0		-0.000012	
Thorium	288.505						-0.01079							-0.00002	
Tin	189.925														
Titanium	336.122								0.000022						
Uranium	409.013								-0.0000416					0.000203	
Vanadium	292.401											-0.00679		0	
Zinc	206.2														
Zirconium	343.823													0.000022	

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG No.:

ICP-AES Instrument ID: MT_051 Date: 06/14/2018

Analyte	Wave Length	Li	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Se	Si	Sn	Sr
Aluminum	396.152				0.031769										
Aluminum	167.019														
Antimony	206.834				-0.00208									0.000337	
Arsenic	188.98														
Barium	493.408														
Beryllium	234.861				-0.00022										
Bismuth	223.061														
Boron	249.678														
Cadmium	214.439														
Calcium	315.887														
Chromium	205.56				-0.00012										
Cobalt	237.863														
Copper	324.754				0.000505										
Iron	238.204														
Iron	259.94														
Lead	220.353				-0.00158										
Lithium	670.783														
Magnesium	279.078														
Manganese	257.61														
Molybdenum	202.032														
Nickel	231.604														
Phosphorus	213.618														
Potassium	766.491														
Selenium	196.026			000816.											
Silicon	288.158														
Silver	328.066														
Sodium	589.593														
Sodium	589.592														
Strontium	407.771														
Sulfur	181.972			0.00474											

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG No.:

ICP-AES Instrument ID: MT_051 Date: 06/14/2018

Analyte	Wave Length	Li	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Se	Si	Sn	Sr
Thallium	190.794				-0.00112										
Thorium	288.505		0	-0.0025											
Tin	189.925														
Titanium	336.122														
Uranium	409.013														
Vanadium	292.401				-0.000580										
Zinc	206.2														
Zirconium	343.823														

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG No.:

ICP-AES Instrument ID: MT_051 Date: 06/14/2018

Analyte	Wave Length	Th	Ti	Tl	U	V	Zn	Zr							
Aluminum	167.019														
Aluminum	396.152														
Antimony	206.834		0.000287		-0.0011			-0.00142							
Arsenic	188.98														
Barium	493.408														
Beryllium	234.861														
Bismuth	223.061														
Boron	249.678														
Cadmium	214.439														
Calcium	315.887														
Chromium	205.56														
Cobalt	237.863		0.001949												
Copper	324.754	0.00368	-0.00033		-0.00091										
Iron	238.204														
Iron	259.94														
Lead	220.353				0.0010										
Lithium	670.783														
Magnesium	279.078				-0.00469										
Manganese	257.61														
Molybdenum	202.032														
Nickel	231.604			0.000176											
Phosphorus	213.618														
Potassium	766.491														
Selenium	196.026														
Silicon	288.158														
Silver	328.066				-0.00053	-0.0046		0.0047							
Sodium	589.592														
Sodium	589.593														
Strontium	407.771														
Sulfur	181.972														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG No.:

ICP-AES Instrument ID: MT_051 Date: 06/14/2018

Analyte	Wave Length	Th	Ti	Tl	U	V	Zn	Zr							
Thallium	190.794		-0.002												
Thorium	288.505				0.007837	0.01375									
Tin	189.925														
Titanium	336.122														
Uranium	409.013							-0.01707							
Vanadium	292.401	0.002372	0.000675		-0.00164										
Zinc	206.2														
Zirconium	343.823														

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Denver Job No: 280-115950-1

SDG No.:

Instrument ID: MT_051 Date: 10/07/2018 00:00

Analyte	Integ. Time (Sec.)	Concentration (mg/L)	Method
Aluminum		1000	6010C
Phosphorus		50	6010C
Calcium		2000	6010C
Iron		1000	6010C
Magnesium		1000	6010C
Potassium		500	6010C
Sodium		2500	6010C

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Denver Job No: 280-115950-1

SDG No.:

Instrument ID: MT_077 Date: 10/07/2018 00:00

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Antimony		3600	6020A
Arsenic		3600	6020A
Barium		4500	6020A
Beryllium		3600	6020A
Cadmium		3600	6020A
Chromium		4500	6020A
Cobalt		3600	6020A
Copper		4500	6020A
Lead		4500	6020A
Manganese		18000	6020A
Nickel		4500	6020A
Selenium		3600	6020A
Silver		270	6020A
Thallium		3600	6020A
Vanadium		3600	6020A
Zinc		4500	6020A

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Prep Method: 3010A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 280-434973/1-A	10/27/2018 05:30	434973		50	50
LCS 280-434973/2-A	10/27/2018 05:30	434973		50	50
LCSD 280-434973/3-A	10/27/2018 05:30	434973		50	50
280-115950-1	10/27/2018 05:30	434973		50	50
280-115950-2	10/27/2018 05:30	434973		50	50
280-115950-2 MS	10/27/2018 05:30	434973		50	50
280-115950-2 MSD	10/27/2018 05:30	434973		50	50
280-115950-3	10/27/2018 05:30	434973		50	50
280-115950-4	10/27/2018 05:30	434973		50	50
280-115950-5	10/27/2018 05:30	434973		50	50

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Prep Method: 3020A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 280-434761/1-A	10/25/2018 14:30	434761		50	50
LCS 280-434761/2-A	10/25/2018 14:30	434761		50	50
LCSD 280-434761/3-A	10/25/2018 14:30	434761		50	50
280-115950-1	10/25/2018 14:30	434761		50	50
280-115950-2	10/25/2018 14:30	434761		50	50
280-115950-2 MS	10/25/2018 14:30	434761		50	50
280-115950-2 MSD	10/25/2018 14:30	434761		50	50
280-115950-3	10/25/2018 14:30	434761		50	50
280-115950-4	10/25/2018 14:30	434761		50	50
280-115950-5	10/25/2018 14:30	434761		50	50

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Prep Method: 7470A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 280-436187/1-A	11/03/2018 12:15	436187		30	50
LCS 280-436187/2-A	11/03/2018 12:15	436187		30	50
LCSD 280-436187/3-A	11/03/2018 12:15	436187		30	50
280-115950-1	11/03/2018 12:15	436187		30	50
280-115950-2	11/03/2018 12:15	436187		30	50
280-115950-2 MS	11/03/2018 12:15	436187		30	50
280-115950-2 MSD	11/03/2018 12:15	436187		30	50
280-115950-3	11/03/2018 12:15	436187		30	50
280-115950-4	11/03/2018 12:15	436187		30	50
280-115950-5	11/03/2018 12:15	436187		30	50

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: MT_051 Analysis Method: 6010C

Start Date: 10/29/2018 10:14 End Date: 10/30/2018 03:05

Lab Sample Id	D/F	Type	Time	Analytes																								
				Al	Ca	Fe	K	Mg	Na	P																		
ICIS 280-435469/1	1		10:14	X	X	X	X	X	X	X																		
IC 280-435469/2			10:18	X	X	X	X	X	X	X																		
IC 280-435469/3			10:21	X	X	X	X	X	X	X																		
ZZZZZZ			10:25																									
ZZZZZZ			10:28																									
ICVH 280-435469/6	1		10:31	X	X	X	X	X	X	X																		
ICVH 280-435469/7	1		10:35	X	X	X	X	X	X	X																		
ICV 280-435469/8	1		10:38	X	X	X	X	X	X	X																		
ICV 280-435469/9	1		10:42	X	X	X	X	X	X	X																		
ICVL 280-435469/10	1		10:45	X	X	X	X	X	X	X																		
CCVH 280-435469/11			10:48																									
CCV 280-435469/12			10:52																									
ICB 280-435469/13	1		10:55	X	X	X	X	X	X	X																		
CRI 280-435469/14	1		10:59	X	X		X	X	X	X																		
ICSA 280-435469/15	1		11:02	X	X	X	X	X	X	X																		
ICSAB 280-435469/16	1		11:05	X	X	X	X	X	X	X																		
LRA 280-435469/17			11:09																									
CCVH 280-435469/18			11:12																									
CCV 280-435469/19			11:16																									
CCB 280-435469/20			11:19																									
CCVL 280-435469/21			11:22																									
CRI 280-435469/22	1		11:26			X																						
CCVH 280-435469/23			12:25																									
CCV 280-435469/24			12:29																									
CCB 280-435469/25			12:32																									
CCVL 280-435469/26			12:35																									
CCVH 280-435469/27			19:25																									
CCV 280-435469/28			19:28																									
CCB 280-435469/29			19:32																									
CCVL 280-435469/30			19:35																									
ZZZZZZ			19:38																									
ZZZZZZ			19:42																									
ZZZZZZ			19:45																									
ZZZZZZ			19:49																									
ZZZZZZ			19:52																									
ZZZZZZ			19:55																									
ZZZZZZ			19:59																									
ZZZZZZ			20:02																									
ZZZZZZ			20:06																									
ZZZZZZ			20:09																									
CCVH 280-435469/41			20:12																									
CCV 280-435469/42			20:16																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: MT_051 Analysis Method: 6010C

Start Date: 10/29/2018 10:14 End Date: 10/30/2018 03:05

Lab Sample Id	D/F	Type	Time	Analytes																								
				Al	Ca	Fe	K	Mg	Na	P																		
CCB 280-435469/43			20:19																									
CCVL 280-435469/44			20:22																									
ZZZZZZ			20:26																									
ZZZZZZ			20:29																									
ZZZZZZ			20:33																									
ZZZZZZ			20:36																									
ZZZZZZ			20:39																									
ZZZZZZ			20:43																									
ZZZZZZ			20:46																									
ZZZZZZ			20:50																									
ZZZZZZ			20:53																									
ZZZZZZ			20:56																									
CCVH 280-435469/55			21:00																									
CCV 280-435469/56			21:03																									
CCB 280-435469/57			21:06																									
CCVL 280-435469/58			21:10																									
ZZZZZZ			21:13																									
ZZZZZZ			21:17																									
ZZZZZZ			21:20																									
ZZZZZZ			21:23																									
ZZZZZZ			21:27																									
ZZZZZZ			21:30																									
ZZZZZZ			21:33																									
ZZZZZZ			21:37																									
ZZZZZZ			21:40																									
ZZZZZZ			21:44																									
CCVH 280-435469/69			21:47																									
CCV 280-435469/70			21:50																									
CCB 280-435469/71			21:54																									
CCVL 280-435469/72			21:57																									
ZZZZZZ			22:01																									
ZZZZZZ			22:04																									
ZZZZZZ			22:07																									
ZZZZZZ			22:11																									
ZZZZZZ			22:14																									
ZZZZZZ			22:18																									
ZZZZZZ			22:21																									
ZZZZZZ			22:24																									
ZZZZZZ			22:28																									
ZZZZZZ			22:31																									
CCVH 280-435469/83			22:34																									
CCV 280-435469/84			22:38																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: MT_051 Analysis Method: 6010C

Start Date: 10/29/2018 10:14 End Date: 10/30/2018 03:05

Lab Sample Id	D/F	Type	Time	Analytes																								
				Al	Ca	Fe	K	Mg	Na	P																		
CCB 280-435469/85			22:41																									
CCVL 280-435469/86			22:45																									
ZZZZZZ			22:48																									
ZZZZZZ			22:51																									
ZZZZZZ			22:55																									
ZZZZZZ			22:58																									
ZZZZZZ			23:01																									
ZZZZZZ			23:05																									
ZZZZZZ			23:08																									
ZZZZZZ			23:12																									
ZZZZZZ			23:15																									
ZZZZZZ			23:18																									
CCVH 280-435469/97			23:22																									
CCV 280-435469/98			23:25																									
CCB 280-435469/99			23:29																									
CCVL 280-435469/100			23:32																									
ZZZZZZ			23:35																									
ZZZZZZ			23:39																									
ZZZZZZ			23:42																									
ZZZZZZ			23:45																									
ZZZZZZ			23:49																									
ZZZZZZ			23:52																									
ZZZZZZ			23:56																									
ZZZZZZ			23:59																									
ZZZZZZ			00:02																									
ZZZZZZ			00:06																									
CCVH 280-435469/111	1		00:09	X	X	X	X	X	X	X																		
CCV 280-435469/112	1		00:13	X	X	X	X	X	X	X																		
CCB 280-435469/113	1		00:16	X	X	X	X	X	X	X																		
CCVL 280-435469/114	1		00:19	X	X	X	X	X	X	X																		
ZZZZZZ			00:23																									
ZZZZZZ			00:26																									
MB 280-434973/1-A	1	T	00:29	X	X	X	X	X	X	X																		
LCS 280-434973/2-A	1	T	00:33	X	X	X	X	X	X	X																		
LCSD 280-434973/3-A	1	T	00:36	X	X	X	X	X	X	X																		
280-115950-1	1	T	00:40	X	X	X	X	X	X																			
280-115950-2	1	T	00:43	X	X	X	X	X	X																			
280-115950-2 SD	5	T	00:46	X	X	X	X	X	X	X																		
280-115950-2 MS	1	T	00:50	X	X	X	X	X	X																			
280-115950-2 MSD	1	T	00:53	X	X	X	X	X	X																			
CCVH 280-435469/125	1		00:57	X	X	X	X	X	X	X																		
CCV 280-435469/126	1		01:00	X	X	X	X	X	X	X																		

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: MT_051 Analysis Method: 6010C

Start Date: 10/29/2018 10:14 End Date: 10/30/2018 03:05

Lab Sample Id	D/F	Type	Time	Analytes																								
				Al	Ca	Fe	K	Mg	Na	P																		
CCB 280-435469/127	1		01:03	X	X	X	X	X	X	X																		
CCVL 280-435469/128	1		01:07	X	X	X	X	X	X	X																		
280-115950-2 PDS	1	T	01:10	X	X	X	X	X	X	X																		
280-115950-3	1	T	01:13	X	X	X	X	X	X																			
280-115950-4	1	T	01:17	X	X	X	X	X	X	X																		
280-115950-5	1	T	01:20	X	X	X	X	X	X																			
ZZZZZZ			01:24																									
ZZZZZZ			01:27																									
ZZZZZZ			01:30																									
ZZZZZZ			01:34																									
ZZZZZZ			01:37																									
CCVH 280-435469/138	1		01:40	X	X	X	X	X	X	X																		
CCV 280-435469/139	1		01:44	X	X	X	X	X	X	X																		
CCB 280-435469/140	1		01:47	X	X	X	X	X	X	X																		
CCVL 280-435469/141	1		01:51	X	X	X	X	X	X	X																		
ZZZZZZ			01:54																									
ZZZZZZ			01:57																									
ZZZZZZ			02:01																									
ZZZZZZ			02:04																									
ZZZZZZ			02:08																									
ZZZZZZ			02:11																									
ZZZZZZ			02:14																									
CCVH 280-435469/149			02:18																									
CCV 280-435469/150			02:21																									
CCB 280-435469/151			02:25																									
CCVL 280-435469/152			02:28																									
ZZZZZZ			02:31																									
ZZZZZZ			02:35																									
CCVH 280-435469/155			02:55																									
CCV 280-435469/156			02:59																									
CCB 280-435469/157			03:02																									
CCVL 280-435469/158			03:05																									

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/02/2018 15:39 End Date: 11/03/2018 14:20

Lab Sample Id	D/F	Type	Time	Analytes																							
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn								
RINSE 280-436227/1			15:39																								
RINSE 280-436227/2			15:43																								
RINSE 280-436227/3			15:47																								
RINSE 280-436227/4			15:51																								
RINSE 280-436227/5			15:55																								
ICIS 280-436227/6			15:59	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
IC 280-436227/7			16:03	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICV 280-436227/8	1		16:07	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICB 280-436227/9	1		16:11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ZZZZZZ			16:16																								
ICVL 280-436227/11	1		16:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
CRI 280-436227/12	1		16:24	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X								
CRI 280-436227/13	1		16:29															X									
ZZZZZZ			16:33																								
ICSA 280-436227/15	1		16:37	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICSAB 280-436227/16	1		16:41	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
RINSE 280-436227/17			16:44																								
LRA 280-436227/18			16:48																								
RINSE 280-436227/19			16:52																								
CCV 280-436227/20			16:56																								
CCB 280-436227/21			16:59																								
CCVL 280-436227/22			17:03																								
ZZZZZZ			17:07																								
ZZZZZZ			17:11																								
ZZZZZZ			17:15																								
ZZZZZZ			17:18																								
ZZZZZZ			17:22																								
ZZZZZZ			17:26																								
ZZZZZZ			17:30																								
ZZZZZZ			17:33																								
CCV 280-436227/31			17:37																								
CCB 280-436227/32			17:41																								
CCVL 280-436227/33			17:45																								
ZZZZZZ			17:49																								
ZZZZZZ			17:52																								
ZZZZZZ			17:56																								
ZZZZZZ			18:00																								
ZZZZZZ			18:04																								
ZZZZZZ			18:08																								
ZZZZZZ			18:12																								
ZZZZZZ			18:16																								
CCV 280-436227/42			18:19																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/02/2018 15:39 End Date: 11/03/2018 14:20

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn									
CCB 280-436227/43			18:23																									
RINSE 280-436227/44			18:27																									
RINSE 280-436227/45			18:31																									
RINSE 280-436227/46			18:35																									
RINSE 280-436227/47			18:38																									
RINSE 280-436227/48			18:42																									
ICIS 280-436227/49			18:46	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
IC 280-436227/50	1		18:50	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCV 280-436227/51	1		18:54	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCB 280-436227/52	1		18:57	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCVL 280-436227/53	1		19:01	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
ZZZZZZ			19:05																									
ZZZZZZ			19:09																									
ZZZZZZ			19:13																									
ZZZZZZ			19:17																									
ZZZZZZ			19:20																									
ZZZZZZ			19:24																									
ZZZZZZ			19:28																									
ZZZZZZ			19:32																									
ZZZZZZ			19:35																									
CCV 280-436227/63			19:39																									
CCB 280-436227/64			19:43																									
ZZZZZZ			19:47																									
ZZZZZZ			19:51																									
ZZZZZZ			19:55																									
ZZZZZZ			19:58																									
ZZZZZZ			20:02																									
ZZZZZZ			20:06																									
ZZZZZZ			20:10																									
CCV 280-436227/72			20:14																									
CCB 280-436227/73			20:18																									
CCVL 280-436227/74			20:21																									
ZZZZZZ			20:25																									
ZZZZZZ			20:29																									
ZZZZZZ			20:33																									
ZZZZZZ			20:37																									
ZZZZZZ			20:40																									
ZZZZZZ			20:44																									
CCV 280-436227/81			20:48																									
CCB 280-436227/82			20:52																									
CCVL 280-436227/83			20:56																									
ZZZZZZ			20:59																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/02/2018 15:39 End Date: 11/03/2018 14:20

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn									
ZZZZZZ			21:03																									
ZZZZZZ			21:07																									
ZZZZZZ			21:11																									
ZZZZZZ			21:14																									
ZZZZZZ			21:18																									
CCV 280-436227/90			21:22																									
CCB 280-436227/91			21:26																									
CCVL 280-436227/92			21:30																									
ZZZZZZ			21:33																									
ZZZZZZ			21:37																									
ZZZZZZ			21:41																									
ZZZZZZ			21:45																									
ZZZZZZ			21:49																									
ZZZZZZ			21:52																									
ZZZZZZ			21:56																									
ZZZZZZ			22:00																									
CCV 280-436227/101			22:04																									
CCB 280-436227/102			22:07																									
CCVL 280-436227/103			22:11																									
ZZZZZZ			22:15																									
ZZZZZZ			22:19																									
ZZZZZZ			22:23																									
ZZZZZZ			22:26																									
ZZZZZZ			22:30																									
ZZZZZZ			22:34																									
ZZZZZZ			22:38																									
ZZZZZZ			22:42																									
ZZZZZZ			22:45																									
CCV 280-436227/113	1		22:49	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCB 280-436227/114	1		22:53	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCVL 280-436227/115	1		22:57	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
MB 280-434761/1-A	1	T	23:01	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
LCS 280-434761/2-A	1	T	23:04	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
LCSD 280-434761/3-A	1	T	23:08	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
ZZZZZZ			23:12																									
ZZZZZZ			23:16																									
280-115950-1	1	T	23:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCV 280-436227/122	1		23:23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCB 280-436227/123	1		23:27	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCVL 280-436227/124	1		23:31	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
280-115950-2	1	T	23:35	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
280-115950-2 SD	5	T	23:38	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/02/2018 15:39 End Date: 11/03/2018 14:20

Lab Sample Id	D/F	Type	Time	Analytes																							
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn								
280-115950-2 MS	1	T	23:42	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
280-115950-2 MSD	1	T	23:46	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
280-115950-2 PDS	1	T	23:50	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
280-115950-3	1	T	23:54	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
280-115950-4	1	T	23:58	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
280-115950-5	1	T	00:01	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ZZZZZZ			00:05																								
CCV 280-436227/134	1		00:09	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
CCB 280-436227/135	1		00:13	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
CCVL 280-436227/136	1		00:17	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ZZZZZZ			00:20																								
ZZZZZZ			00:24																								
ZZZZZZ			00:28																								
ZZZZZZ			00:32																								
ZZZZZZ			00:36																								
ZZZZZZ			00:40																								
ZZZZZZ			00:43																								
ZZZZZZ			00:47																								
CCV 280-436227/145			00:51																								
CCB 280-436227/146			00:55																								
CCVL 280-436227/147			00:59																								
ICSA 280-436227/148	1		01:03	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICSAB 280-436227/149	1		01:06	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
RINSE 280-436227/150			01:10																								
RINSE 280-436227/151			01:59																								
CCV 280-436227/152			02:03																								
CCB 280-436227/153			02:07																								
RINSE 280-436227/154			02:10																								
RINSE 280-436227/155			02:14																								
RINSE 280-436227/156			02:18																								
RINSE 280-436227/157			02:22																								
ICIS 280-436227/158			02:26	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
IC 280-436227/159			02:29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
CCV 280-436227/160			02:33																								
CCB 280-436227/161			02:37																								
CCVL 280-436227/162			02:41																								
ZZZZZZ			02:44																								
ZZZZZZ			02:48																								
ZZZZZZ			02:52																								
ZZZZZZ			02:56																								
ZZZZZZ			03:00																								
ZZZZZZ			03:03																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/02/2018 15:39 End Date: 11/03/2018 14:20

Lab Sample Id	D/F	Type	Time	Analytes																									
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn										
ZZZZZZ			03:07																										
CCV 280-436227/170			03:11																										
CCB 280-436227/171			03:15																										
ZZZZZZ			03:19																										
ZZZZZZ			03:22																										
ZZZZZZ			03:26																										
ZZZZZZ			03:30																										
ZZZZZZ			03:34																										
ZZZZZZ			03:38																										
ZZZZZZ			03:42																										
ZZZZZZ			03:45																										
ZZZZZZ			03:49																										
CCV 280-436227/181			03:53																										
CCB 280-436227/182			03:57																										
ZZZZZZ			04:01																										
ZZZZZZ			04:04																										
ZZZZZZ			04:08																										
ZZZZZZ			04:12																										
ZZZZZZ			04:16																										
ZZZZZZ			04:20																										
ZZZZZZ			04:23																										
ZZZZZZ			04:27																										
ZZZZZZ			04:31																										
ZZZZZZ			04:35																										
CCV 280-436227/193			04:39																										
CCB 280-436227/194			04:42																										
RINSE 280-436227/195			13:31																										
RINSE 280-436227/196			13:34																										
RINSE 280-436227/197			13:38																										
RINSE 280-436227/198			13:42																										
RINSE 280-436227/199			13:46																										
RINSE 280-436227/200			13:50																										
ICIS 280-436227/201			13:53	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
IC 280-436227/202			13:57	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
CCV 280-436227/203			14:01																										
CCB 280-436227/204			14:05																										
CCVL 280-436227/205			14:09																										
ICSA 280-436227/206			14:12																										
ICSAB 280-436227/207			14:16																										
RINSE 280-436227/208			14:20																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: MT_077 Analysis Method: 6020A

Start Date: 11/02/2018 15:39 End Date: 11/03/2018 14:20

Lab Sample Id	D/F	Type	Time	Analytes																										
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn											

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: MT_033 Analysis Method: 7470A

Start Date: 11/03/2018 16:07 End Date: 11/04/2018 09:27

Lab Sample Id	D/F	Type	Time	Analytes
				Hg
IC 280-436183/1-A			16:07	X
IC 280-436183/2-A			16:09	X
IC 280-436183/3-A			16:11	X
IC 280-436183/4-A			16:13	X
IC 280-436183/5-A			16:15	X
IC 280-436183/6-A			16:18	X
IC 280-436183/7-A			16:20	X
IC 280-436183/8-A			16:22	X
ICV 280-436183/9-A	1		16:25	X
ICB 280-436183/10-A	1		16:27	X
CRA 280-436183/11-A			16:29	
CCV 280-436183/12-A			16:31	
CCB 280-436183/13-A			16:34	
ZZZZZZ			16:36	
ZZZZZZ			16:38	
ZZZZZZ			16:40	
ZZZZZZ			16:43	
ZZZZZZ			16:45	
ZZZZZZ			16:47	
ZZZZZZ			16:49	
ZZZZZZ			16:51	
ZZZZZZ			16:54	
ZZZZZZ			16:56	
CCV 280-436183/12-A			16:58	
CCB 280-436183/13-A			17:00	
ZZZZZZ			17:03	
ZZZZZZ			17:05	
ZZZZZZ			17:07	
ZZZZZZ			17:09	
ZZZZZZ			17:11	
ZZZZZZ			17:14	
ZZZZZZ			17:16	
ZZZZZZ			17:18	
ZZZZZZ			17:20	
ZZZZZZ			17:23	
CCV 280-436183/12-A			17:25	
CCB 280-436183/13-A			17:27	
ZZZZZZ			17:29	
ZZZZZZ			17:32	
ZZZZZZ			17:34	
ZZZZZZ			17:36	
ZZZZZZ			17:38	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: MT_033 Analysis Method: 7470A

Start Date: 11/03/2018 16:07 End Date: 11/04/2018 09:27

Lab Sample Id	D/F	Type	Time	Analytes
				Hg
ZZZZZZ			17:40	
ZZZZZZ			17:43	
ZZZZZZ			17:45	
ZZZZZZ			17:47	
ZZZZZZ			17:49	
CCV 280-436183/12-A			17:52	
CCB 280-436183/13-A			17:54	
ZZZZZZ			17:56	
ZZZZZZ			17:58	
ZZZZZZ			18:00	
ZZZZZZ			18:03	
ZZZZZZ			18:05	
ZZZZZZ			18:07	
ZZZZZZ			18:09	
ZZZZZZ			18:12	
ZZZZZZ			18:14	
ZZZZZZ			18:16	
CCV 280-436183/12-A	1		18:18	X
CCB 280-436183/13-A	1		18:20	X
ZZZZZZ			18:23	
ZZZZZZ			18:25	
MB 280-436187/1-A	1	T	18:27	X
LCS 280-436187/2-A	1	T	18:29	X
LCSD 280-436187/3-A	1	T	18:32	X
ZZZZZZ			18:34	
ZZZZZZ			18:36	
ZZZZZZ			18:38	
ZZZZZZ			18:41	
ZZZZZZ			18:43	
CCV 280-436183/12-A	1		18:45	X
CCB 280-436183/13-A	1		18:47	X
ZZZZZZ			18:49	
ZZZZZZ			18:52	
ZZZZZZ			18:54	
ZZZZZZ			18:56	
ZZZZZZ			18:58	
ZZZZZZ			19:01	
ZZZZZZ			19:03	
ZZZZZZ			19:05	
ZZZZZZ			19:07	
ZZZZZZ			19:09	
CCV 280-436183/12-A			19:12	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: MT_033 Analysis Method: 7470A

Start Date: 11/03/2018 16:07 End Date: 11/04/2018 09:27

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
CCB 280-436183/13-A			19:14																									
ZZZZZZ			19:16																									
ZZZZZZ			19:18																									
ZZZZZZ			19:21																									
ZZZZZZ			19:23																									
ZZZZZZ			19:25																									
ZZZZZZ			19:27																									
ZZZZZZ			19:29																									
ZZZZZZ			19:32																									
ZZZZZZ			19:34																									
ZZZZZZ			19:36																									
CCV 280-436183/12-A			19:38																									
CCB 280-436183/13-A			19:41																									
ZZZZZZ			19:43																									
ZZZZZZ			19:45																									
ZZZZZZ			19:47																									
ZZZZZZ			19:50																									
ZZZZZZ			19:52																									
ZZZZZZ			19:54																									
ZZZZZZ			19:56																									
ZZZZZZ			19:59																									
ZZZZZZ			20:01																									
ZZZZZZ			20:03																									
CCV 280-436183/12-A			20:05																									
CCB 280-436183/13-A			20:07																									
ZZZZZZ			20:10																									
ZZZZZZ			20:12																									
ZZZZZZ			20:14																									
ZZZZZZ			20:16																									
ZZZZZZ			20:19																									
ZZZZZZ			20:21																									
ZZZZZZ			20:23																									
ZZZZZZ			20:25																									
ZZZZZZ			20:28																									
ZZZZZZ			20:30																									
CCV 280-436183/12-A			20:32																									
CCB 280-436183/13-A			20:34																									
ZZZZZZ			20:37																									
ZZZZZZ			20:39																									
ZZZZZZ			20:41																									
ZZZZZZ			20:43																									
ZZZZZZ			20:45																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: MT_033 Analysis Method: 7470A

Start Date: 11/03/2018 16:07 End Date: 11/04/2018 09:27

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
ZZZZZZ			20:48																									
CCV 280-436183/12-A			20:50																									
CCB 280-436183/13-A			20:52																									
CCV 280-436183/12-A	1		08:31	X																								
CCB 280-436183/13-A	1		08:34	X																								
ZZZZZZ			08:36																									
ZZZZZZ			08:38																									
ZZZZZZ			08:40																									
ZZZZZZ			08:42																									
ZZZZZZ			08:45																									
ZZZZZZ			08:47																									
280-115950-1	1	T	08:49	X																								
280-115950-2	1	T	08:51	X																								
280-115950-2 MS	1	T	08:54	X																								
280-115950-2 MSD	1	T	08:56	X																								
CCV 280-436183/12-A	1		08:58	X																								
CCB 280-436183/13-A	1		09:00	X																								
280-115950-3	1	T	09:02	X																								
280-115950-4	1	T	09:05	X																								
280-115950-5	1	T	09:07	X																								
ZZZZZZ			09:09																									
ZZZZZZ			09:11																									
ZZZZZZ			09:14																									
ZZZZZZ			09:16																									
ZZZZZZ			09:18																									
ZZZZZZ			09:20																									
ZZZZZZ			09:23																									
CCV 280-436183/12-A	1		09:25	X																								
CCB 280-436183/13-A	1		09:27	X																								

Prep Types:
T = Total/NA

FORM XIII-IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

ICP Instrument ID: MT_051 Start Date: 10/29/2018 End Date: 10/30/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Y 242.219	Q	Element Y 377.433	Q	Element Y 488.368	Q	Element	Q	Element	Q
ICIS 280-435469/1	10:14										
ICVH 280-435469/6	10:31	100		99		100					
ICVH 280-435469/7	10:35	102		101		101					
ICV 280-435469/8	10:38	101		101		101					
ICV 280-435469/9	10:42	101		101		102					
ICVL 280-435469/10	10:45	101		101		101					
ICB 280-435469/13	10:55	100		100		99					
CRI 280-435469/14	10:59	100		100		101					
ICSA 280-435469/15	11:02	90		89		93					
ICSAB 280-435469/16	11:05	88		89		96					
CRI 280-435469/22	11:26	99		99		100					
CCVH 280-435469/111	00:09	115		114		129					
CCV 280-435469/112	00:13	116		115		127					
CCB 280-435469/113	00:16	117		117		126					
CCVL 280-435469/114	00:19	119		118		130					
MB 280-434973/1-A	00:29	118		118		129					
LCS 280-434973/2-A	00:33	114		114		127					
LCSD 280-434973/3-A	00:36	115		115		129					
280-115950-1	00:40	117		117		129					
280-115950-2	00:43	115		116		129					
280-115950-2 SD	00:46	117		116		127					
280-115950-2 MS	00:50	113		113		127					
280-115950-2 MSD	00:53	112		113		127					
CCVH 280-435469/125	00:57	115		113		125					
CCV 280-435469/126	01:00	116		115		127					
CCB 280-435469/127	01:03	115		115		124					
CCVL 280-435469/128	01:07	118		117		129					
280-115950-2 PDS	01:10	113		113		127					
280-115950-3	01:13	114		114		126					
280-115950-4	01:17	112		113		127					
280-115950-5	01:20	115		115		127					
CCVH 280-435469/138	01:40	116		115		128					
CCV 280-435469/139	01:44	118		118		130					
CCB 280-435469/140	01:47	118		118		129					
CCVL 280-435469/141	01:51	120		120		128					

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

ICP-MS Instrument ID: MT_077 Start Date: 11/02/2018 End Date: 11/03/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6/1	Q	Element Li-6/2	Q	Element Sc/1	Q	Element Sc/2	Q	Element Sc/3	Q
ICV 280-436227/8	16:07	96		99		99		97		98	
ICB 280-436227/9	16:11	101		101		101		100		102	
ICVL 280-436227/11	16:20	103		102		103		105		103	
CRI 280-436227/12	16:24	105		102		103		106		105	
CRI 280-436227/13	16:29	103		102		104		106		105	
ICSA 280-436227/15	16:37	96		94		95		91		95	
ICSAB 280-436227/16	16:41	94		93		95		92		94	
IC 280-436227/50	18:50	97		98		99		99		99	
CCV 280-436227/51	18:54	97		100		99		99		99	
CCB 280-436227/52	18:57	98		100		101		101		102	
CCVL 280-436227/53	19:01	100		100		101		101		102	
CCV 280-436227/113	22:49	89		88		89		92		86	
CCB 280-436227/114	22:53	89		90		88		92		86	
CCVL 280-436227/115	22:57	89		89		88		91		86	
MB 280-434761/1-A	23:01	87		87		88		91		87	
LCS 280-434761/2-A	23:04	87		89		88		92		87	
LCSD 280-434761/3-A	23:08	88		88		89		92		87	
280-115950-1	23:20	87		87		87		90		86	
CCV 280-436227/122	23:23	88		87		88		90		85	
CCB 280-436227/123	23:27	88		87		88		90		86	
CCVL 280-436227/124	23:31	89		89		88		89		85	
280-115950-2	23:35	83		85		85		89		84	
280-115950-2 SD	23:38	89		88		87		90		85	
280-115950-2 MS	23:42	83		84		84		88		84	
280-115950-2 MSD	23:46	84		85		85		89		86	
280-115950-2 PDS	23:50	83		84		86		90		84	
280-115950-3	23:54	84		84		86		92		85	
280-115950-4	23:58	83		82		86		90		84	
280-115950-5	00:01	83		84		85		90		83	
CCV 280-436227/134	00:09	85		86		86		92		83	
CCB 280-436227/135	00:13	87		87		87		91		83	
CCVL 280-436227/136	00:17	87		87		86		91		83	
ICSA 280-436227/148	01:03	81		79		81		87		80	
ICSAB 280-436227/149	01:06	79		77		82		87		80	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

ICP-MS Instrument ID: MT_077 Start Date: 11/02/2018 End Date: 11/03/2018

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/1	Q	Element Ge/2	Q	Element In	Q	Element Ho-165	Q	Element	Q
ICV 280-436227/8	16:07	99		95		98		100			
ICB 280-436227/9	16:11	101		102		102		101			
ICVL 280-436227/11	16:20	102		105		102		102			
CRI 280-436227/12	16:24	103		104		102		101			
CRI 280-436227/13	16:29	103		104		103		102			
ICSA 280-436227/15	16:37	93		87		89		95			
ICSAB 280-436227/16	16:41	93		88		90		95			
IC 280-436227/50	18:50	98		99		98		100			
CCV 280-436227/51	18:54	99		99		100		100			
CCB 280-436227/52	18:57	101		102		102		101			
CCVL 280-436227/53	19:01	101		102		102		102			
CCV 280-436227/113	22:49	89		93		97		100			
CCB 280-436227/114	22:53	88		92		98		99			
CCVL 280-436227/115	22:57	88		92		98		99			
MB 280-434761/1-A	23:01	87		91		97		99			
LCS 280-434761/2-A	23:04	88		92		97		99			
LCSD 280-434761/3-A	23:08	88		92		97		100			
280-115950-1	23:20	86		91		97		99			
CCV 280-436227/122	23:23	88		90		95		99			
CCB 280-436227/123	23:27	88		91		97		99			
CCVL 280-436227/124	23:31	88		90		96		99			
280-115950-2	23:35	85		90		95		98			
280-115950-2 SD	23:38	87		91		96		99			
280-115950-2 MS	23:42	84		89		94		97			
280-115950-2 MSD	23:46	85		91		96		99			
280-115950-2 PDS	23:50	86		92		95		99			
280-115950-3	23:54	86		92		98		101			
280-115950-4	23:58	85		91		95		100			
280-115950-5	00:01	86		92		95		100			
CCV 280-436227/134	00:09	86		92		99		101			
CCB 280-436227/135	00:13	86		92		99		102			
CCVL 280-436227/136	00:17	87		92		99		102			
ICSA 280-436227/148	01:03	79		86		91		96			
ICSAB 280-436227/149	01:06	80		86		92		95			

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 434973 Batch Start Date: 10/27/18 05:30 Batch Analyst: Perry, Tara H

Batch Method: 3010A Batch End Date: 10/27/18 11:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	ICP SPK 2B 00080	ICP SPK 3A 00154	
MB 280-434973/1		3010A, 6010C			50 mL	50 mL			
LCS 280-434973/2		3010A, 6010C			50 mL	50 mL	0.5 mL	0.5 mL	
LCSD 280-434973/3		3010A, 6010C			50 mL	50 mL	0.5 mL	0.5 mL	
280-115950-C-1	LL1mw-064-181001-GW	3010A, 6010C	T	<2 SU	50 mL	50 mL			
280-115950-G-2	LL1mw-088-181001-GW	3010A, 6010C	T	<2 SU	50 mL	50 mL			
280-115950-G-2 MS	LL1mw-088-181001-GW	3010A, 6010C	T	<2 SU	50 mL	50 mL	0.5 mL	0.5 mL	
280-115950-G-2 MSD	LL1mw-088-181001-GW	3010A, 6010C	T	<2 SU	50 mL	50 mL	0.5 mL	0.5 mL	
280-115950-G-3	LL1mw-088-181002-GW	3010A, 6010C	T	<2 SU	50 mL	50 mL			
280-115950-G-4	RQLmw-007-181001-GW	3010A, 6010C	T	<2 SU	50 mL	50 mL			
280-115950-G-5	RQLmw-008-181001-GW	3010A, 6010C	T	<2 SU	50 mL	50 mL			

Batch Notes	
Temperature - Corrected - End	94 Degrees C
Temperature - Corrected - Start	90 Degrees C
Digestion End Time	10/27/2018 11:45
Digestion Start Time	10/27/2018 05:30
Digestion Unit ID	06
Hydrochloric Acid ID	0000201226-03/23
Nitric Acid ID	0000200458-05/23
Pipette/Syringe/Dispenser ID	MET-109
Analyst ID - Spike Analyst	TP
Sufficient Volume for Batch QC	yes
Thermometer ID	MT-19
Digestion Tube/Cup ID	1807160
Temperature - Uncorrected - End	92 Degrees C
Temperature - Uncorrected - Start	88 Degrees C

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

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 434973 Batch Start Date: 10/27/18 05:30 Batch Analyst: Perry, Tara H

Batch Method: 3010A Batch End Date: 10/27/18 11:45

Basis	Basis Description
T	Total/NA

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

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 434761 Batch Start Date: 10/25/18 14:30 Batch Analyst: Lodl, Dagmara A

Batch Method: 3020A Batch End Date: 10/25/18 20:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	MS CALSTD-1 00129	MS spike 2 00072	
MB 280-434761/1		3020A, 6020A			50 mL	50 mL			
LCS 280-434761/2		3020A, 6020A			50 mL	50 mL	0.1 mL	0.1 mL	
LCSD 280-434761/3		3020A, 6020A			50 mL	50 mL	0.1 mL	0.1 mL	
280-115950-C-1	LL1mw-064-181001 -GW	3020A, 6020A	T	<2	50 mL	50 mL			
280-115950-G-2	LL1mw-088-181001 -GW	3020A, 6020A	T	<2	50 mL	50 mL			
280-115950-G-2 MS	LL1mw-088-181001 -GW	3020A, 6020A	T	<2	50 mL	50 mL	0.1 mL	0.1 mL	
280-115950-G-2 MSD	LL1mw-088-181001 -GW	3020A, 6020A	T	<2	50 mL	50 mL	0.1 mL	0.1 mL	
280-115950-G-3	LL1mw-088-181002 -GW	3020A, 6020A	T	<2	50 mL	50 mL			
280-115950-G-4	RQLmw-007-181001 -GW	3020A, 6020A	T	<2	50 mL	50 mL			
280-115950-G-5	RQLmw-008-181001 -GW	3020A, 6020A	T	<2	50 mL	50 mL			

Batch Notes	
Temperature - Corrected - End	92 Degrees C
Temperature - Corrected - Start	95 Degrees C
Digestion End Time	2045
Digestion Start Time	14:30
Digestion Unit ID	0000201226-03/23
Lot # of Nitric Acid	0000200458-05/23
Pipette/Syringe/Dispenser ID	MET-88
Thermometer ID	11
Digestion Tube/Cup ID	1807160
Temperature - Uncorrected - End	93 Degrees C
Temperature - Uncorrected - Start	96 Degrees C

Basis	Basis Description
T	Total/NA

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

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 436183 Batch Start Date: 11/03/18 12:15 Batch Analyst: Perry, Tara H

Batch Method: 245.1 Batch End Date: 11/03/18 14:15

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	Hg Biwk ICV 00260	Hg Daily Spk 02282	
ICV 280-436183/9		245.1, 7470A		<2	30 mL	50 mL	0.3 mL		
ICB 280-436183/10		245.1, 7470A		<2	30 mL	50 mL			
CCV 280-436183/12		245.1, 7470A		<2	30 mL	50 mL		1.5 mL	
CCB 280-436183/13		245.1, 7470A		<2	30 mL	50 mL			

Batch Notes	
Batch Comment	DV-MT-0015
Temperature - Corrected - End	94 Degrees C
Temperature - Corrected - Start	90 Degrees C
Digestion End Time	11/03/2018 14:15
Digestion Start Time	11/03/2018 12:15
Digestion Unit ID	14
Sulfuric Acid Lot Number	184525-10/17/19
Nitric Acid ID	200458-10/22/19
Hydroxylamine ID	166725A-10/31/19
Potassium Persulfate ID	178262-10/22/19
Potassium Permanganate ID	185903-10/31/19
Pipette/Syringe/Dispenser ID	MET-114
Analyst ID - Spike Analyst	TP
Sufficient Volume for Batch QC	yes
Thermometer ID	QA-9
Digestion Tube/Cup ID	1807160
Temperature - Uncorrected - End	94 Degrees C
Temperature - Uncorrected - Start	90 Degrees C

Basis	Basis Description

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

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 436187 Batch Start Date: 11/03/18 12:15 Batch Analyst: Perry, Tara H

Batch Method: 7470A Batch End Date: 11/03/18 14:15

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	Hg Daily Spk 02282		
MB 280-436187/1		7470A, 7470A		<2 SU	30 mL	50 mL			
LCS 280-436187/2		7470A, 7470A		<2 SU	30 mL	50 mL	1.5 mL		
LCSD 280-436187/3		7470A, 7470A		<2 SU	30 mL	50 mL	1.5 mL		
280-115950-C-1	LL1mw-064-181001-GW	7470A, 7470A	T	<2 SU	30 mL	50 mL			
280-115950-G-2	LL1mw-088-181001-GW	7470A, 7470A	T	<2 SU	30 mL	50 mL			
280-115950-A-2 MS	LL1mw-088-181001-GW	7470A, 7470A	T	<2 SU	30 mL	50 mL	1.5 mL		
280-115950-A-2 MSD	LL1mw-088-181001-GW	7470A, 7470A	T	<2 SU	30 mL	50 mL	1.5 mL		
280-115950-G-3	LL1mw-088-181002-GW	7470A, 7470A	T	<2 SU	30 mL	50 mL			
280-115950-G-4	RQLmw-007-181001-GW	7470A, 7470A	T	<2 SU	30 mL	50 mL			
280-115950-G-5	RQLmw-008-181001-GW	7470A, 7470A	T	<2 SU	30 mL	50 mL			

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

METALS BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 436187 Batch Start Date: 11/03/18 12:15 Batch Analyst: Perry, Tara H

Batch Method: 7470A Batch End Date: 11/03/18 14:15

Batch Notes	
Batch Comment	DV-MT-0017
Temperature - Corrected - End	95 Degrees C
Temperature - Corrected - Start	90 Degrees C
Digestion End Time	1415
Digestion Start Time	1215
Digestion Unit ID	15
Sulfuric Acid ID	184525-10/17/19
Nitric Acid ID	200458-10/22/19
Hydroxylamine ID	166725A-10/31/19
Potassium Persulfate ID	178262-10/22/19
Potassium Permanganate ID	185903-10/31/19
Pipette/Syringe/Dispenser ID	MET-114
Analyst ID - Spike Analyst	TP
Sufficient Volume for Batch QC	yes
Thermometer ID	QA-25
Digestion Tube/Cup ID	1807160
Temperature - Uncorrected - End	96 Degrees C
Temperature - Uncorrected - Start	91 Degrees C

Basis	Basis Description
T	Total/NA

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

Path: D:\My Results\51A102918.esws

Date created: 10/29/2018 10:07:08 AM

Instrument used: MY14490005

Software Version : 7.3.1.9507

Firmware Version : 3442

Notes:

Sample Name: icis

Date: 10/29/2018 10:14:59 AM Rack:Tube: S1:5

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000000	ppm	N/A	N/A	-433.292000	Y 377.433
Al (167.019 nm)	0.000000	ppm	N/A	N/A	1.002410	Y_R 377.433
Al H (396.152 nm)	0.000000	ppm	N/A	N/A	22.880363	Y_R 377.433
As (188.980 nm)	0.000000	ppm	N/A	N/A	-2.572360	Y 242.219
B (249.678 nm)	0.000000	ppm	N/A	N/A	93.213000	Y 242.219
Ba (493.408 nm)	0.000000	ppm	N/A	N/A	573.280000	Y_R 488.368
Be (234.861 nm)	0.000000	ppm	N/A	N/A	-59.737000	Y_R 488.368
Bi (223.061 nm)	0.000000	ppm	N/A	N/A	7.383490	Y 377.433
Ca (315.887 nm)	0.000000	ppm	N/A	N/A	-64.459316	Y_R 377.433
Cd (214.439 nm)	0.000000	ppm	N/A	N/A	-1.611700	Y 377.433
Co (228.615 nm)	0.000000	ppm	N/A	N/A	-34.203400	Y 242.219
Cr (205.560 nm)	0.000000	ppm	N/A	N/A	1.686580	Y 377.433
Cu (324.754 nm)	0.000000	ppm	N/A	N/A	-310.363000	Y 377.433
Fe (238.204 nm)	0.000000	ppm	N/A	N/A	16.619077	Y_R 377.433
Fe H (259.940 nm)	0.000000	ppm	N/A	N/A	8.292960	Y_R 377.433
K (766.491 nm)	0.000000	ppm	N/A	N/A	-689.145000	Y_R2 488.368
Li (670.783 nm)	0.000000	ppm	N/A	N/A	-1385.000000	Y_R2 488.368
Mg (279.078 nm)	0.000000	ppm	N/A	N/A	34.488300	Y 377.433
Mn (257.610 nm)	0.000000	ppm	N/A	N/A	61.454800	Y 377.433
Mo (202.032 nm)	0.000000	ppm	N/A	N/A	-2.406730	Y 377.433
Na (589.592 nm)	0.000000	ppm	N/A	N/A	619.384000	Y_R2 488.368
Na H (589.593 nm)	0.000000	ppm	N/A	N/A	1411.913959	Y_R 488.368
Ni (231.604 nm)	0.000000	ppm	N/A	N/A	-2.338860	Y 377.433
P (213.618 nm)	0.000000	ppm	N/A	N/A	26.904400	Y 242.219
Pb (220.353 nm)	0.000000	ppm	N/A	N/A	3.815330	Y 242.219
S (181.972 nm)	0.000000	ppm	N/A	N/A	31.054803	Y 377.433
Sb (206.834 nm)	0.000000	ppm	N/A	N/A	-20.157300	Y 377.433
Se (196.026 nm)	0.000000	ppm	N/A	N/A	13.465900	Y 242.219
Si (288.158 nm)	0.000000	ppm	N/A	N/A	1017.620000	Y 377.433
Sn (189.925 nm)	0.000000	ppm	N/A	N/A	7.895930	Y 377.433
Sr (421.552 nm)	0.000000	ppm	N/A	N/A	145.658326	Y_R 488.368
Th (288.505 nm)	0.000000	ppm	N/A	N/A	77.456800	Y 377.433
Ti (336.122 nm)	0.000000	ppm	N/A	N/A	-286.528000	Y 377.433
Tl (190.794 nm)	0.000000	ppm	N/A	N/A	-7.176580	Y 377.433
U (409.013 nm)	0.000000	ppm	N/A	N/A	-174.187000	Y 377.433
V (292.401 nm)	0.000000	ppm	N/A	N/A	25.104700	Y 377.433
Zn (206.200 nm)	0.000000	ppm	N/A	N/A	-1.344430	Y 377.433
Zr (343.823 nm)	0.000000	ppm	N/A	N/A	13.388100	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.000000	18893.009839	0.000000	0.00
Y 377.433	1.000000	1014829.575963	0.000000	0.00
Y_R 377.433	1.000000	76841.800000	0.000000	0.00
Y_R 488.368	1.000000	43874.800000	0.000000	0.00
Y_R2 488.368	1.000000	86343.113285	0.000000	0.00

Sample Name: ic1

Date: 10/29/2018 10:18:23 AM Rack:Tube: 3:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	1.000000	ppm	N/A	N/A	43849.500000	Y 377.433
Al (167.019 nm)	1.000000	ppm	N/A	N/A	529.300000	Y_R 377.433
Al H (396.152 nm)	1.000000	ppm	N/A	N/A	2602.115522	Y_R 377.433
As (188.980 nm)	2.000000	ppm	N/A	N/A	2396.790000	Y 242.219
B (249.678 nm)	1.000000	ppm	N/A	N/A	23812.400000	Y 242.219
Ba (493.408 nm)	1.000000	ppm	N/A	N/A	115027.000000	Y_R 488.368
Be (234.861 nm)	1.000000	ppm	N/A	N/A	287109.000000	Y_R 488.368
Bi (223.061 nm)		ppm	N/A	N/A	0.640760	Y 377.433
Ca (315.887 nm)	10.000000	ppm	N/A	N/A	7629.271369	Y_R 377.433
Cd (214.439 nm)	1.000000	ppm	N/A	N/A	57115.600000	Y 377.433
Co (228.615 nm)	1.000000	ppm	N/A	N/A	17273.600000	Y 242.219
Cr (205.560 nm)	1.000000	ppm	N/A	N/A	14582.500000	Y 377.433
Cu (324.754 nm)	1.000000	ppm	N/A	N/A	53003.800000	Y 377.433
Fe (238.204 nm)	5.000000	ppm	N/A	N/A	18059.702973	Y_R 377.433
Fe H (259.940 nm)	5.000000	ppm	N/A	N/A	9281.550000	Y_R 377.433
K (766.491 nm)	100.000000	ppm	N/A	N/A	111640.000000	Y_R2 488.368
Li (670.783 nm)	2.000000	ppm	N/A	N/A	63593.900000	Y_R2 488.368
Mg (279.078 nm)	40.000000	ppm	N/A	N/A	220079.000000	Y 377.433
Mn (257.610 nm)	1.000000	ppm	N/A	N/A	225746.000000	Y 377.433
Mo (202.032 nm)	1.000000	ppm	N/A	N/A	8343.990000	Y 377.433
Na (589.592 nm)	10.000000	ppm	N/A	N/A	63986.100000	Y_R2 488.368
Na H (589.593 nm)	10.000000	ppm	N/A	N/A	39903.079814	Y_R 488.368
Ni (231.604 nm)	1.000000	ppm	N/A	N/A	6534.480000	Y 377.433
P (213.618 nm)	2.000000	ppm	N/A	N/A	4141.920000	Y 242.219
Pb (220.353 nm)	2.000000	ppm	N/A	N/A	5583.740000	Y 242.219
S (181.972 nm)		ppm	N/A	N/A	31.384504	Y 377.433
Sb (206.834 nm)	2.000000	ppm	N/A	N/A	5271.790000	Y 377.433
Se (196.026 nm)	2.000000	ppm	N/A	N/A	1892.750000	Y 242.219
Si (288.158 nm)	10.000000	ppm	N/A	N/A	82683.300000	Y 377.433
Sn (189.925 nm)	2.000000	ppm	N/A	N/A	3823.400000	Y 377.433
Sr (421.552 nm)	1.000000	ppm	N/A	N/A	206256.309629	Y_R 488.368
Th (288.505 nm)		ppm	N/A	N/A	123.408000	Y 377.433
Ti (336.122 nm)	1.000000	ppm	N/A	N/A	139371.000000	Y 377.433
Tl (190.794 nm)	2.000000	ppm	N/A	N/A	4261.910000	Y 377.433
U (409.013 nm)		ppm	N/A	N/A	-317.661000	Y 377.433
V (292.401 nm)	1.000000	ppm	N/A	N/A	35153.100000	Y 377.433
Zn (206.200 nm)	1.000000	ppm	N/A	N/A	4999.230000	Y 377.433
Zr (343.823 nm)	1.000000	ppm	N/A	N/A	128704.000000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.989401	18692.763377	0.000372	0.04
Y 377.433	0.985668	1000284.592607	0.000729	0.07
Y_R 377.433	0.989672	76048.200000	0.001942	0.20
Y_R 488.368	0.986070	43263.600000	0.000524	0.05
Y_R2 488.368	0.990180	85495.224026	0.005973	0.60

Sample Name: ic2

Date: 10/29/2018 10:21:47 AM Rack:Tube: 3:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)		ppm	N/A	N/A	-1082.030000	Y 377.433
Al (167.019 nm)	100.000000	ppm	N/A	N/A	44555.800000	Y_R 377.433
Al H (396.152 nm)	100.000000	ppm	N/A	N/A	252512.071266	Y_R 377.433
As (188.980 nm)		ppm	N/A	N/A	-0.208186	Y 242.219
B (249.678 nm)		ppm	N/A	N/A	-86.499400	Y 242.219
Ba (493.408 nm)		ppm	N/A	N/A	744.103000	Y_R 488.368
Be (234.861 nm)		ppm	N/A	N/A	2969.700000	Y_R 488.368
Bi (223.061 nm)	2.000000	ppm	N/A	N/A	4857.030000	Y 377.433
Ca (315.887 nm)		ppm	N/A	N/A	-58.065439	Y_R 377.433
Cd (214.439 nm)		ppm	N/A	N/A	52.069300	Y 377.433
Co (228.615 nm)		ppm	N/A	N/A	57.370400	Y 242.219
Cr (205.560 nm)		ppm	N/A	N/A	-33.094400	Y 377.433
Cu (324.754 nm)		ppm	N/A	N/A	-318.417000	Y 377.433
Fe (238.204 nm)	100.000000	ppm	N/A	N/A	355514.328235	Y_R 377.433
Fe H (259.940 nm)	100.000000	ppm	N/A	N/A	182735.000000	Y_R 377.433
K (766.491 nm)		ppm	N/A	N/A	-706.401000	Y_R2 488.368
Li (670.783 nm)		ppm	N/A	N/A	-1278.280000	Y_R2 488.368
Mg (279.078 nm)		ppm	N/A	N/A	-933.072000	Y 377.433
Mn (257.610 nm)		ppm	N/A	N/A	654.140000	Y 377.433
Mo (202.032 nm)		ppm	N/A	N/A	-2.041440	Y 377.433
Na (589.592 nm)	500.000000	ppm	N/A	N/A	3101460.000000	Y_R2 488.368
Na H (589.593 nm)	500.000000	ppm	N/A	N/A	1839056.438474	Y_R 488.368
Ni (231.604 nm)		ppm	N/A	N/A	55.040400	Y 377.433
P (213.618 nm)		ppm	N/A	N/A	13.164100	Y 242.219
Pb (220.353 nm)		ppm	N/A	N/A	16.469000	Y 242.219
S (181.972 nm)	10.000000	ppm	N/A	N/A	4901.907567	Y 377.433
Sb (206.834 nm)		ppm	N/A	N/A	-132.144000	Y 377.433
Se (196.026 nm)		ppm	N/A	N/A	-0.945368	Y 242.219
Si (288.158 nm)		ppm	N/A	N/A	1222.440000	Y 377.433
Sn (189.925 nm)		ppm	N/A	N/A	14.434400	Y 377.433
Sr (421.552 nm)		ppm	N/A	N/A	261.139985	Y_R 488.368
Th (288.505 nm)	10.000000	ppm	N/A	N/A	24698.700000	Y 377.433
Ti (336.122 nm)		ppm	N/A	N/A	70.787400	Y 377.433
Tl (190.794 nm)		ppm	N/A	N/A	-23.338900	Y 377.433
U (409.013 nm)	20.000000	ppm	N/A	N/A	88704.700000	Y 377.433
V (292.401 nm)		ppm	N/A	N/A	-80.300600	Y 377.433
Zn (206.200 nm)		ppm	N/A	N/A	52.853200	Y 377.433
Zr (343.823 nm)		ppm	N/A	N/A	-851.844000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.982991	18571.666652	0.002518	0.26
Y 377.433	0.965674	979994.274201	0.001045	0.11
Y_R 377.433	0.985680	75741.400000	0.008658	0.88
Y_R 488.368	0.979746	42986.200000	0.000828	0.08
Y_R2 488.368	0.996945	86079.365682	0.007634	0.77

Sample Name: S1-5391052

Date: 10/29/2018 10:25:11 AM Rack:Tube: 3:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.999804	ppm	0.000807	0.08	43891.200000	Y 377.433
Al (167.019 nm)	1.011270	ppm	0.003523	0.35	538.493000	Y_R 377.433
Al H (396.152 nm)	1.000947	ppm	0.002632	0.26	2688.959761	Y_R 377.433
As (188.980 nm)	2.017760	ppm	0.007862	0.39	2418.040000	Y 242.219
B (249.678 nm)	1.001290	ppm	0.001239	0.12	23877.400000	Y 242.219
Ba (493.408 nm)	1.000330	ppm	0.005948	0.59	115091.000000	Y_R 488.368
Be (234.861 nm)	0.995847	ppm	0.001423	0.14	286006.000000	Y_R 488.368
Bi (223.061 nm)	-0.001759 u	ppm	0.000383	21.78	3.922990	Y 377.433
Ca (315.887 nm)	9.993076	ppm	0.013515	0.14	7624.492032	Y_R 377.433
Cd (214.439 nm)	1.002380	ppm	0.000227	0.02	57257.400000	Y 377.433
Co (228.615 nm)	1.001590	ppm	0.000607	0.06	17334.800000	Y 242.219
Cr (205.560 nm)	1.002720	ppm	0.001241	0.12	14610.800000	Y 377.433
Cu (324.754 nm)	0.999457	ppm	0.000205	0.02	52980.100000	Y 377.433
Fe (238.204 nm)	5.040145	ppm	0.015217	0.30	18204.571363	Y_R 377.433
Fe H (259.940 nm)	5.019070	ppm	0.023738	0.47	9316.370000	Y_R 377.433
K (766.491 nm)	100.683000	ppm	0.212191	0.21	112407.000000	Y_R2 488.368
Li (670.783 nm)	2.004680	ppm	0.002106	0.11	63746.000000	Y_R2 488.368
Mg (279.078 nm)	39.980100	ppm	0.044476	0.11	219961.000000	Y 377.433
Mn (257.610 nm)	1.000590	ppm	0.001562	0.16	225878.000000	Y 377.433
Mo (202.032 nm)	0.999412	ppm	0.001666	0.17	8339.080000	Y 377.433
Na (589.592 nm)	10.068600	ppm	0.014630	0.15	66362.900000	Y_R2 488.368
Na H (589.593 nm)	10.519463 Q	ppm	0.089720	0.85	42752.715486 Q	Y_R 488.368
Ni (231.604 nm)	1.000350	ppm	0.001369	0.14	6539.300000	Y 377.433
P (213.618 nm)	1.995800	ppm	0.000594	0.03	4133.270000	Y 242.219
Pb (220.353 nm)	2.006510	ppm	0.003770	0.19	5597.620000	Y 242.219
S (181.972 nm)	-0.013376 u	ppm	0.001325	9.91	26.847205	Y 377.433
Sb (206.834 nm)	1.998670	ppm	0.000423	0.02	5289.750000	Y 377.433
Se (196.026 nm)	2.002620	ppm	0.008487	0.42	1895.330000	Y 242.219
Si (288.158 nm)	9.946090	ppm	0.017870	0.18	82243.000000	Y 377.433
Sn (189.925 nm)	1.993750	ppm	0.001732	0.09	3811.480000	Y 377.433
Sr (421.552 nm)	0.999189	ppm	0.004920	0.49	206089.071670	Y_R 488.368
Th (288.505 nm)	0.007349	ppm	0.000258	3.51	126.071000	Y 377.433
Ti (336.122 nm)	0.999248	ppm	0.001676	0.17	139297.000000	Y 377.433
Tl (190.794 nm)	2.010580	ppm	0.009178	0.46	4281.580000	Y 377.433
U (409.013 nm)	-0.007650 u	ppm	0.006468	84.54	-281.464000	Y 377.433
V (292.401 nm)	1.001090	ppm	0.000630	0.06	34954.200000	Y 377.433
Zn (206.200 nm)	1.000200	ppm	0.000005	0.00	5000.240000	Y 377.433
Zr (343.823 nm)	1.002880	ppm	0.001493	0.15	129089.000000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.990347	18710.632622	0.000422	0.04
Y 377.433	0.986680	1001311.609982	0.001261	0.13
Y_R 377.433	0.993574	76348.000000	0.001075	0.11
Y_R 488.368	0.991291	43492.700000	0.001223	0.12
Y_R2 488.368	0.998336	86199.470332	0.006656	0.67

Sample Name: S2-5380933

Date: 10/29/2018 10:28:35 AM Rack:Tube: 3:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.003508 u	ppm	0.000127	3.62	-1059.430000	Y 377.433
Al (167.019 nm)	84.253300 o	ppm	0.027626	0.03	44575.200000	Y_R 377.433
Al H (396.152 nm)	99.979612	ppm	0.234003	0.23	252460.671141	Y_R 377.433
As (188.980 nm)	0.000902 u	ppm	0.001477	> 100.00	-2.330330	Y 242.219
B (249.678 nm)	-0.001250 u	ppm	0.000259	20.75	-78.564200	Y 242.219
Ba (493.408 nm)	0.000464	ppm	0.000074	15.84	718.054000	Y_R 488.368
Be (234.861 nm)	0.000193 u	ppm	0.000396	> 100.00	2991.880000	Y_R 488.368
Bi (223.061 nm)	1.989700	ppm	0.002994	0.15	4847.820000	Y 377.433
Ca (315.887 nm)	-0.021477 u	ppm	0.002330	10.85	-80.982540	Y_R 377.433
Cd (214.439 nm)	-0.000724 u	ppm	0.000160	22.09	48.447300	Y 377.433
Co (228.615 nm)	0.005612	ppm	0.000466	8.30	62.966700	Y 242.219
Cr (205.560 nm)	-0.000593 u	ppm	0.000173	29.25	-33.212800	Y 377.433
Cu (324.754 nm)	-0.012727 u	ppm	0.000054	0.43	-351.980000	Y 377.433
Fe (238.204 nm)	98.752003 o	ppm	0.732132	0.74	356374.752577	Y_R 377.433
Fe H (259.940 nm)	100.067000	ppm	0.419005	0.42	182856.000000	Y_R 377.433
K (766.491 nm)	0.015508 u	ppm	0.045300	> 100.00	-671.726000	Y_R2 488.368
Li (670.783 nm)	0.002476	ppm	0.000830	33.52	-1304.540000	Y_R2 488.368
Mg (279.078 nm)	-0.051020 u	ppm	0.000187	0.37	-921.231000	Y 377.433
Mn (257.610 nm)	0.002638	ppm	0.000060	2.27	656.821000	Y 377.433
Mo (202.032 nm)	0.000333	ppm	0.000001	0.27	0.372383	Y 377.433
Na (589.592 nm)	488.366000 o	ppm	1.843250	0.38	3095230.000000	Y_R2 488.368
Na H (589.593 nm)	492.496740	ppm	8.490536	1.72	1811505.299022	Y_R 488.368
Ni (231.604 nm)	0.007924	ppm	0.000492	6.20	53.383300	Y 377.433
P (213.618 nm)	-0.006174 u	ppm	0.000764	12.38	14.202200	Y 242.219
Pb (220.353 nm)	-0.005621 u	ppm	0.000412	7.33	20.758300	Y 242.219
S (181.972 nm)	10.012520	ppm	0.008184	0.08	4908.013163	Y 377.433
Sb (206.834 nm)	-0.006975 u	ppm	0.000736	10.55	-126.759000	Y 377.433
Se (196.026 nm)	-0.003795 u	ppm	0.001855	48.88	-7.018990	Y 242.219
Si (288.158 nm)	0.021992	ppm	0.001416	6.44	1197.220000	Y 377.433
Sn (189.925 nm)	0.004337	ppm	0.000263	6.06	16.169500	Y 377.433
Sr (421.552 nm)	0.000602	ppm	0.000023	3.77	269.644764	Y_R 488.368
Th (288.505 nm)	10.021000	ppm	0.021956	0.22	25131.400000	Y 377.433
Ti (336.122 nm)	0.002573	ppm	0.000017	0.68	73.113400	Y 377.433
Tl (190.794 nm)	-0.006454 u	ppm	0.000290	4.49	-23.497700	Y 377.433
U (409.013 nm)	20.033400	ppm	0.036251	0.18	88943.500000	Y 377.433
V (292.401 nm)	0.006042	ppm	0.000342	5.66	-78.284300	Y 377.433
Zn (206.200 nm)	0.004643	ppm	0.000399	8.60	21.873200	Y 377.433
Zr (343.823 nm)	-0.008993 u	ppm	0.000201	2.24	-860.647000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.987686	18660.355064	0.000450	0.05
Y 377.433	0.976498	990979.510661	0.001586	0.16
Y_R 377.433	0.984523	75652.500000	0.003072	0.31
Y_R 488.368	0.992328	43538.200000	0.020387	2.05
Y_R2 488.368	0.988331	85335.608486	0.002357	0.24

Sample Name: ICVH-5398392

Date: 10/29/2018 10:31:58 AM Rack:Tube: 3:5

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.001136 u	ppm	0.000447	39.33	-601.159000	Y 377.433
Al (167.019 nm)	37.406000 o	ppm	0.160619	0.43	19813.500000	Y_R 377.433
Al H (396.152 nm)	39.765593	ppm	0.109210	0.27	100459.807508	Y_R 377.433
As (188.980 nm)	0.002689	ppm	0.002081	77.39	-0.022163	Y 242.219
B (249.678 nm)	0.001094	ppm	0.000153	13.96	4.629270	Y 242.219
Ba (493.408 nm)	0.000224	ppm	0.000023	10.18	672.634000	Y_R 488.368
Be (234.861 nm)	0.000212	ppm	0.000045	21.09	2407.340000	Y_R 488.368
Bi (223.061 nm)	0.487011	ppm	0.003198	0.66	1200.990000	Y 377.433
Ca (315.887 nm)	-0.008815 u	ppm	0.004505	51.10	-71.240510	Y_R 377.433
Cd (214.439 nm)	-0.000481 u	ppm	0.000015	3.13	44.469500	Y 377.433
Co (228.615 nm)	0.000405	ppm	0.000160	39.43	-27.199900	Y 242.219
Cr (205.560 nm)	-0.001011 u	ppm	0.000312	30.89	-34.181200	Y 377.433
Cu (324.754 nm)	-0.003595 u	ppm	0.000050	1.40	-196.839000	Y 377.433
Fe (238.204 nm)	79.510521 o	ppm	0.363880	0.46	286939.618442	Y_R 377.433
Fe H (259.940 nm)	80.631000	ppm	0.286313	0.36	147370.000000	Y_R 377.433
K (766.491 nm)	-0.087783 u	ppm	0.000592	0.67	-787.751000	Y_R2 488.368
Li (670.783 nm)	0.000499	ppm	0.000390	78.00	-1368.770000	Y_R2 488.368
Mg (279.078 nm)	-0.018436 u	ppm	0.000745	4.04	-324.048000	Y 377.433
Mn (257.610 nm)	0.001128	ppm	0.000020	1.78	316.130000	Y 377.433
Mo (202.032 nm)	0.000289	ppm	0.000020	6.97	0.005325	Y 377.433
Na (589.592 nm)	40.478000 o	ppm	0.097218	0.24	257115.000000	Y_R2 488.368
Na H (589.593 nm)	41.076050	ppm	0.087577	0.21	154006.030125	Y_R 488.368
Ni (231.604 nm)	0.001582	ppm	0.000340	21.50	11.158800	Y 377.433
P (213.618 nm)	-0.005318 u	ppm	0.002493	46.87	15.961600	Y 242.219
Pb (220.353 nm)	-0.001108 u	ppm	0.001391	> 100.00	8.819230	Y 242.219
S (181.972 nm)	3.835649	ppm	0.005154	0.13	1899.345489	Y 377.433
Sb (206.834 nm)	-0.004669 u	ppm	0.002449	52.45	-68.172000	Y 377.433
Se (196.026 nm)	-0.001762 u	ppm	0.003603	> 100.00	-2.378250	Y 242.219
Si (288.158 nm)	-0.009851 u	ppm	0.000215	2.18	937.173000	Y 377.433
Sn (189.925 nm)	-0.000282 u	ppm	0.000550	> 100.00	7.358840	Y 377.433
Sr (421.552 nm)	0.000232	ppm	0.000178	76.81	193.507042	Y_R 488.368
Th (288.505 nm)	3.056170	ppm	0.027875	0.91	7694.370000	Y 377.433
Ti (336.122 nm)	0.000989	ppm	0.000024	2.45	-148.270000	Y 377.433
Tl (190.794 nm)	-0.000877 u	ppm	0.001748	> 100.00	-11.109700	Y 377.433
U (409.013 nm)	5.083940	ppm	0.003600	0.07	22491.200000	Y 377.433
V (292.401 nm)	0.001591	ppm	0.000329	20.71	42.166700	Y 377.433
Zn (206.200 nm)	0.000452	ppm	0.000098	21.66	0.916447	Y 377.433
Zr (343.823 nm)	-0.002451 u	ppm	0.000037	1.53	-74.163700	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.001977	18930.358715	0.002207	0.22
Y 377.433	0.993681	1008417.333780	0.004371	0.44
Y_R 377.433	1.004830	77213.200000	0.003718	0.37
Y_R 488.368	1.002280	43974.800000	0.002128	0.21
Y_R2 488.368	1.014492	87594.379697	0.001931	0.19

Sample Name: ICVH-5398392

Date: 10/29/2018 10:35:22 AM Rack:Tube: 3:5

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.001463 u	ppm	0.000231	15.81	-615.492000	Y 377.433
Al (167.019 nm)	37.434700 o	ppm	0.238920	0.64	19828.800000	Y_R 377.433
Al H (396.152 nm)	39.813939	ppm	0.344448	0.87	100581.839259	Y_R 377.433
As (188.980 nm)	0.002398	ppm	0.001268	52.89	-0.372716	Y 242.219
B (249.678 nm)	0.000858	ppm	0.000273	31.82	-1.201970	Y 242.219
Ba (493.408 nm)	-0.000117 u	ppm	0.000155	> 100.00	633.803000	Y_R 488.368
Be (234.861 nm)	0.000206	ppm	0.000014	7.00	2410.400000	Y_R 488.368
Bi (223.061 nm)	0.484846	ppm	0.000878	0.18	1195.760000	Y 377.433
Ca (315.887 nm)	-0.014839 u	ppm	0.005432	36.61	-75.875276	Y_R 377.433
Cd (214.439 nm)	-0.000474 u	ppm	0.000058	12.20	45.048700	Y 377.433
Co (228.615 nm)	0.000037 u	ppm	0.000317	> 100.00	-33.558600	Y 242.219
Cr (205.560 nm)	-0.000879 u	ppm	0.000282	32.03	-32.297500	Y 377.433
Cu (324.754 nm)	-0.003201 u	ppm	0.000219	6.84	-181.735000	Y 377.433
Fe (238.204 nm)	79.726020 o	ppm	0.636219	0.80	287717.273172	Y_R 377.433
Fe H (259.940 nm)	80.839900	ppm	0.615744	0.76	147752.000000	Y_R 377.433
K (766.491 nm)	-0.000559 u	ppm	0.033941	> 100.00	-689.773000	Y_R2 488.368
Li (670.783 nm)	0.001729	ppm	0.000429	24.80	-1328.810000	Y_R2 488.368
Mg (279.078 nm)	-0.018944 u	ppm	0.000508	2.68	-326.972000	Y 377.433
Mn (257.610 nm)	0.001150	ppm	0.000022	1.92	321.028000	Y 377.433
Mo (202.032 nm)	0.000310	ppm	0.000143	46.19	0.180227	Y 377.433
Na (589.592 nm)	40.389300 o	ppm	0.078051	0.19	256552.000000	Y_R2 488.368
Na H (589.593 nm)	40.858622	ppm	0.112493	0.28	153207.634966	Y_R 488.368
Ni (231.604 nm)	0.001348	ppm	0.000158	11.71	9.634510	Y 377.433
P (213.618 nm)	-0.007677 u	ppm	0.001019	13.27	11.108700	Y 242.219
Pb (220.353 nm)	-0.002424 u	ppm	0.000546	22.53	5.141730	Y 242.219
S (181.972 nm)	3.843188	ppm	0.000363	0.01	1903.017960	Y 377.433
Sb (206.834 nm)	-0.003956 u	ppm	0.000141	3.57	-66.306600	Y 377.433
Se (196.026 nm)	-0.002306 u	ppm	0.000255	11.05	-2.917470	Y 242.219
Si (288.158 nm)	-0.010215 u	ppm	0.000040	0.39	934.205000	Y 377.433
Sn (189.925 nm)	0.001094	ppm	0.000840	76.79	9.982930	Y 377.433
Sr (421.552 nm)	0.000344	ppm	0.000021	6.08	216.555808	Y_R 488.368
Th (288.505 nm)	3.036280	ppm	0.024514	0.81	7645.300000	Y 377.433
Ti (336.122 nm)	0.001055	ppm	0.000015	1.39	-139.076000	Y 377.433
Tl (190.794 nm)	-0.002203 u	ppm	0.001732	78.62	-13.944700	Y 377.433
U (409.013 nm)	5.080650	ppm	0.006938	0.14	22476.700000	Y 377.433
V (292.401 nm)	0.001622	ppm	0.000501	30.91	40.842500	Y 377.433
Zn (206.200 nm)	0.000378	ppm	0.000051	13.37	0.544423	Y 377.433
Zr (343.823 nm)	-0.002430 u	ppm	0.000019	0.78	-70.961200	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.019842	19267.886823	0.000373	0.04
Y 377.433	1.013310	1028336.483953	0.000880	0.09
Y_R 377.433	1.014050	77921.700000	0.003853	0.38
Y_R 488.368	1.013410	44463.100000	0.002830	0.28
Y_R2 488.368	1.020249	88091.484315	0.005491	0.54

Sample Name: ICV-5398393

Date: 10/29/2018 10:38:45 AM Rack:Tube: 3:6

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.244967	ppm	0.000202	0.08	10426.300000	Y 377.433
Al (167.019 nm)	0.243740	ppm	0.005345	2.19	129.934000	Y_R 377.433
Al H (396.152 nm)	0.232566 u	ppm	0.003091	1.33	685.274801	Y_R 377.433
As (188.980 nm)	0.249838	ppm	0.000440	0.18	297.151000	Y 242.219
B (249.678 nm)	0.247039	ppm	0.000304	0.12	5962.600000	Y 242.219
Ba (493.408 nm)	0.248726	ppm	0.000455	0.18	29047.500000	Y_R 488.368
Be (234.861 nm)	0.244326	ppm	0.000773	0.32	70095.200000	Y_R 488.368
Bi (223.061 nm)	-0.001281 u	ppm	0.000766	59.86	4.319130	Y 377.433
Ca (315.887 nm)	2.015901	ppm	0.009501	0.47	1486.655928	Y_R 377.433
Cd (214.439 nm)	0.247967	ppm	0.000160	0.06	14162.000000	Y 377.433
Co (228.615 nm)	0.246766	ppm	0.000285	0.12	4245.020000	Y 242.219
Cr (205.560 nm)	0.249439	ppm	0.001562	0.63	3636.170000	Y 377.433
Cu (324.754 nm)	0.241807	ppm	0.000075	0.03	12579.800000	Y 377.433
Fe (238.204 nm)	0.254395	ppm	0.000339	0.13	934.631920	Y_R 377.433
Fe H (259.940 nm)	0.169881 u	ppm	0.005721	3.37	462.616000	Y_R 377.433
K (766.491 nm)	20.031800	ppm	0.029998	0.15	21812.300000	Y_R2 488.368
Li (670.783 nm)	0.253661	ppm	0.000913	0.36	6856.320000	Y_R2 488.368
Mg (279.078 nm)	9.790860	ppm	0.021686	0.22	53894.600000	Y 377.433
Mn (257.610 nm)	0.258068	ppm	0.000294	0.11	58303.300000	Y 377.433
Mo (202.032 nm)	0.244137	ppm	0.000706	0.29	2035.260000	Y 377.433
Na (589.592 nm)	2.028130	ppm	0.004511	0.22	13953.900000	Y_R2 488.368
Na H (589.593 nm)	1.755071 u	ppm	0.009153	0.52	9864.143664	Y_R 488.368
Ni (231.604 nm)	0.247912	ppm	0.001782	0.72	1618.800000	Y 377.433
P (213.618 nm)	1.924040	ppm	0.006535	0.34	3985.620000	Y 242.219
Pb (220.353 nm)	0.250229	ppm	0.000833	0.33	700.825000	Y 242.219
S (181.972 nm)	-0.021415 u	ppm	0.001741	8.13	21.218101	Y 377.433
Sb (206.834 nm)	0.240573	ppm	0.001122	0.47	621.986000	Y 377.433
Se (196.026 nm)	0.494023	ppm	0.001057	0.21	477.889000	Y 242.219
Si (288.158 nm)	1.970450	ppm	0.002717	0.14	17109.500000	Y 377.433
Sn (189.925 nm)	0.485252	ppm	0.000127	0.03	933.636000	Y 377.433
Sr (421.552 nm)	0.249754	ppm	0.000092	0.04	51622.678574	Y_R 488.368
Th (288.505 nm)	0.001739 u	ppm	0.004031	> 100.00	89.605100	Y 377.433
Ti (336.122 nm)	0.246153	ppm	0.000458	0.19	34096.800000	Y 377.433
Tl (190.794 nm)	0.502302	ppm	0.000047	0.01	1064.320000	Y 377.433
U (409.013 nm)	-0.005525 u	ppm	0.005884	> 100.00	-217.420000	Y 377.433
V (292.401 nm)	0.247213	ppm	0.000908	0.37	8649.190000	Y 377.433
Zn (206.200 nm)	0.246588	ppm	0.001221	0.50	1231.740000	Y 377.433
Zr (343.823 nm)	0.246034	ppm	0.000417	0.17	31676.500000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.009687	19076.032120	0.001993	0.20
Y 377.433	1.011174	1026169.678022	0.003431	0.34
Y_R 377.433	1.007590	77424.700000	0.004384	0.44
Y_R 488.368	1.009700	44300.400000	0.004391	0.43
Y_R2 488.368	1.027380	88707.167290	0.002517	0.24

Sample Name: ICV-5398393

Date: 10/29/2018 10:42:09 AM Rack:Tube: 3:6

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.245047	ppm	0.000158	0.06	10429.900000	Y 377.433
Al (167.019 nm)	0.251930	ppm	0.002619	1.04	134.261000	Y_R 377.433
Al H (396.152 nm)	0.238778 u	ppm	0.004597	1.93	700.881609	Y_R 377.433
As (188.980 nm)	0.249722	ppm	0.002734	1.09	297.012000	Y 242.219
B (249.678 nm)	0.247169	ppm	0.000741	0.30	5965.650000	Y 242.219
Ba (493.408 nm)	0.249941	ppm	0.001786	0.71	29186.600000	Y_R 488.368
Be (234.861 nm)	0.242318	ppm	0.000204	0.08	69518.700000	Y_R 488.368
Bi (223.061 nm)	0.001408	ppm	0.000731	51.93	10.839000	Y 377.433
Ca (315.887 nm)	2.018205	ppm	0.031538	1.56	1488.428439	Y_R 377.433
Cd (214.439 nm)	0.247360	ppm	0.000019	0.01	14127.400000	Y 377.433
Co (228.615 nm)	0.246239	ppm	0.000200	0.08	4235.880000	Y 242.219
Cr (205.560 nm)	0.248530	ppm	0.000588	0.24	3622.930000	Y 377.433
Cu (324.754 nm)	0.241895	ppm	0.000462	0.19	12584.200000	Y 377.433
Fe (238.204 nm)	0.255817	ppm	0.003529	1.38	939.765053	Y_R 377.433
Fe H (259.940 nm)	0.171947 u	ppm	0.000860	0.50	466.388000	Y_R 377.433
K (766.491 nm)	19.988100	ppm	0.039330	0.20	21763.200000	Y_R2 488.368
Li (670.783 nm)	0.252259	ppm	0.000573	0.23	6810.750000	Y_R2 488.368
Mg (279.078 nm)	9.767610	ppm	0.000915	0.01	53766.700000	Y 377.433
Mn (257.610 nm)	0.257806	ppm	0.000089	0.03	58244.100000	Y 377.433
Mo (202.032 nm)	0.243136	ppm	0.001057	0.43	2026.910000	Y 377.433
Na (589.592 nm)	2.029150	ppm	0.008428	0.42	13963.300000	Y_R2 488.368
Na H (589.593 nm)	1.689507 u	ppm	0.009677	0.57	9624.871589	Y_R 488.368
Ni (231.604 nm)	0.247238	ppm	0.000165	0.07	1614.400000	Y 377.433
P (213.618 nm)	1.918980	ppm	0.001032	0.05	3975.210000	Y 242.219
Pb (220.353 nm)	0.250158	ppm	0.001336	0.53	700.629000	Y 242.219
S (181.972 nm)	-0.023260 u	ppm	0.000919	3.95	20.318847	Y 377.433
Sb (206.834 nm)	0.241318	ppm	0.002148	0.89	623.920000	Y 377.433
Se (196.026 nm)	0.492307	ppm	0.000103	0.02	476.276000	Y 242.219
Si (288.158 nm)	1.969590	ppm	0.001146	0.06	17102.400000	Y 377.433
Sn (189.925 nm)	0.483223	ppm	0.001534	0.32	929.767000	Y 377.433
Sr (421.552 nm)	0.250546	ppm	0.000960	0.38	51785.871672	Y_R 488.368
Th (288.505 nm)	0.000288	ppm	0.000067	23.33	86.068300	Y 377.433
Ti (336.122 nm)	0.245841	ppm	0.000181	0.07	34053.400000	Y 377.433
Tl (190.794 nm)	0.502850	ppm	0.000239	0.05	1065.490000	Y 377.433
U (409.013 nm)	-0.000043 u	ppm	0.002392	> 100.00	-193.024000	Y 377.433
V (292.401 nm)	0.246445	ppm	0.000205	0.08	8622.430000	Y 377.433
Zn (206.200 nm)	0.245582	ppm	0.000342	0.14	1226.710000	Y 377.433
Zr (343.823 nm)	0.245713	ppm	0.000255	0.10	31635.100000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.009233	19067.440287	0.001545	0.15
Y 377.433	1.010999	1025991.482652	0.002175	0.22
Y_R 377.433	1.015000	77994.600000	0.005345	0.53
Y_R 488.368	1.016220	44586.300000	0.002252	0.22
Y_R2 488.368	1.019186	87999.722019	0.004963	0.49

Sample Name: ICVL-5398386

Date: 10/29/2018 10:45:32 AM Rack:Tube: 3:7

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.009018	ppm	0.000077	0.86	-33.361500	Y 377.433
Al (167.019 nm)	0.104497	ppm	0.004752	4.55	56.273600	Y_R 377.433
Al H (396.152 nm)	0.083851 u	ppm	0.005359	6.39	291.039991	Y_R 377.433
As (188.980 nm)	0.016685	ppm	0.000850	5.10	17.442800	Y 242.219
B (249.678 nm)	0.100297	ppm	0.000319	0.32	2472.430000	Y 242.219
Ba (493.408 nm)	0.010147	ppm	0.000256	2.53	1734.700000	Y_R 488.368
Be (234.861 nm)	0.001057	ppm	0.000003	0.29	246.056000	Y_R 488.368
Bi (223.061 nm)	0.101617	ppm	0.001551	1.53	253.802000	Y 377.433
Ca (315.887 nm)	0.203516	ppm	0.002023	0.99	92.123192	Y_R 377.433
Cd (214.439 nm)	0.005265	ppm	0.000125	2.37	299.194000	Y 377.433
Co (228.615 nm)	0.010296	ppm	0.000182	1.77	144.323000	Y 242.219
Cr (205.560 nm)	0.009834	ppm	0.000112	1.13	145.002000	Y 377.433
Cu (324.754 nm)	0.015295	ppm	0.000304	1.99	502.162000	Y 377.433
Fe (238.204 nm)	0.102271	ppm	0.002303	2.25	385.677214	Y_R 377.433
Fe H (259.940 nm)	0.026185 u	ppm	0.002151	8.22	200.254000	Y_R 377.433
K (766.491 nm)	3.155510	ppm	0.045645	1.45	2855.400000	Y_R2 488.368
Li (670.783 nm)	0.022898	ppm	0.001530	6.68	-641.048000	Y_R2 488.368
Mg (279.078 nm)	0.201317	ppm	0.000962	0.48	1140.780000	Y 377.433
Mn (257.610 nm)	0.010502	ppm	0.000004	0.04	2431.520000	Y 377.433
Mo (202.032 nm)	0.018861	ppm	0.000680	3.61	155.013000	Y 377.433
Na (589.592 nm)	1.063760	ppm	0.002896	0.27	7379.270000	Y_R2 488.368
Na H (589.593 nm)	0.654033 u	ppm	0.029655	4.53	5596.416305	Y_R 488.368
Ni (231.604 nm)	0.042410	ppm	0.000884	2.08	274.910000	Y 377.433
P (213.618 nm)	2.808500 o	ppm	0.001979	0.07	5805.410000	Y 242.219
Pb (220.353 nm)	0.009489	ppm	0.000060	0.63	30.291700	Y 242.219
S (181.972 nm)	0.075470	ppm	0.001500	1.99	67.838962	Y 377.433
Sb (206.834 nm)	0.017575	ppm	0.000994	5.66	26.429400	Y 377.433
Se (196.026 nm)	0.016335	ppm	0.000831	5.09	28.808100	Y 242.219
Si (288.158 nm)	0.475864	ppm	0.001313	0.28	4903.800000	Y 377.433
Sn (189.925 nm)	0.097931	ppm	0.000355	0.36	194.725000	Y 377.433
Sr (421.552 nm)	0.010102	ppm	0.000246	2.43	2227.729044	Y_R 488.368
Th (288.505 nm)	0.015791	ppm	0.002162	13.69	117.614000	Y 377.433
Ti (336.122 nm)	0.010452	ppm	0.000025	0.24	1173.690000	Y 377.433
Tl (190.794 nm)	0.016899	ppm	0.000680	4.02	28.842000	Y 377.433
U (409.013 nm)	0.062219	ppm	0.005621	9.03	101.247000	Y 377.433
V (292.401 nm)	0.009948	ppm	0.000272	2.74	369.582000	Y 377.433
Zn (206.200 nm)	0.021888	ppm	0.000091	0.41	108.110000	Y 377.433
Zr (343.823 nm)	0.015129	ppm	0.000007	0.04	1960.690000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.011083	19102.401848	0.001575	0.16
Y 377.433	1.011509	1026509.269117	0.001769	0.17
Y_R 377.433	1.015360	78022.100000	0.000928	0.09
Y_R 488.368	1.013210	44454.600000	0.018804	1.86
Y_R2 488.368	1.022862	88317.067053	0.003328	0.33

Sample Name: CCVH-5380945

Date: 10/29/2018 10:48:56 AM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.001709 u	ppm	0.000092	5.37	-750.273000	Y 377.433
Al (167.019 nm)	46.041300 o	ppm	0.348186	0.76	24356.800000	Y_R 377.433
Al H (396.152 nm)	50.462292	ppm	0.291332	0.58	127461.907288	Y_R 377.433
As (188.980 nm)	-0.000842 u	ppm	0.000753	89.52	-4.009970	Y 242.219
B (249.678 nm)	-0.000243 u	ppm	0.000196	80.47	15.002400	Y 242.219
Ba (493.408 nm)	0.000258	ppm	0.000118	45.85	649.483000	Y_R 488.368
Be (234.861 nm)	0.000243	ppm	0.000031	12.73	1536.790000	Y_R 488.368
Bi (223.061 nm)	1.010200	ppm	0.000608	0.06	2464.980000	Y 377.433
Ca (315.887 nm)	-0.014986 u	ppm	0.006221	41.51	-75.988316	Y_R 377.433
Cd (214.439 nm)	-0.000219 u	ppm	0.000072	32.77	32.441800	Y 377.433
Co (228.615 nm)	0.003010	ppm	0.000223	7.41	17.919700	Y 242.219
Cr (205.560 nm)	-0.000217 u	ppm	0.000114	52.43	-14.861500	Y 377.433
Cu (324.754 nm)	-0.006496 u	ppm	0.000235	3.61	-333.288000	Y 377.433
Fe (238.204 nm)	50.409352 o	ppm	0.320915	0.64	181924.653769	Y_R 377.433
Fe H (259.940 nm)	51.090100	ppm	0.286566	0.56	93433.900000	Y_R 377.433
K (766.491 nm)	0.066918	ppm	0.010271	15.35	-613.977000	Y_R2 488.368
Li (670.783 nm)	0.001443	ppm	0.001071	74.18	-1338.110000	Y_R2 488.368
Mg (279.078 nm)	-0.022370 u	ppm	0.000373	1.67	-433.942000	Y 377.433
Mn (257.610 nm)	0.001468	ppm	0.000049	3.31	392.849000	Y 377.433
Mo (202.032 nm)	-0.000194 u	ppm	0.000487	> 100.00	-4.027100	Y 377.433
Na (589.592 nm)	250.227000 o	ppm	1.159310	0.46	1586220.000000	Y_R2 488.368
Na H (589.593 nm)	254.131187	ppm	3.721595	1.46	936288.943955	Y_R 488.368
Ni (231.604 nm)	0.004918	ppm	0.000552	11.22	31.805800	Y 377.433
P (213.618 nm)	-0.008295 u	ppm	0.000431	5.20	9.837760	Y 242.219
Pb (220.353 nm)	-0.004025 u	ppm	0.000065	1.62	9.525150	Y 242.219
S (181.972 nm)	4.976264	ppm	0.008387	0.17	2454.923612	Y 377.433
Sb (206.834 nm)	-0.006616 u	ppm	0.000356	5.39	-82.700900	Y 377.433
Se (196.026 nm)	-0.003151 u	ppm	0.008163	> 100.00	1.877180	Y 242.219
Si (288.158 nm)	0.003593	ppm	0.002099	58.42	1046.970000	Y 377.433
Sn (189.925 nm)	-0.000148 u	ppm	0.000865	> 100.00	7.613130	Y 377.433
Sr (421.552 nm)	0.000484	ppm	0.000138	28.42	245.509127	Y_R 488.368
Th (288.505 nm)	5.132430	ppm	0.000616	0.01	12909.300000	Y 377.433
Ti (336.122 nm)	0.001794	ppm	0.000115	6.38	-35.825300	Y 377.433
Tl (190.794 nm)	-0.002558 u	ppm	0.001941	75.87	-13.934900	Y 377.433
U (409.013 nm)	10.381600	ppm	0.017859	0.17	46007.400000	Y 377.433
V (292.401 nm)	0.003328	ppm	0.000358	10.76	-20.620400	Y 377.433
Zn (206.200 nm)	0.001531	ppm	0.000218	14.21	6.313270	Y 377.433
Zr (343.823 nm)	-0.004487 u	ppm	0.000058	1.29	-419.671000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.993907	18777.894166	0.002007	0.20
Y 377.433	0.985002	999609.452515	0.002500	0.25
Y_R 377.433	1.003000	77072.200000	0.001519	0.15
Y_R 488.368	1.002160	43969.600000	0.007655	0.76
Y_R2 488.368	1.022760	88308.300629	0.000692	0.07

Sample Name: CCV-5391053

Date: 10/29/2018 10:52:19 AM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.500538	ppm	0.000230	0.05	21757.800000	Y 377.433
Al (167.019 nm)	0.537031	ppm	0.004404	0.82	286.400000	Y_R 377.433
Al H (396.152 nm)	0.496641 u	ppm	0.003213	0.65	1374.109104	Y_R 377.433
As (188.980 nm)	1.009980	ppm	0.001446	0.14	1209.060000	Y 242.219
B (249.678 nm)	0.502244	ppm	0.000353	0.07	12023.200000	Y 242.219
Ba (493.408 nm)	0.498276	ppm	0.000628	0.13	57615.600000	Y_R 488.368
Be (234.861 nm)	0.486175	ppm	0.002085	0.43	139602.000000	Y_R 488.368
Bi (223.061 nm)	0.000273 u	ppm	0.002048	> 100.00	8.464620	Y 377.433
Ca (315.887 nm)	5.271991	ppm	0.005069	0.10	3991.945080	Y_R 377.433
Cd (214.439 nm)	0.506064	ppm	0.000083	0.02	28906.200000	Y 377.433
Co (228.615 nm)	0.505953	ppm	0.002327	0.46	8739.810000	Y 242.219
Cr (205.560 nm)	0.506864	ppm	0.000461	0.09	7386.520000	Y 377.433
Cu (324.754 nm)	0.501270	ppm	0.001663	0.33	26415.400000	Y 377.433
Fe (238.204 nm)	2.629345	ppm	0.010130	0.39	9504.916381	Y_R 377.433
Fe H (259.940 nm)	2.580050 u	ppm	0.011130	0.43	4863.150000	Y_R 377.433
K (766.491 nm)	50.803200	ppm	0.024535	0.05	56377.400000	Y_R2 488.368
Li (670.783 nm)	1.010720	ppm	0.008521	0.84	31452.900000	Y_R2 488.368
Mg (279.078 nm)	19.874300	ppm	0.029769	0.15	109361.000000	Y 377.433
Mn (257.610 nm)	0.506463	ppm	0.000006	0.00	114362.000000	Y 377.433
Mo (202.032 nm)	0.504067	ppm	0.002094	0.42	4204.730000	Y 377.433
Na (589.592 nm)	5.065490	ppm	0.017450	0.34	33685.800000	Y_R2 488.368
Na H (589.593 nm)	5.264089 u	ppm	0.043975	0.84	22983.776297	Y_R 488.368
Ni (231.604 nm)	0.510576	ppm	0.000037	0.01	3336.470000	Y 377.433
P (213.618 nm)	0.992122	ppm	0.002428	0.24	2068.200000	Y 242.219
Pb (220.353 nm)	1.015080	ppm	0.001595	0.16	2833.690000	Y 242.219
S (181.972 nm)	-0.019974 u	ppm	0.008677	43.44	22.492114	Y 377.433
Sb (206.834 nm)	1.002680	ppm	0.000226	0.02	2643.730000	Y 377.433
Se (196.026 nm)	1.009060	ppm	0.000025	0.00	961.668000	Y 242.219
Si (288.158 nm)	5.034700	ppm	0.043620	0.87	42133.800000	Y 377.433
Sn (189.925 nm)	1.002380	ppm	0.001717	0.17	1920.180000	Y 377.433
Sr (421.552 nm)	0.500851	ppm	0.000712	0.14	103376.409023	Y_R 488.368
Th (288.505 nm)	0.000795 u	ppm	0.002477	> 100.00	95.207500	Y 377.433
Ti (336.122 nm)	0.508424	ppm	0.000346	0.07	70735.100000	Y 377.433
Tl (190.794 nm)	1.016210	ppm	0.004619	0.45	2160.480000	Y 377.433
U (409.013 nm)	-0.002156 u	ppm	0.001481	68.70	-220.778000	Y 377.433
V (292.401 nm)	0.504352	ppm	0.000148	0.03	17621.600000	Y 377.433
Zn (206.200 nm)	0.503613	ppm	0.000879	0.17	2517.010000	Y 377.433
Zr (343.823 nm)	0.508462	ppm	0.003579	0.70	65455.400000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.005300	18993.142863	0.000595	0.06
Y 377.433	1.006623	1021550.395788	0.000871	0.09
Y_R 377.433	1.031210	79240.400000	0.007210	0.70
Y_R 488.368	1.034840	45403.600000	0.004828	0.47
Y_R2 488.368	1.022178	88258.012340	0.000755	0.07

Sample Name: ICB

Date: 10/29/2018 10:55:41 AM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000160	ppm	0.000001	0.39	-426.378000	Y 377.433
Al (167.019 nm)	-0.002455 u	ppm	0.000421	17.17	-0.293329	Y_R 377.433
Al H (396.152 nm)	-0.024188 u	ppm	0.002848	11.78	16.739276	Y_R 377.433
As (188.980 nm)	-0.000543 u	ppm	0.000318	58.48	-3.223770	Y 242.219
B (249.678 nm)	0.001682	ppm	0.000073	4.34	133.093000	Y 242.219
Ba (493.408 nm)	-0.000081 u	ppm	0.000048	59.36	563.995000	Y_R 488.368
Be (234.861 nm)	0.000037	ppm	0.000001	2.39	-49.046300	Y_R 488.368
Bi (223.061 nm)	0.001243	ppm	0.001543	> 100.00	10.397100	Y 377.433
Ca (315.887 nm)	0.007345	ppm	0.004173	56.81	-58.807923	Y_R 377.433
Cd (214.439 nm)	0.000047	ppm	0.000011	24.26	1.091100	Y 377.433
Co (228.615 nm)	-0.000150 u	ppm	0.000083	55.68	-36.801300	Y 242.219
Cr (205.560 nm)	0.000010 u	ppm	0.000116	> 100.00	1.826000	Y 377.433
Cu (324.754 nm)	-0.000203 u	ppm	0.000186	91.74	-322.174000	Y 377.433
Fe (238.204 nm)	0.001263	ppm	0.000900	71.21	21.177731	Y_R 377.433
Fe H (259.940 nm)	-0.076008 u	ppm	0.001415	1.86	13.666800	Y_R 377.433
K (766.491 nm)	0.010575 u	ppm	0.074252	> 100.00	-677.266000	Y_R2 488.368
Li (670.783 nm)	0.000478 u	ppm	0.000904	> 100.00	-1369.460000	Y_R2 488.368
Mg (279.078 nm)	0.001824	ppm	0.000054	2.98	44.438500	Y 377.433
Mn (257.610 nm)	-0.000028 u	ppm	0.000023	81.81	55.188600	Y 377.433
Mo (202.032 nm)	0.000263	ppm	0.000185	70.31	-0.207854	Y 377.433
Na (589.592 nm)	-0.015517 u	ppm	0.004843	31.21	520.998000	Y_R2 488.368
Na H (589.593 nm)	-0.375402 u	ppm	0.008824	2.35	1807.259246	Y_R 488.368
Ni (231.604 nm)	-0.000245 u	ppm	0.000063	25.58	-3.943990	Y 377.433
P (213.618 nm)	-0.001971 u	ppm	0.000287	14.55	22.849000	Y 242.219
Pb (220.353 nm)	0.000590	ppm	0.000459	77.82	5.467770	Y 242.219
S (181.972 nm)	-0.016874 u	ppm	0.001645	9.75	22.835759	Y 377.433
Sb (206.834 nm)	0.000115 u	ppm	0.001384	> 100.00	-19.854400	Y 377.433
Se (196.026 nm)	0.000278 u	ppm	0.001114	> 100.00	13.726900	Y 242.219
Si (288.158 nm)	-0.015779 u	ppm	0.000503	3.19	888.760000	Y 377.433
Sn (189.925 nm)	0.000789	ppm	0.000765	96.90	9.401410	Y 377.433
Sr (421.552 nm)	-0.000031 u	ppm	0.000067	> 100.00	139.330111	Y_R 488.368
Th (288.505 nm)	0.003860	ppm	0.000708	18.33	87.032000	Y 377.433
Ti (336.122 nm)	0.000035	ppm	0.000016	44.98	-281.589000	Y 377.433
Tl (190.794 nm)	0.000446 u	ppm	0.001036	> 100.00	-6.225960	Y 377.433
U (409.013 nm)	-0.004072 u	ppm	0.008899	> 100.00	-192.270000	Y 377.433
V (292.401 nm)	0.000017 u	ppm	0.000175	> 100.00	25.137900	Y 377.433
Zn (206.200 nm)	-0.000181 u	ppm	0.000013	7.31	-2.250300	Y 377.433
Zr (343.823 nm)	0.000038	ppm	0.000026	69.07	18.312400	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.000741	18907.005805	0.002601	0.26
Y 377.433	1.003603	1018485.909024	0.003205	0.32
Y_R 377.433	1.000670	76892.900000	0.001347	0.13
Y_R 488.368	0.990214	43445.400000	0.005351	0.54
Y_R2 488.368	1.008319	87061.427306	0.001422	0.14

Sample Name: CRI-5398386

Date: 10/29/2018 10:59:03 AM Rack:Tube: 3:8

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.008787	ppm	0.000160	1.82	-43.501600	Y 377.433
Al (167.019 nm)	0.102085	ppm	0.003589	3.52	55.056300	Y_R 377.433
Al H (396.152 nm)	0.081284 u	ppm	0.004244	5.22	284.565039	Y_R 377.433
As (188.980 nm)	0.014760	ppm	0.001312	8.89	15.133600	Y 242.219
B (249.678 nm)	0.099953	ppm	0.000205	0.20	2464.150000	Y 242.219
Ba (493.408 nm)	0.012514 Q	ppm	0.000097	0.78	2005.690000 Q	Y_R 488.368
Be (234.861 nm)	0.001055	ppm	0.000011	1.05	248.212000	Y_R 488.368
Bi (223.061 nm)	0.105335	ppm	0.000485	0.46	262.834000	Y 377.433
Ca (315.887 nm)	0.214098	ppm	0.006635	3.10	100.265113	Y_R 377.433
Cd (214.439 nm)	0.005297	ppm	0.000195	3.68	301.106000	Y 377.433
Co (228.615 nm)	0.010743	ppm	0.000003	0.03	152.055000	Y 242.219
Cr (205.560 nm)	0.010059	ppm	0.000189	1.88	148.256000	Y 377.433
Cu (324.754 nm)	0.015263	ppm	0.000291	1.90	501.927000	Y 377.433
Fe (238.204 nm)	0.191796 Q	ppm	0.001179	0.61	708.738946 Q	Y_R 377.433
Fe H (259.940 nm)	0.106051 u	ppm	0.005468	5.16	346.075000	Y_R 377.433
K (766.491 nm)	3.126230	ppm	0.019413	0.62	2822.510000	Y_R2 488.368
Li (670.783 nm)	0.021861	ppm	0.000090	0.41	-674.759000	Y_R2 488.368
Mg (279.078 nm)	0.201151	ppm	0.001019	0.51	1139.800000	Y 377.433
Mn (257.610 nm)	0.014580 Q	ppm	0.000102	0.70	3351.920000 Q	Y 377.433
Mo (202.032 nm)	0.019010	ppm	0.000321	1.69	156.258000	Y 377.433
Na (589.592 nm)	1.052600	ppm	0.000792	0.08	7314.100000	Y_R2 488.368
Na H (589.593 nm)	0.648242 u	ppm	0.004231	0.65	5577.845125	Y_R 488.368
Ni (231.604 nm)	0.041799	ppm	0.000478	1.14	270.917000	Y 377.433
P (213.618 nm)	2.806210 o	ppm	0.004119	0.15	5800.700000	Y 242.219
Pb (220.353 nm)	0.009469	ppm	0.001118	11.81	30.234100	Y 242.219
S (181.972 nm)	0.067885 Q	ppm	0.001920	2.83	64.153885 Q	Y 377.433
Sb (206.834 nm)	0.018811	ppm	0.000113	0.60	29.691600	Y 377.433
Se (196.026 nm)	0.015100 Q	ppm	0.001935	12.81	27.634100 Q	Y 242.219
Si (288.158 nm)	0.477157	ppm	0.000299	0.06	4914.360000	Y 377.433
Sn (189.925 nm)	0.097430	ppm	0.000753	0.77	193.768000	Y 377.433
Sr (421.552 nm)	0.010213	ppm	0.000025	0.25	2250.602651	Y_R 488.368
Th (288.505 nm)	0.017254	ppm	0.000169	0.98	121.237000	Y 377.433
Ti (336.122 nm)	0.010503	ppm	0.000163	1.55	1180.980000	Y 377.433
Tl (190.794 nm)	0.014665	ppm	0.001031	7.03	24.072200	Y 377.433
U (409.013 nm)	0.057655	ppm	0.000253	0.44	81.036900	Y 377.433
V (292.401 nm)	0.009893	ppm	0.000026	0.26	368.307000	Y 377.433
Zn (206.200 nm)	0.023197	ppm	0.000083	0.36	114.652000	Y 377.433
Zr (343.823 nm)	0.015170	ppm	0.000054	0.36	1966.190000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.002853	18946.913974	0.001653	0.16
Y 377.433	1.002386	1017251.434546	0.000922	0.09
Y_R 377.433	1.005190	77240.700000	0.000386	0.04
Y_R 488.368	1.005230	44104.300000	0.010059	1.00
Y_R2 488.368	1.011543	87339.777840	0.003013	0.30

Sample Name: ICSA-5374484

Date: 10/29/2018 11:02:26 AM Rack:Tube: 3:9

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000004 u	ppm	0.000323	> 100.00	-434.297000	Y 377.433
Al (167.019 nm)	208.008000 o	ppm	2.165980	1.04	110011.000000	Y_R 377.433
Al H (396.152 nm)	520.882858 o	ppm	0.799391	0.15	1315178.180592	Y_R 377.433
As (188.980 nm)	0.001172	ppm	0.000346	29.52	-2.749610	Y 242.219
B (249.678 nm)	0.004177	ppm	0.000323	7.73	-76.008200	Y 242.219
Ba (493.408 nm)	-0.000853 u	ppm	0.000145	16.98	760.086000	Y_R 488.368
Be (234.861 nm)	0.000118	ppm	0.000004	3.50	5604.880000	Y_R 488.368
Bi (223.061 nm)	-0.006874 u	ppm	0.002232	32.47	20.430800	Y 377.433
Ca (315.887 nm)	487.776582 o	ppm	2.504576	0.51	375217.707335	Y_R 377.433
Cd (214.439 nm)	-0.000936 u	ppm	0.000187	20.03	117.210000	Y 377.433
Co (228.615 nm)	-0.002530 u	ppm	0.000180	7.13	-77.984800	Y 242.219
Cr (205.560 nm)	-0.000557 u	ppm	0.000248	44.53	-55.915800	Y 377.433
Cu (324.754 nm)	-0.006216 u	ppm	0.000300	4.83	-572.004000	Y 377.433
Fe (238.204 nm)	186.827567 o	ppm	1.386868	0.74	674205.713218	Y_R 377.433
Fe H (259.940 nm)	194.061000	ppm	1.001660	0.52	354473.000000	Y_R 377.433
K (766.491 nm)	-0.001632 u	ppm	0.021437	> 100.00	-690.978000	Y_R2 488.368
Li (670.783 nm)	0.003806	ppm	0.000577	15.16	-1261.330000	Y_R2 488.368
Mg (279.078 nm)	511.148000 o	ppm	1.190980	0.23	2811620.000000	Y 377.433
Mn (257.610 nm)	0.000571	ppm	0.000000	0.06	190.330000	Y 377.433
Mo (202.032 nm)	0.000237	ppm	0.000048	20.42	-0.426643	Y 377.433
Na (589.592 nm)	0.010744	ppm	0.002235	20.81	689.341000	Y_R2 488.368
Na H (589.593 nm)	-0.074910 u	ppm	0.003585	4.79	2911.523939	Y_R 488.368
Ni (231.604 nm)	-0.001433 u	ppm	0.000407	28.43	-4.308650	Y 377.433
P (213.618 nm)	0.003811 u	ppm	0.005430	> 100.00	34.744900	Y 242.219
Pb (220.353 nm)	-0.003079 u	ppm	0.004926	> 100.00	-152.810000	Y 242.219
S (181.972 nm)	0.025916	ppm	0.012030	46.42	43.679510	Y 377.433
Sb (206.834 nm)	-0.006907 u	ppm	0.000099	1.43	-117.961000	Y 377.433
Se (196.026 nm)	0.000550 u	ppm	0.008940	> 100.00	-13.234800	Y 242.219
Si (288.158 nm)	0.015529	ppm	0.001586	10.22	1144.440000	Y 377.433
Sn (189.925 nm)	0.005963	ppm	0.002379	39.89	19.271000	Y 377.433
Sr (421.552 nm)	0.004762 K	ppm	0.000138	2.90	1127.206354 K	Y_R 488.368
Th (288.505 nm)	0.000139 u	ppm	0.000576	> 100.00	69.152400	Y 377.433
Ti (336.122 nm)	-0.000468 u	ppm	0.000093	19.89	1149.550000	Y 377.433
Tl (190.794 nm)	0.002986	ppm	0.000055	1.84	-5.631040	Y 377.433
U (409.013 nm)	-0.001965 u	ppm	0.002289	> 100.00	-104.218000	Y 377.433
V (292.401 nm)	0.002054	ppm	0.000095	4.61	96.982800	Y 377.433
Zn (206.200 nm)	0.001791	ppm	0.001099	61.37	7.609750	Y 377.433
Zr (343.823 nm)	-0.001301 u	ppm	0.000078	5.98	379.768000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.896108	16930.173503	0.000505	0.06
Y 377.433	0.891043	904256.753890	0.000773	0.09
Y_R 377.433	0.937626	72048.900000	0.005462	0.58
Y_R 488.368	0.928165	40723.100000	0.000695	0.07
Y_R2 488.368	0.935810	80800.712072	0.000330	0.04

Sample Name: ICSAB-5380667

Date: 10/29/2018 11:05:51 AM Rack:Tube: 3:10

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	1.134100 o	ppm	0.000171	0.02	49915.400000	Y 377.433
Al (167.019 nm)	219.842000 o	ppm	1.705280	0.78	116266.000000	Y_R 377.433
Al H (396.152 nm)	510.494108 o	ppm	3.540671	0.69	1289038.608773	Y_R 377.433
As (188.980 nm)	2.096150	ppm	0.007848	0.37	2510.500000	Y 242.219
B (249.678 nm)	2.176910 o	ppm	0.000349	0.02	51469.700000	Y 242.219
Ba (493.408 nm)	0.497975	ppm	0.003676	0.74	57864.800000	Y_R 488.368
Be (234.861 nm)	0.490127	ppm	0.004526	0.92	146450.000000	Y_R 488.368
Bi (223.061 nm)	1.010670	ppm	0.006643	0.66	2488.780000	Y 377.433
Ca (315.887 nm)	502.567499 o	ppm	2.986313	0.59	386597.962579	Y_R 377.433
Cd (214.439 nm)	0.953894	ppm	0.000988	0.10	54660.600000	Y 377.433
Co (228.615 nm)	0.467493	ppm	0.000771	0.16	8091.490000	Y 242.219
Cr (205.560 nm)	0.490821	ppm	0.000817	0.17	7101.470000	Y 377.433
Cu (324.754 nm)	0.526517	ppm	0.000437	0.08	28201.200000	Y 377.433
Fe (238.204 nm)	193.234294 o	ppm	0.017981	0.01	697325.136336	Y_R 377.433
Fe H (259.940 nm)	198.220000	ppm	1.334830	0.67	362067.000000	Y_R 377.433
K (766.491 nm)	55.327000	ppm	0.143350	0.26	61458.900000	Y_R2 488.368
Li (670.783 nm)	1.079340	ppm	0.000973	0.09	33682.000000	Y_R2 488.368
Mg (279.078 nm)	513.279000 o	ppm	0.308012	0.06	2823330.000000	Y 377.433
Mn (257.610 nm)	0.494356	ppm	0.000076	0.02	111630.000000	Y 377.433
Mo (202.032 nm)	0.989512	ppm	0.002125	0.21	8256.450000	Y 377.433
Na (589.592 nm)	53.552800 o	ppm	0.037673	0.07	340934.000000	Y_R2 488.368
Na H (589.593 nm)	54.779142	ppm	0.639156	1.17	204790.046340	Y_R 488.368
Ni (231.604 nm)	0.927013	ppm	0.000791	0.09	6076.140000	Y 377.433
P (213.618 nm)	2.041800	ppm	0.003032	0.15	4227.920000	Y 242.219
Pb (220.353 nm)	0.974911	ppm	0.001953	0.20	2575.330000	Y 242.219
S (181.972 nm)	1.069507	ppm	0.013483	1.26	553.121380	Y 377.433
Sb (206.834 nm)	1.040050	ppm	0.004441	0.43	2665.510000	Y 377.433
Se (196.026 nm)	5.157580 o	ppm	0.005346	0.10	4831.870000	Y 242.219
Si (288.158 nm)	10.809500	ppm	0.053802	0.50	89294.000000	Y 377.433
Sn (189.925 nm)	9.526660 o	ppm	0.042258	0.44	18182.400000	Y 377.433
Sr (421.552 nm)	1.010411	ppm	0.009093	0.90	208402.040385	Y_R 488.368
Th (288.505 nm)	2.060330	ppm	0.003415	0.17	5157.810000	Y 377.433
Ti (336.122 nm)	1.029660	ppm	0.000662	0.06	145059.000000	Y 377.433
Tl (190.794 nm)	9.621670 o	ppm	0.003198	0.03	20520.800000	Y 377.433
U (409.013 nm)	-0.001131 u	ppm	0.000248	21.91	-173.803000	Y 377.433
V (292.401 nm)	0.512975	ppm	0.000107	0.02	18089.300000	Y 377.433
Zn (206.200 nm)	0.937161	ppm	0.000541	0.06	4685.000000	Y 377.433
Zr (343.823 nm)	1.006130	ppm	0.000404	0.04	130045.000000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.884377	16708.548943	0.001659	0.19
Y 377.433	0.885506	898637.444050	0.000175	0.02
Y_R 377.433	0.958027	73616.600000	0.005285	0.55
Y_R 488.368	0.958590	42058.000000	0.007315	0.76
Y_R2 488.368	0.943211	81439.766132	0.007749	0.82

Sample Name: LRA-5347188

Date: 10/29/2018 11:09:14 AM Rack:Tube: 3:11

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.001253 u	ppm	0.000227	18.15	-2084.090000	Y 377.433
Al (167.019 nm)	0.038886	ppm	0.002198	5.65	331.762000	Y_R 377.433
Al H (396.152 nm)	0.003853 u	ppm	0.001941	50.38	481.461878	Y_R 377.433
As (188.980 nm)	9.841050 o	ppm	0.015147	0.15	11799.400000	Y 242.219
B (249.678 nm)	10.044900 o	ppm	0.032660	0.33	237865.000000	Y 242.219
Ba (493.408 nm)	12.129600 o	ppm	0.079519	0.66	1389250.000000	Y_R 488.368
Be (234.861 nm)	-0.000995 u	ppm	0.000095	9.56	13954.200000	Y_R 488.368
Bi (223.061 nm)	-0.026413 u	ppm	0.000070	0.27	20.462400	Y 377.433
Ca (315.887 nm)	0.036428	ppm	0.014596	40.07	-35.348640	Y_R 377.433
Cd (214.439 nm)	1.977690 o	ppm	0.007898	0.40	113411.000000	Y 377.433
Co (228.615 nm)	5.106360 o	ppm	0.039332	0.77	88677.600000	Y 242.219
Cr (205.560 nm)	10.005700 o	ppm	0.063715	0.64	145756.000000	Y 377.433
Cu (324.754 nm)	10.336900 o	ppm	0.016147	0.16	551171.000000	Y 377.433
Fe (238.204 nm)	485.073390 o	ppm	0.921371	0.19	1750460.594305	Y_R 377.433
Fe H (259.940 nm)	493.802000	ppm	0.096082	0.02	901747.000000	Y_R 377.433
K (766.491 nm)	-0.078355 u	ppm	0.030110	38.43	-777.160000	Y_R2 488.368
Li (670.783 nm)	-0.000459 u	ppm	0.002288	> 100.00	-1399.920000	Y_R2 488.368
Mg (279.078 nm)	0.000278 u	ppm	0.006155	> 100.00	-749.897000	Y 377.433
Mn (257.610 nm)	9.822430 o	ppm	0.059236	0.60	2216830.000000	Y 377.433
Mo (202.032 nm)	4.940010 o	ppm	0.015133	0.31	41228.900000	Y 377.433
Na (589.592 nm)	-0.066372 u	ppm	0.030029	45.24	23707.000000	Y_R2 488.368
Na H (589.593 nm)	-0.101663 u	ppm	0.006814	6.70	14218.581430	Y_R 488.368
Ni (231.604 nm)	10.163800 o	ppm	0.044963	0.44	66461.600000	Y 377.433
P (213.618 nm)	0.479348	ppm	0.009256	1.93	1013.170000	Y 242.219
Pb (220.353 nm)	10.172100 o	ppm	0.034728	0.34	28403.200000	Y 242.219
S (181.972 nm)	-0.012380 u	ppm	0.002852	23.04	47.587019	Y 377.433
Sb (206.834 nm)	-0.016128 u	ppm	0.000160	0.99	100.197000	Y 377.433
Se (196.026 nm)	5.030490 o	ppm	0.005391	0.11	4660.810000	Y 242.219
Si (288.158 nm)	48.050800 o	ppm	0.512148	1.07	393427.000000	Y 377.433
Sn (189.925 nm)	0.001060	ppm	0.000504	47.55	9.917330	Y 377.433
Sr (421.552 nm)	10.075329 o	ppm	0.052230	0.52	2076778.259610	Y_R 488.368
Th (288.505 nm)	0.003291 u	ppm	0.008906	> 100.00	613.421000	Y 377.433
Ti (336.122 nm)	9.851450 o	ppm	0.052058	0.53	1375550.000000	Y 377.433
Tl (190.794 nm)	5.051440 o	ppm	0.018468	0.37	10728.700000	Y 377.433
U (409.013 nm)	-0.037318 u	ppm	0.005116	13.71	101.125000	Y 377.433
V (292.401 nm)	10.084100 o	ppm	0.027370	0.27	352003.000000	Y 377.433
Zn (206.200 nm)	9.752080 o	ppm	0.036734	0.38	48764.700000	Y 377.433
Zr (343.823 nm)	-0.003707 u	ppm	0.000134	3.63	921.738000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.975261	18425.624054	0.001443	0.15
Y 377.433	0.978881	993397.410552	0.001568	0.16
Y_R 377.433	0.997325	76636.300000	0.000852	0.09
Y_R 488.368	1.002290	43975.100000	0.000458	0.05
Y_R2 488.368	1.010154	87219.825646	0.007885	0.78

Sample Name: CCVH-5380945

Date: 10/29/2018 11:12:38 AM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.001668 u	ppm	0.000061	3.65	-748.609000	Y 377.433
Al (167.019 nm)	45.824800 o	ppm	0.224747	0.49	24242.500000	Y_R 377.433
Al H (396.152 nm)	50.604074	ppm	0.021981	0.04	127819.910792	Y_R 377.433
As (188.980 nm)	0.002594	ppm	0.000609	23.49	0.111182	Y 242.219
B (249.678 nm)	0.006466	ppm	0.000036	0.56	174.025000	Y 242.219
Ba (493.408 nm)	0.000731	ppm	0.000115	15.72	703.719000	Y_R 488.368
Be (234.861 nm)	0.000255	ppm	0.000007	2.78	1542.790000	Y_R 488.368
Bi (223.061 nm)	1.010390	ppm	0.002344	0.23	2465.460000	Y 377.433
Ca (315.887 nm)	-0.001956 u	ppm	0.002471	> 100.00	-65.963260	Y_R 377.433
Cd (214.439 nm)	-0.000072 u	ppm	0.000028	38.70	40.955000	Y 377.433
Co (228.615 nm)	0.003311	ppm	0.000082	2.48	23.142700	Y 242.219
Cr (205.560 nm)	0.000218	ppm	0.000014	6.28	-8.543480	Y 377.433
Cu (324.754 nm)	-0.006158 u	ppm	0.000114	1.86	-318.754000	Y 377.433
Fe (238.204 nm)	50.563138 o	ppm	0.085431	0.17	182479.606110	Y_R 377.433
Fe H (259.940 nm)	51.255500	ppm	0.036498	0.07	93735.900000	Y_R 377.433
K (766.491 nm)	0.008838 u	ppm	0.020874	> 100.00	-679.217000	Y_R2 488.368
Li (670.783 nm)	-0.000706 u	ppm	0.000371	52.56	-1407.940000	Y_R2 488.368
Mg (279.078 nm)	-0.018253 u	ppm	0.000820	4.49	-411.517000	Y 377.433
Mn (257.610 nm)	0.001839	ppm	0.000222	12.06	476.546000	Y 377.433
Mo (202.032 nm)	0.000926	ppm	0.000604	65.25	5.321450	Y 377.433
Na (589.592 nm)	248.751000 o	ppm	0.723353	0.29	1576870.000000	Y_R2 488.368
Na H (589.593 nm)	250.457231	ppm	0.358986	0.14	922799.559354	Y_R 488.368
Ni (231.604 nm)	0.004613	ppm	0.000543	11.77	29.821900	Y 377.433
P (213.618 nm)	-0.007175 u	ppm	0.001459	20.33	12.141800	Y 242.219
Pb (220.353 nm)	-0.003020 u	ppm	0.000943	31.24	12.309300	Y 242.219
S (181.972 nm)	4.972962	ppm	0.012544	0.25	2453.316194	Y 377.433
Sb (206.834 nm)	-0.007718 u	ppm	0.000567	7.34	-85.644700	Y 377.433
Se (196.026 nm)	0.001328	ppm	0.001358	> 100.00	6.069660	Y 242.219
Si (288.158 nm)	0.014817	ppm	0.000043	0.29	1138.630000	Y 377.433
Sn (189.925 nm)	0.000951	ppm	0.000290	30.54	9.710070	Y 377.433
Sr (421.552 nm)	0.000673	ppm	0.000008	1.17	284.421464	Y_R 488.368
Th (288.505 nm)	5.121550	ppm	0.012473	0.24	12882.600000	Y 377.433
Ti (336.122 nm)	0.002293	ppm	0.000159	6.92	33.875300	Y 377.433
Tl (190.794 nm)	0.004476	ppm	0.001786	39.90	1.074830	Y 377.433
U (409.013 nm)	10.392700	ppm	0.026893	0.26	46056.400000	Y 377.433
V (292.401 nm)	0.003626	ppm	0.000399	11.02	-11.906000	Y 377.433
Zn (206.200 nm)	0.002090	ppm	0.000178	8.52	9.108180	Y 377.433
Zr (343.823 nm)	-0.004574 u	ppm	0.000045	0.99	-430.725000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.983498	18581.239414	0.003446	0.35
Y 377.433	0.974663	989116.755776	0.003384	0.35
Y_R 377.433	0.977188	75088.900000	0.000203	0.02
Y_R 488.368	0.986152	43267.300000	0.004128	0.42
Y_R2 488.368	0.973040	84015.295810	0.006339	0.65

Sample Name: CCV-5391053

Date: 10/29/2018 11:16:01 AM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.501434	ppm	0.000667	0.13	21797.300000	Y 377.433
Al (167.019 nm)	0.510876	ppm	0.000215	0.04	272.536000	Y_R 377.433
Al H (396.152 nm)	0.504579 u	ppm	0.003451	0.68	1394.386138	Y_R 377.433
As (188.980 nm)	1.013040	ppm	0.001052	0.10	1212.730000	Y 242.219
B (249.678 nm)	0.506675	ppm	0.000175	0.03	12128.600000	Y 242.219
Ba (493.408 nm)	0.504064	ppm	0.000762	0.15	58278.200000	Y_R 488.368
Be (234.861 nm)	0.496659	ppm	0.002525	0.51	142610.000000	Y_R 488.368
Bi (223.061 nm)	-0.002489 u	ppm	0.000331	13.30	1.754260	Y 377.433
Ca (315.887 nm)	5.093497	ppm	0.000494	0.01	3854.617451	Y_R 377.433
Cd (214.439 nm)	0.508126	ppm	0.000747	0.15	29024.000000	Y 377.433
Co (228.615 nm)	0.510382	ppm	0.001152	0.23	8816.510000	Y 242.219
Cr (205.560 nm)	0.509734	ppm	0.001003	0.20	7428.290000	Y 377.433
Cu (324.754 nm)	0.500233	ppm	0.003260	0.65	26360.200000	Y 377.433
Fe (238.204 nm)	2.559503	ppm	0.003979	0.16	9252.885289	Y_R 377.433
Fe H (259.940 nm)	2.523620 u	ppm	0.011651	0.46	4760.120000	Y_R 377.433
K (766.491 nm)	50.831300	ppm	0.012429	0.02	56409.000000	Y_R2 488.368
Li (670.783 nm)	1.003810	ppm	0.000907	0.09	31228.200000	Y_R2 488.368
Mg (279.078 nm)	19.970900	ppm	0.000451	0.00	109893.000000	Y 377.433
Mn (257.610 nm)	0.508623	ppm	0.000020	0.00	114850.000000	Y 377.433
Mo (202.032 nm)	0.508022	ppm	0.001170	0.23	4237.740000	Y 377.433
Na (589.592 nm)	5.021950	ppm	0.002204	0.04	33420.500000	Y_R2 488.368
Na H (589.593 nm)	4.992279 u	ppm	0.025830	0.52	21990.871227	Y_R 488.368
Ni (231.604 nm)	0.510119	ppm	0.001443	0.28	3333.490000	Y 377.433
P (213.618 nm)	0.992447	ppm	0.001618	0.16	2068.870000	Y 242.219
Pb (220.353 nm)	1.014690	ppm	0.000366	0.04	2832.590000	Y 242.219
S (181.972 nm)	-0.023414 u	ppm	0.005548	23.70	20.819868	Y 377.433
Sb (206.834 nm)	1.008890	ppm	0.001491	0.15	2660.240000	Y 377.433
Se (196.026 nm)	1.013200	ppm	0.006021	0.59	965.568000	Y 242.219
Si (288.158 nm)	5.058200	ppm	0.024041	0.48	42325.700000	Y 377.433
Sn (189.925 nm)	1.005190	ppm	0.002497	0.25	1925.550000	Y 377.433
Sr (421.552 nm)	0.503300	ppm	0.000262	0.05	103881.071688	Y_R 488.368
Th (288.505 nm)	0.001654	ppm	0.001413	85.42	97.173700	Y 377.433
Ti (336.122 nm)	0.509882	ppm	0.000025	0.00	70938.100000	Y 377.433
Tl (190.794 nm)	1.024840	ppm	0.001712	0.17	2178.900000	Y 377.433
U (409.013 nm)	-0.001797 u	ppm	0.000056	3.10	-219.231000	Y 377.433
V (292.401 nm)	0.505665	ppm	0.000419	0.08	17666.900000	Y 377.433
Zn (206.200 nm)	0.506029	ppm	0.000548	0.11	2529.090000	Y 377.433
Zr (343.823 nm)	0.508965	ppm	0.000946	0.19	65519.800000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.989625	18696.989082	0.000294	0.03
Y 377.433	0.989767	1004444.450689	0.000989	0.10
Y_R 377.433	0.998350	76715.000000	0.004492	0.45
Y_R 488.368	0.998149	43793.600000	0.005003	0.50
Y_R2 488.368	1.012172	87394.046482	0.002877	0.28

Sample Name: CCB

Date: 10/29/2018 11:19:24 AM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000101 u	ppm	0.000243	> 100.00	-437.858000	Y 377.433
Al (167.019 nm)	-0.001338 u	ppm	0.001022	76.39	0.296252	Y_R 377.433
Al H (396.152 nm)	-0.017680 u	ppm	0.002195	12.42	33.212185	Y_R 377.433
As (188.980 nm)	-0.000267 u	ppm	0.000634	> 100.00	-2.893280	Y 242.219
B (249.678 nm)	0.004328	ppm	0.000120	2.76	195.876000	Y 242.219
Ba (493.408 nm)	0.000205	ppm	0.000041	19.95	596.720000	Y_R 488.368
Be (234.861 nm)	0.000025	ppm	0.000017	67.30	-52.626200	Y_R 488.368
Bi (223.061 nm)	0.003140	ppm	0.001171	37.28	14.998400	Y 377.433
Ca (315.887 nm)	0.007212	ppm	0.005344	74.09	-58.910237	Y_R 377.433
Cd (214.439 nm)	0.000094	ppm	0.000046	49.04	3.738690	Y 377.433
Co (228.615 nm)	-0.000224 u	ppm	0.000139	61.90	-38.085700	Y 242.219
Cr (205.560 nm)	-0.000144 u	ppm	0.000135	93.93	-0.409294	Y 377.433
Cu (324.754 nm)	0.000031 u	ppm	0.000075	> 100.00	-309.766000	Y 377.433
Fe (238.204 nm)	0.000544 u	ppm	0.001516	> 100.00	18.581883	Y_R 377.433
Fe H (259.940 nm)	-0.075557 u	ppm	0.004873	6.45	14.490200	Y_R 377.433
K (766.491 nm)	0.015737 u	ppm	0.023311	> 100.00	-671.468000	Y_R2 488.368
Li (670.783 nm)	-0.001563 u	ppm	0.001192	76.28	-1435.780000	Y_R2 488.368
Mg (279.078 nm)	0.003212	ppm	0.001304	40.61	52.071300	Y 377.433
Mn (257.610 nm)	0.000024	ppm	0.000009	35.12	66.943300	Y 377.433
Mo (202.032 nm)	0.000827	ppm	0.000190	22.96	4.496110	Y 377.433
Na (589.592 nm)	-0.021253 u	ppm	0.004111	19.34	484.999000	Y_R2 488.368
Na H (589.593 nm)	-0.382556 u	ppm	0.016821	4.40	1781.158025	Y_R 488.368
Ni (231.604 nm)	-0.000319 u	ppm	0.000334	> 100.00	-4.425820	Y 377.433
P (213.618 nm)	0.000102 u	ppm	0.000296	> 100.00	27.114400	Y 242.219
Pb (220.353 nm)	0.001041	ppm	0.000222	21.30	6.724350	Y 242.219
S (181.972 nm)	-0.025079 u	ppm	0.001805	7.20	18.839112	Y 377.433
Sb (206.834 nm)	-0.003757 u	ppm	0.002688	71.54	-30.109700	Y 377.433
Se (196.026 nm)	0.001631 u	ppm	0.002662	> 100.00	14.998300	Y 242.219
Si (288.158 nm)	-0.012311 u	ppm	0.000016	0.13	917.088000	Y 377.433
Sn (189.925 nm)	-0.000600 u	ppm	0.001036	> 100.00	6.750840	Y 377.433
Sr (421.552 nm)	-0.000021 u	ppm	0.000082	> 100.00	141.423301	Y_R 488.368
Th (288.505 nm)	0.000859	ppm	0.001055	> 100.00	79.639500	Y 377.433
Ti (336.122 nm)	0.000104	ppm	0.000053	51.40	-272.004000	Y 377.433
Tl (190.794 nm)	0.001242	ppm	0.000024	1.92	-4.527120	Y 377.433
U (409.013 nm)	-0.005591 u	ppm	0.004447	79.54	-199.037000	Y 377.433
V (292.401 nm)	0.000278	ppm	0.000114	41.00	34.295700	Y 377.433
Zn (206.200 nm)	0.000217 u	ppm	0.000400	> 100.00	-0.261003	Y 377.433
Zr (343.823 nm)	0.000128	ppm	0.000004	2.76	29.849100	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.983608	18583.317664	0.001382	0.14
Y 377.433	0.986392	1001020.061832	0.000021	0.00
Y_R 377.433	0.984585	75657.300000	0.005106	0.52
Y_R 488.368	0.978451	42929.400000	0.007443	0.76
Y_R2 488.368	0.991793	85634.485277	0.001894	0.19

Sample Name: CCVL-5398386

Date: 10/29/2018 11:22:47 AM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.009035	ppm	0.000115	1.28	-32.527900	Y 377.433
Al (167.019 nm)	0.099730	ppm	0.003396	3.41	53.756200	Y_R 377.433
Al H (396.152 nm)	0.081750 u	ppm	0.006556	8.02	285.769871	Y_R 377.433
As (188.980 nm)	0.013752	ppm	0.000494	3.60	13.924900	Y 242.219
B (249.678 nm)	0.101782	ppm	0.000203	0.20	2507.640000	Y 242.219
Ba (493.408 nm)	0.010226	ppm	0.000003	0.03	1743.840000	Y_R 488.368
Be (234.861 nm)	0.001055	ppm	0.000016	1.48	245.618000	Y_R 488.368
Bi (223.061 nm)	0.102605	ppm	0.001763	1.72	256.198000	Y 377.433
Ca (315.887 nm)	0.207782	ppm	0.001968	0.95	95.405266	Y_R 377.433
Cd (214.439 nm)	0.005322	ppm	0.000032	0.59	302.467000	Y 377.433
Co (228.615 nm)	0.010386	ppm	0.000106	1.02	145.880000	Y 242.219
Cr (205.560 nm)	0.009945	ppm	0.000000	0.00	146.621000	Y 377.433
Cu (324.754 nm)	0.014881	ppm	0.000068	0.45	480.429000	Y 377.433
Fe (238.204 nm)	0.104308	ppm	0.001123	1.08	393.028377	Y_R 377.433
Fe H (259.940 nm)	0.027588 u	ppm	0.000815	2.96	202.815000	Y_R 377.433
K (766.491 nm)	3.163880	ppm	0.045325	1.43	2864.800000	Y_R2 488.368
Li (670.783 nm)	0.020891	ppm	0.001771	8.48	-706.268000	Y_R2 488.368
Mg (279.078 nm)	0.200802	ppm	0.000070	0.03	1138.040000	Y 377.433
Mn (257.610 nm)	0.010467	ppm	0.000020	0.19	2423.730000	Y 377.433
Mo (202.032 nm)	0.019250	ppm	0.000017	0.09	158.264000	Y 377.433
Na (589.592 nm)	1.041580	ppm	0.006836	0.66	7239.410000	Y_R2 488.368
Na H (589.593 nm)	0.619554 u	ppm	0.005038	0.81	5470.160396	Y_R 488.368
Ni (231.604 nm)	0.042105	ppm	0.000041	0.10	272.913000	Y 377.433
P (213.618 nm)	2.813010 o	ppm	0.010080	0.36	5814.680000	Y 242.219
Pb (220.353 nm)	0.009901	ppm	0.001637	16.54	31.428000	Y 242.219
S (181.972 nm)	0.070883	ppm	0.001225	1.73	65.604432	Y 377.433
Sb (206.834 nm)	0.019503	ppm	0.000611	3.13	31.545100	Y 377.433
Se (196.026 nm)	0.015248	ppm	0.002977	19.52	27.786300	Y 242.219
Si (288.158 nm)	0.479571	ppm	0.007268	1.52	4934.070000	Y 377.433
Sn (189.925 nm)	0.098830	ppm	0.000114	0.12	196.439000	Y 377.433
Sr (421.552 nm)	0.010039	ppm	0.000085	0.84	2214.737208	Y_R 488.368
Th (288.505 nm)	0.016745	ppm	0.001619	9.67	119.902000	Y 377.433
Ti (336.122 nm)	0.010352	ppm	0.000033	0.32	1159.870000	Y 377.433
Tl (190.794 nm)	0.016816	ppm	0.000876	5.21	28.664700	Y 377.433
U (409.013 nm)	0.057738	ppm	0.001965	3.40	81.322900	Y 377.433
V (292.401 nm)	0.010016	ppm	0.000098	0.98	372.160000	Y 377.433
Zn (206.200 nm)	0.021494	ppm	0.000074	0.35	106.140000	Y 377.433
Zr (343.823 nm)	0.015157	ppm	0.000105	0.69	1964.290000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.003157	18952.655907	0.001368	0.14
Y 377.433	1.004123	1019013.577930	0.001691	0.17
Y_R 377.433	1.010490	77647.800000	0.004553	0.45
Y_R 488.368	1.014440	44508.500000	0.004801	0.47
Y_R2 488.368	1.011466	87333.104201	0.001337	0.13

Sample Name: CRI

Date: 10/29/2018 11:26:10 AM Rack:Tube: 3:12

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000298	ppm	0.000219	73.50	-420.201000	Y 377.433
Al (167.019 nm)	-0.002299 u	ppm	0.001141	49.62	-0.146091	Y_R 377.433
Al H (396.152 nm)	-0.020201 u	ppm	0.001643	8.13	26.791875	Y_R 377.433
As (188.980 nm)	0.001555	ppm	0.002100	> 100.00	-0.708341	Y 242.219
B (249.678 nm)	0.001535	ppm	0.000006	0.42	129.476000	Y 242.219
Ba (493.408 nm)	0.010305	ppm	0.000137	1.33	1752.830000	Y_R 488.368
Be (234.861 nm)	0.000074	ppm	0.000007	9.10	-35.509400	Y_R 488.368
Bi (223.061 nm)	0.002199	ppm	0.000109	4.95	12.733200	Y 377.433
Ca (315.887 nm)	0.001191 u	ppm	0.003006	> 100.00	-63.542920	Y_R 377.433
Cd (214.439 nm)	0.000082	ppm	0.000009	10.58	3.143780	Y 377.433
Co (228.615 nm)	0.000053 u	ppm	0.000322	> 100.00	-33.289100	Y 242.219
Cr (205.560 nm)	-0.000011 u	ppm	0.000274	> 100.00	1.493540	Y 377.433
Cu (324.754 nm)	-0.000066 u	ppm	0.000383	> 100.00	-314.729000	Y 377.433
Fe (238.204 nm)	0.102867	ppm	0.001430	1.39	387.825979	Y_R 377.433
Fe H (259.940 nm)	0.019529 u	ppm	0.001048	5.37	188.101000	Y_R 377.433
K (766.491 nm)	-0.046249 u	ppm	0.076229	> 100.00	-741.096000	Y_R2 488.368
Li (670.783 nm)	0.000818	ppm	0.000466	56.95	-1358.420000	Y_R2 488.368
Mg (279.078 nm)	0.001206	ppm	0.001144	94.91	40.909500	Y 377.433
Mn (257.610 nm)	0.010260	ppm	0.000029	0.28	2377.050000	Y 377.433
Mo (202.032 nm)	0.000125	ppm	0.000072	57.81	-1.364870	Y 377.433
Na (589.592 nm)	-0.030024 u	ppm	0.009415	31.36	449.394000	Y_R2 488.368
Na H (589.593 nm)	-0.504992 u	ppm	0.004454	0.88	1341.298307	Y_R 488.368
Ni (231.604 nm)	-0.000027 u	ppm	0.000189	> 100.00	-2.510310	Y 377.433
P (213.618 nm)	-0.002327 u	ppm	0.000053	2.29	22.116800	Y 242.219
Pb (220.353 nm)	0.002003	ppm	0.000572	28.56	9.415460	Y 242.219
S (181.972 nm)	-0.030402 u	ppm	0.004546	14.95	16.269743	Y 377.433
Sb (206.834 nm)	0.000017 u	ppm	0.001153	> 100.00	-20.142400	Y 377.433
Se (196.026 nm)	0.018452	ppm	0.001274	6.90	30.792800	Y 242.219
Si (288.158 nm)	-0.015817 u	ppm	0.002407	15.22	888.456000	Y 377.433
Sn (189.925 nm)	-0.000743 u	ppm	0.001463	> 100.00	6.479250	Y 377.433
Sr (421.552 nm)	-0.000007 u	ppm	0.000027	> 100.00	144.232791	Y_R 488.368
Th (288.505 nm)	0.002190	ppm	0.002624	> 100.00	83.078500	Y 377.433
Ti (336.122 nm)	0.000401	ppm	0.000071	17.82	-230.514000	Y 377.433
Tl (190.794 nm)	-0.000035 u	ppm	0.001452	> 100.00	-7.255860	Y 377.433
U (409.013 nm)	-0.003061 u	ppm	0.003699	> 100.00	-187.688000	Y 377.433
V (292.401 nm)	0.000098	ppm	0.000121	> 100.00	28.105600	Y 377.433
Zn (206.200 nm)	0.000883	ppm	0.000310	35.13	3.068580	Y 377.433
Zr (343.823 nm)	-0.000023 u	ppm	0.000031	> 100.00	10.682200	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.992921	18759.269379	0.001342	0.14
Y 377.433	0.993736	1008473.000353	0.000010	0.00
Y_R 377.433	1.005330	77251.300000	0.006514	0.65
Y_R 488.368	1.002160	43969.800000	0.016749	1.67
Y_R2 488.368	1.009037	87123.425008	0.005095	0.50

Sample Name: 280-115452-E-1-A

Date: 10/29/2018 11:55:17 AM Rack:Tube: 1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001574	ppm	0.000314	19.96	-366.550000	Y 377.433
Al (167.019 nm)	0.009552	ppm	0.001768	18.51	6.159450	Y_R 377.433
Al H (396.152 nm)	0.011386 u	ppm	0.006426	56.44	141.993311	Y_R 377.433
As (188.980 nm)	0.042471	ppm	0.000376	0.88	48.378000	Y 242.219
B (249.678 nm)	12.836600 o	ppm	0.025525	0.20	304573.000000	Y 242.219
Ba (493.408 nm)	0.474451	ppm	0.001640	0.35	54893.500000	Y_R 488.368
Be (234.861 nm)	0.000111	ppm	0.000024	21.16	-24.163200	Y_R 488.368
Bi (223.061 nm)	0.002774	ppm	0.000211	7.61	14.136500	Y 377.433
Ca (315.887 nm)	76.421230 o	ppm	0.524228	0.69	58731.976824	Y_R 377.433
Cd (214.439 nm)	0.000345	ppm	0.000004	1.20	18.405000	Y 377.433
Co (228.615 nm)	0.179149	ppm	0.000116	0.06	3066.710000	Y 242.219
Cr (205.560 nm)	0.007878	ppm	0.000328	4.16	116.462000	Y 377.433
Cu (324.754 nm)	0.124996	ppm	0.000454	0.36	6312.500000	Y 377.433
Fe (238.204 nm)	0.173074	ppm	0.002282	1.32	641.177358	Y_R 377.433
Fe H (259.940 nm)	0.073811 u	ppm	0.002177	2.95	287.209000	Y_R 377.433
K (766.491 nm)	63.736700	ppm	0.189088	0.30	70905.500000	Y_R2 488.368
Li (670.783 nm)	0.073635	ppm	0.001078	1.46	1007.360000	Y_R2 488.368
Mg (279.078 nm)	1090.130000 o	ppm	4.311550	0.40	5996940.000000	Y 377.433
Mn (257.610 nm)	0.159412	ppm	0.000308	0.19	36038.100000	Y 377.433
Mo (202.032 nm)	0.025376	ppm	0.000484	1.91	209.389000	Y 377.433
Na (589.592 nm)	1242.580000 o	ppm	10.864800	0.87	7875380.000000	Y_R2 488.368
Na H (589.593 nm)	1256.785630	ppm	9.562878	0.76	4618224.710043	Y_R 488.368
Ni (231.604 nm)	0.546962	ppm	0.000173	0.03	3573.070000	Y 377.433
P (213.618 nm)	1.183040	ppm	0.008089	0.68	2461.010000	Y 242.219
Pb (220.353 nm)	-0.000396 u	ppm	0.001593	> 100.00	2.667780	Y 242.219
S (181.972 nm)	51.507239 o	ppm	0.019474	0.04	25119.837509	Y 377.433
Sb (206.834 nm)	-0.000430 u	ppm	0.000549	> 100.00	-21.688400	Y 377.433
Se (196.026 nm)	0.003002	ppm	0.000665	22.14	16.377900	Y 242.219
Si (288.158 nm)	19.569700 o	ppm	0.064072	0.33	160835.000000	Y 377.433
Sn (189.925 nm)	0.003928	ppm	0.000860	21.89	15.390300	Y 377.433
Sr (421.552 nm)	1.779663 o	ppm	0.009687	0.54	366953.207812	Y_R 488.368
Th (288.505 nm)	0.005844	ppm	0.000101	1.73	100.745000	Y 377.433
Ti (336.122 nm)	0.007381	ppm	0.000059	0.80	979.524000	Y 377.433
Tl (190.794 nm)	0.003975	ppm	0.000786	19.77	1.890190	Y 377.433
U (409.013 nm)	0.019815	ppm	0.003255	16.43	-108.067000	Y 377.433
V (292.401 nm)	0.150015	ppm	0.000017	0.01	5293.180000	Y 377.433
Zn (206.200 nm)	0.007754	ppm	0.000309	3.98	37.428800	Y 377.433
Zr (343.823 nm)	0.103837	ppm	0.000279	0.27	13376.800000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.860637	16260.030961	0.000198	0.02
Y 377.433	0.875137	888115.202425	0.000879	0.10
Y_R 377.433	0.973588	74812.200000	0.010950	1.12
Y_R 488.368	0.969416	42533.000000	0.011189	1.15
Y_R2 488.368	0.938526	81035.236062	0.001773	0.19

Sample Name: 280-115852-B-1-A

Date: 10/29/2018 11:58:39 AM Rack:Tube: 1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000811	ppm	0.000241	29.67	-396.869000	Y 377.433
Al (167.019 nm)	0.002968	ppm	0.003089	> 100.00	2.580350	Y_R 377.433
Al H (396.152 nm)	-0.008915 u	ppm	0.000798	8.95	68.110371	Y_R 377.433
As (188.980 nm)	0.009485	ppm	0.002090	22.03	8.806760	Y 242.219
B (249.678 nm)	39.776900 o	ppm	0.007860	0.02	943568.000000	Y 242.219
Ba (493.408 nm)	0.054319	ppm	0.000238	0.44	6796.880000	Y_R 488.368
Be (234.861 nm)	0.000139	ppm	0.000024	16.93	-19.483600	Y_R 488.368
Bi (223.061 nm)	0.002370	ppm	0.001735	73.21	13.132200	Y 377.433
Ca (315.887 nm)	28.806047 o	ppm	0.089747	0.31	22098.137531	Y_R 377.433
Cd (214.439 nm)	0.000079	ppm	0.000058	73.79	2.893040	Y 377.433
Co (228.615 nm)	-0.000025 u	ppm	0.000280	> 100.00	-34.592000	Y 242.219
Cr (205.560 nm)	0.001563	ppm	0.000185	11.82	24.466400	Y 377.433
Cu (324.754 nm)	-0.000431 u	ppm	0.000270	62.62	-349.833000	Y 377.433
Fe (238.204 nm)	0.014869	ppm	0.001062	7.14	70.277272	Y_R 377.433
Fe H (259.940 nm)	-0.066876 u	ppm	0.002223	3.32	30.340300	Y_R 377.433
K (766.491 nm)	46.088400	ppm	0.076190	0.17	51081.400000	Y_R2 488.368
Li (670.783 nm)	0.714964	ppm	0.000713	0.10	21843.800000	Y_R2 488.368
Mg (279.078 nm)	21.069500	ppm	0.007275	0.03	115940.000000	Y 377.433
Mn (257.610 nm)	0.015709	ppm	0.000004	0.02	3606.810000	Y 377.433
Mo (202.032 nm)	0.003265	ppm	0.000088	2.69	24.848000	Y 377.433
Na (589.592 nm)	2601.600000 o	ppm	32.788400	1.26	16486200.000000	Y_R2 488.368
Na H (589.593 nm)	2216.093816	ppm	4.228542	0.19	8140160.788462	Y_R 488.368
Ni (231.604 nm)	0.001070	ppm	0.000005	0.48	4.652950	Y 377.433
P (213.618 nm)	1.318100	ppm	0.001061	0.08	2738.910000	Y 242.219
Pb (220.353 nm)	-0.001997 u	ppm	0.000358	17.92	-1.753640	Y 242.219
S (181.972 nm)	366.263592 bo	ppm	0.062644	0.02	178432.693696	Y 377.433
Sb (206.834 nm)	-0.004971 u	ppm	0.000207	4.17	-33.324500	Y 377.433
Se (196.026 nm)	-0.005116 u	ppm	0.001652	32.28	8.668580	Y 242.219
Si (288.158 nm)	45.082600 o	ppm	0.244266	0.54	369188.000000	Y 377.433
Sn (189.925 nm)	-0.001250 u	ppm	0.001961	> 100.00	5.510850	Y 377.433
Sr (421.552 nm)	1.048926	ppm	0.003417	0.33	216340.544395	Y_R 488.368
Th (288.505 nm)	0.007738	ppm	0.002323	30.02	97.045700	Y 377.433
Ti (336.122 nm)	0.002107	ppm	0.000089	4.20	96.272600	Y 377.433
Tl (190.794 nm)	0.003633	ppm	0.000223	6.15	0.564604	Y 377.433
U (409.013 nm)	-0.040239 u	ppm	0.004503	11.19	-358.772000	Y 377.433
V (292.401 nm)	0.001772	ppm	0.000197	11.12	86.874900	Y 377.433
Zn (206.200 nm)	0.001830	ppm	0.000519	28.34	7.807090	Y 377.433
Zr (343.823 nm)	0.005449	ppm	0.000033	0.61	714.692000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.879777	16621.638447	0.003698	0.42
Y 377.433	0.880772	893833.142297	0.003329	0.38
Y_R 377.433	1.025630	78811.100000	0.000453	0.04
Y_R 488.368	1.017560	44645.400000	0.001545	0.15
Y_R2 488.368	0.983291	84900.386352	0.007425	0.76

Sample Name: 280-115852-B-2-A

Date: 10/29/2018 12:02:02 PM Rack:Tube: 1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001612	ppm	0.000043	2.68	-365.354000	Y 377.433
Al (167.019 nm)	0.024096	ppm	0.000995	4.13	13.761300	Y_R 377.433
Al H (396.152 nm)	0.029966 u	ppm	0.007630	25.46	206.232982	Y_R 377.433
As (188.980 nm)	0.050470	ppm	0.006754	13.38	57.975200	Y 242.219
B (249.678 nm)	48.541700 o	ppm	0.173766	0.36	1151460.000000	Y 242.219
Ba (493.408 nm)	0.123878	ppm	0.002920	2.36	14774.300000	Y_R 488.368
Be (234.861 nm)	0.000160	ppm	0.000004	2.72	-19.601800	Y_R 488.368
Bi (223.061 nm)	0.000029 u	ppm	0.002058	> 100.00	7.460200	Y 377.433
Ca (315.887 nm)	100.219344 o	ppm	0.364781	0.36	77041.605405	Y_R 377.433
Cd (214.439 nm)	0.000217	ppm	0.000078	35.92	10.837500	Y 377.433
Co (228.615 nm)	-0.000509 u	ppm	0.000015	2.97	-42.617300	Y 242.219
Cr (205.560 nm)	0.003591	ppm	0.000006	0.16	53.830300	Y 377.433
Cu (324.754 nm)	-0.000733 u	ppm	0.000213	29.09	-405.491000	Y 377.433
Fe (238.204 nm)	0.045022	ppm	0.001640	3.64	179.087992	Y_R 377.433
Fe H (259.940 nm)	-0.039329 u	ppm	0.000686	1.74	80.636100	Y_R 377.433
K (766.491 nm)	64.753300	ppm	0.183556	0.28	72047.400000	Y_R2 488.368
Li (670.783 nm)	1.207110	ppm	0.003694	0.31	37833.200000	Y_R2 488.368
Mg (279.078 nm)	40.865600	ppm	0.070738	0.17	224840.000000	Y 377.433
Mn (257.610 nm)	0.229599	ppm	0.000122	0.05	51878.200000	Y 377.433
Mo (202.032 nm)	0.113585	ppm	0.000440	0.39	945.620000	Y 377.433
Na (589.592 nm)	2896.290000 o	ppm	22.323600	0.77	18353700.000000	Y_R2 488.368
Na H (589.593 nm)	2406.507778	ppm	63.038711	2.62	8839377.426404	Y_R 488.368
Ni (231.604 nm)	0.072800	ppm	0.000163	0.22	473.542000	Y 377.433
P (213.618 nm)	1.863320	ppm	0.000994	0.05	3860.690000	Y 242.219
Pb (220.353 nm)	-0.002560 u	ppm	0.000822	32.10	-3.796460	Y 242.219
S (181.972 nm)	531.192470 bo	ppm	0.234788	0.04	258767.610237	Y 377.433
Sb (206.834 nm)	-0.002957 u	ppm	0.002080	70.35	-28.562200	Y 377.433
Se (196.026 nm)	-0.002392 u	ppm	0.005153	> 100.00	11.388600	Y 242.219
Si (288.158 nm)	30.068000 o	ppm	0.216879	0.72	246570.000000	Y 377.433
Sn (189.925 nm)	0.000463 u	ppm	0.000680	> 100.00	8.778850	Y 377.433
Sr (421.552 nm)	5.623651 o	ppm	0.107637	1.91	1159240.077930	Y_R 488.368
Th (288.505 nm)	0.009209	ppm	0.003867	41.99	105.658000	Y 377.433
Ti (336.122 nm)	0.013333	ppm	0.000078	0.58	1883.400000	Y 377.433
Tl (190.794 nm)	0.005263	ppm	0.000766	14.55	3.737170	Y 377.433
U (409.013 nm)	-0.014766 u	ppm	0.006410	43.41	-258.681000	Y 377.433
V (292.401 nm)	0.022253	ppm	0.000511	2.30	803.347000	Y 377.433
Zn (206.200 nm)	0.000933	ppm	0.000523	56.04	3.321130	Y 377.433
Zr (343.823 nm)	0.003172	ppm	0.000086	2.71	421.675000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.810491	15312.620116	0.000678	0.08
Y 377.433	0.828256	840538.257536	0.002423	0.29
Y_R 377.433	0.998260	76708.100000	0.003324	0.33
Y_R 488.368	0.992568	43548.700000	0.020748	2.09
Y_R2 488.368	0.976002	84271.046981	0.004276	0.44

Sample Name: 280-115852-B-3-A

Date: 10/29/2018 12:05:25 PM Rack:Tube: 1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000898	ppm	0.000197	21.95	-396.989000	Y 377.433
Al (167.019 nm)	0.024961	ppm	0.001030	4.13	14.222700	Y_R 377.433
Al H (396.152 nm)	0.026732 u	ppm	0.002670	9.99	199.652325	Y_R 377.433
As (188.980 nm)	0.053204	ppm	0.003928	7.38	61.254400	Y 242.219
B (249.678 nm)	49.004800 o	ppm	0.070386	0.14	1162450.000000	Y 242.219
Ba (493.408 nm)	0.125837	ppm	0.000984	0.78	14999.000000	Y_R 488.368
Be (234.861 nm)	0.000176	ppm	0.000006	3.17	-15.266600	Y_R 488.368
Bi (223.061 nm)	-0.000984 u	ppm	0.001625	> 100.00	5.006460	Y 377.433
Ca (315.887 nm)	102.175916 o	ppm	0.183841	0.18	78546.938689	Y_R 377.433
Cd (214.439 nm)	0.000210	ppm	0.000038	18.03	10.456500	Y 377.433
Co (228.615 nm)	-0.000158 u	ppm	0.000386	> 100.00	-36.510100	Y 242.219
Cr (205.560 nm)	0.003612	ppm	0.000118	3.26	54.121300	Y 377.433
Cu (324.754 nm)	-0.000582 u	ppm	0.000263	45.09	-399.573000	Y 377.433
Fe (238.204 nm)	0.052327	ppm	0.001748	3.34	205.448090	Y_R 377.433
Fe H (259.940 nm)	-0.029990 u	ppm	0.001205	4.02	97.688100	Y_R 377.433
K (766.491 nm)	65.862800	ppm	0.260364	0.40	73293.700000	Y_R2 488.368
Li (670.783 nm)	1.221680	ppm	0.003387	0.28	38306.700000	Y_R2 488.368
Mg (279.078 nm)	42.287100	ppm	0.000805	0.00	232660.000000	Y 377.433
Mn (257.610 nm)	0.235627	ppm	0.000247	0.10	53238.800000	Y 377.433
Mo (202.032 nm)	0.122179	ppm	0.000149	0.12	1017.350000	Y 377.433
Na (589.592 nm)	3012.520000 o	ppm	46.670100	1.55	19090200.000000	Y_R2 488.368
Na H (589.593 nm)	2471.086021	ppm	23.304766	0.94	9076493.644975	Y_R 488.368
Ni (231.604 nm)	0.075422	ppm	0.000503	0.67	490.687000	Y 377.433
P (213.618 nm)	1.901640	ppm	0.004862	0.26	3939.530000	Y 242.219
Pb (220.353 nm)	-0.002712 u	ppm	0.000697	25.71	-4.266720	Y 242.219
S (181.972 nm)	562.330442 bo	ppm	0.193226	0.03	273934.471371	Y 377.433
Sb (206.834 nm)	-0.003928 u	ppm	0.002990	76.11	-31.169500	Y 377.433
Se (196.026 nm)	0.001131	ppm	0.000437	38.64	14.701600	Y 242.219
Si (288.158 nm)	30.290800 o	ppm	0.118814	0.39	248390.000000	Y 377.433
Sn (189.925 nm)	0.000566 u	ppm	0.001974	> 100.00	8.975500	Y 377.433
Sr (421.552 nm)	5.752274 o	ppm	0.056219	0.98	1185750.584369	Y_R 488.368
Th (288.505 nm)	0.006516	ppm	0.000353	5.42	99.090800	Y 377.433
Ti (336.122 nm)	0.013675	ppm	0.000089	0.65	1937.530000	Y 377.433
Tl (190.794 nm)	0.004176	ppm	0.000318	7.62	1.394340	Y 377.433
U (409.013 nm)	-0.014457 u	ppm	0.000031	0.21	-257.690000	Y 377.433
V (292.401 nm)	0.023403	ppm	0.000109	0.47	843.230000	Y 377.433
Zn (206.200 nm)	0.001670	ppm	0.000686	41.05	7.008000	Y 377.433
Zr (343.823 nm)	0.003241	ppm	0.000135	4.16	430.612000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.838437	15840.592182	0.002839	0.34
Y 377.433	0.847355	859920.790158	0.002736	0.32
Y_R 377.433	1.001010	76919.200000	0.000431	0.04
Y_R 488.368	0.989442	43411.600000	0.006693	0.68
Y_R2 488.368	0.954574	82420.901986	0.000691	0.07

Sample Name: 280-115852-B-4-A

Date: 10/29/2018 12:08:47 PM Rack:Tube: 1:5

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001221	ppm	0.000110	9.03	-381.137000	Y 377.433
Al (167.019 nm)	0.003568	ppm	0.000391	10.96	3.049060	Y_R 377.433
Al H (396.152 nm)	-0.006298 u	ppm	0.006254	99.30	86.343437	Y_R 377.433
As (188.980 nm)	0.005354	ppm	0.001459	27.25	3.848750	Y 242.219
B (249.678 nm)	69.838500 o	ppm	0.002980	0.00	1656600.000000	Y 242.219
Ba (493.408 nm)	0.038729	ppm	0.001198	3.09	5012.850000	Y_R 488.368
Be (234.861 nm)	0.000137	ppm	0.000016	11.63	-22.038200	Y_R 488.368
Bi (223.061 nm)	-0.000615 u	ppm	0.001565	> 100.00	5.932910	Y 377.433
Ca (315.887 nm)	29.251070 o	ppm	0.047689	0.16	22440.526216	Y_R 377.433
Cd (214.439 nm)	0.000244	ppm	0.000037	15.32	12.547000	Y 377.433
Co (228.615 nm)	0.000014 u	ppm	0.000055	> 100.00	-33.931600	Y 242.219
Cr (205.560 nm)	0.000945	ppm	0.000037	3.87	15.132300	Y 377.433
Cu (324.754 nm)	-0.000373 u	ppm	0.000169	45.21	-344.002000	Y 377.433
Fe (238.204 nm)	0.253582	ppm	0.001092	0.43	931.700647	Y_R 377.433
Fe H (259.940 nm)	0.164447 u	ppm	0.001932	1.17	452.696000	Y_R 377.433
K (766.491 nm)	52.602000	ppm	0.205674	0.39	58398.000000	Y_R2 488.368
Li (670.783 nm)	0.923675	ppm	0.003394	0.37	28624.700000	Y_R2 488.368
Mg (279.078 nm)	81.230200 o	ppm	0.064167	0.08	446890.000000	Y 377.433
Mn (257.610 nm)	0.010571	ppm	0.000067	0.63	2447.070000	Y 377.433
Mo (202.032 nm)	0.146929	ppm	0.000049	0.03	1223.920000	Y 377.433
Na (589.592 nm)	2788.200000 o	ppm	55.696800	2.00	17668600.000000	Y_R2 488.368
Na H (589.593 nm)	2339.056980	ppm	31.283034	1.34	8591635.067852	Y_R 488.368
Ni (231.604 nm)	0.217812	ppm	0.000486	0.22	1421.470000	Y 377.433
P (213.618 nm)	2.913610 o	ppm	0.014089	0.48	6021.670000	Y 242.219
Pb (220.353 nm)	-0.003482 u	ppm	0.001582	45.43	-6.413810	Y 242.219
S (181.972 nm)	799.279092 bo	ppm	0.119956	0.02	389348.156122	Y 377.433
Sb (206.834 nm)	-0.005320 u	ppm	0.000660	12.41	-35.176800	Y 377.433
Se (196.026 nm)	0.008413	ppm	0.002564	30.47	21.332900	Y 242.219
Si (288.158 nm)	32.305200 o	ppm	0.290215	0.90	264840.000000	Y 377.433
Sn (189.925 nm)	0.000790 u	ppm	0.001324	> 100.00	9.402550	Y 377.433
Sr (421.552 nm)	2.313073 o	ppm	0.051956	2.25	476894.577879	Y_R 488.368
Th (288.505 nm)	0.013048	ppm	0.001941	14.88	110.823000	Y 377.433
Ti (336.122 nm)	0.001285	ppm	0.000021	1.60	-17.164800	Y 377.433
Tl (190.794 nm)	0.004545	ppm	0.000494	10.87	2.168980	Y 377.433
U (409.013 nm)	0.032674	ppm	0.003032	9.28	-34.326200	Y 377.433
V (292.401 nm)	0.007136	ppm	0.000046	0.64	271.127000	Y 377.433
Zn (206.200 nm)	0.000432	ppm	0.000307	71.21	0.814938	Y 377.433
Zr (343.823 nm)	0.001786	ppm	0.000024	1.33	243.910000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.828008	15643.566912	0.000932	0.11
Y 377.433	0.835475	847865.001922	0.000406	0.05
Y_R 377.433	0.973849	74832.300000	0.001268	0.13
Y_R 488.368	0.971908	42642.300000	0.017897	1.84
Y_R2 488.368	0.933205	80575.833736	0.017745	1.90

Sample Name: 280-115852-B-5-A

Date: 10/29/2018 12:12:10 PM Rack:Tube: 1:6

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001115	ppm	0.000322	28.88	-389.305000	Y 377.433
Al (167.019 nm)	0.036271	ppm	0.006199	17.09	20.187600	Y_R 377.433
Al H (396.152 nm)	0.027501 u	ppm	0.002314	8.42	162.311346	Y_R 377.433
As (188.980 nm)	0.004186	ppm	0.001728	41.27	2.449010	Y 242.219
B (249.678 nm)	51.114500 o	ppm	0.087357	0.17	1212490.000000	Y 242.219
Ba (493.408 nm)	0.592495	ppm	0.003356	0.57	68394.500000	Y_R 488.368
Be (234.861 nm)	0.000151	ppm	0.000028	18.29	-15.536800	Y_R 488.368
Bi (223.061 nm)	0.001123	ppm	0.000095	8.46	10.113100	Y 377.433
Ca (315.887 nm)	34.021397 o	ppm	0.184493	0.54	26110.687059	Y_R 377.433
Cd (214.439 nm)	0.000231	ppm	0.000104	44.80	11.639500	Y 377.433
Co (228.615 nm)	-0.000214 u	ppm	0.000177	82.34	-37.456100	Y 242.219
Cr (205.560 nm)	0.008511	ppm	0.000047	0.56	125.775000	Y 377.433
Cu (324.754 nm)	-0.000279 u	ppm	0.000076	27.38	-344.654000	Y 377.433
Fe (238.204 nm)	0.036486	ppm	0.000975	2.67	148.282296	Y_R 377.433
Fe H (259.940 nm)	-0.048667 u	ppm	0.003977	8.17	63.586400	Y_R 377.433
K (766.491 nm)	26.109600	ppm	0.057741	0.22	28639.400000	Y_R2 488.368
Li (670.783 nm)	0.845339	ppm	0.005241	0.62	26079.600000	Y_R2 488.368
Mg (279.078 nm)	57.067900 o	ppm	0.076581	0.13	313972.000000	Y 377.433
Mn (257.610 nm)	0.021201	ppm	0.000032	0.15	4846.140000	Y 377.433
Mo (202.032 nm)	0.002911	ppm	0.000534	18.33	21.888500	Y 377.433
Na (589.592 nm)	2566.810000 o	ppm	23.762400	0.93	16266800.000000	Y_R2 488.368
Na H (589.593 nm)	2240.256424	ppm	1.039596	0.05	8229385.765907	Y_R 488.368
Ni (231.604 nm)	0.085573	ppm	0.001100	1.29	557.040000	Y 377.433
P (213.618 nm)	3.438640 o	ppm	0.003789	0.11	7101.930000	Y 242.219
Pb (220.353 nm)	-0.002688 u	ppm	0.001807	67.24	-3.695400	Y 242.219
S (181.972 nm)	60.439262 o	ppm	0.079618	0.13	29470.177624	Y 377.433
Sb (206.834 nm)	-0.005709 u	ppm	0.001845	32.32	-35.128900	Y 377.433
Se (196.026 nm)	0.003300	ppm	0.001634	49.52	16.580000	Y 242.219
Si (288.158 nm)	20.648600 o	ppm	0.032581	0.16	169645.000000	Y 377.433
Sn (189.925 nm)	0.000393 u	ppm	0.001531	> 100.00	8.646360	Y 377.433
Sr (421.552 nm)	2.087903 o	ppm	0.012396	0.59	430484.702491	Y_R 488.368
Th (288.505 nm)	0.009858	ppm	0.002443	24.78	104.432000	Y 377.433
Ti (336.122 nm)	0.014701	ppm	0.000055	0.38	1871.220000	Y 377.433
Tl (190.794 nm)	0.004818	ppm	0.002900	60.19	3.041720	Y 377.433
U (409.013 nm)	-0.044197 u	ppm	0.000312	0.70	-378.498000	Y 377.433
V (292.401 nm)	0.059579	ppm	0.000339	0.57	2116.270000	Y 377.433
Zn (206.200 nm)	0.002705	ppm	0.000446	16.50	12.182300	Y 377.433
Zr (343.823 nm)	0.021243	ppm	0.000098	0.46	2747.280000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.832297	15724.589972	0.001177	0.14
Y 377.433	0.837590	850011.092612	0.002160	0.26
Y_R 377.433	0.937122	72010.200000	0.004866	0.52
Y_R 488.368	0.937072	41113.900000	0.005822	0.62
Y_R2 488.368	0.937827	80974.889195	0.003066	0.33

Sample Name: 280-115852-B-7-A

Date: 10/29/2018 12:15:33 PM Rack:Tube: 1:7

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000209	ppm	0.000009	4.33	-424.127000	Y 377.433
Al (167.019 nm)	0.000335 u	ppm	0.001874	> 100.00	1.188100	Y_R 377.433
Al H (396.152 nm)	-0.021629 u	ppm	0.000855	3.95	23.210093	Y_R 377.433
As (188.980 nm)	-0.000162 u	ppm	0.000631	> 100.00	-2.767330	Y 242.219
B (249.678 nm)	0.082618	ppm	0.005590	6.77	2052.830000	Y 242.219
Ba (493.408 nm)	0.000064 u	ppm	0.000169	> 100.00	580.623000	Y_R 488.368
Be (234.861 nm)	0.000046	ppm	0.000023	50.20	-46.204700	Y_R 488.368
Bi (223.061 nm)	0.001964 u	ppm	0.004005	> 100.00	12.147200	Y 377.433
Ca (315.887 nm)	0.051667	ppm	0.003499	6.77	-24.708474	Y_R 377.433
Cd (214.439 nm)	0.000052	ppm	0.000048	93.50	1.358460	Y 377.433
Co (228.615 nm)	0.000228	ppm	0.000182	80.08	-30.263000	Y 242.219
Cr (205.560 nm)	0.000195	ppm	0.000173	88.67	4.524060	Y 377.433
Cu (324.754 nm)	-0.000153 u	ppm	0.000057	37.01	-319.321000	Y 377.433
Fe (238.204 nm)	0.013057	ppm	0.001583	12.12	63.736481	Y_R 377.433
Fe H (259.940 nm)	-0.065534 u	ppm	0.001125	1.72	32.790000	Y_R 377.433
K (766.491 nm)	0.168068	ppm	0.050023	29.76	-500.356000	Y_R2 488.368
Li (670.783 nm)	0.000691	ppm	0.000201	29.13	-1362.560000	Y_R2 488.368
Mg (279.078 nm)	0.033338	ppm	0.000540	1.62	217.812000	Y 377.433
Mn (257.610 nm)	0.000481	ppm	0.000025	5.29	170.101000	Y 377.433
Mo (202.032 nm)	0.000157	ppm	0.000002	1.19	-1.094030	Y 377.433
Na (589.592 nm)	3.000190	ppm	0.050525	1.68	19630.600000	Y_R2 488.368
Na H (589.593 nm)	7.112938 u	ppm	0.089918	1.26	29302.543325	Y_R 488.368
Ni (231.604 nm)	0.000538	ppm	0.000313	58.22	1.179740	Y 377.433
P (213.618 nm)	-0.001350 u	ppm	0.001428	> 100.00	24.127100	Y 242.219
Pb (220.353 nm)	0.000469 u	ppm	0.000748	> 100.00	5.128020	Y 242.219
S (181.972 nm)	0.346751	ppm	0.009390	2.71	199.953343	Y 377.433
Sb (206.834 nm)	-0.000460 u	ppm	0.002045	> 100.00	-21.373900	Y 377.433
Se (196.026 nm)	-0.003317 u	ppm	0.003026	91.24	10.347400	Y 242.219
Si (288.158 nm)	0.015151	ppm	0.001060	7.00	1141.360000	Y 377.433
Sn (189.925 nm)	-0.000490 u	ppm	0.001080	> 100.00	6.961980	Y 377.433
Sr (421.552 nm)	0.001153	ppm	0.000091	7.88	383.385777	Y_R 488.368
Th (288.505 nm)	-0.000246 u	ppm	0.002253	> 100.00	76.905800	Y 377.433
Ti (336.122 nm)	0.000604	ppm	0.000021	3.47	-202.052000	Y 377.433
Tl (190.794 nm)	0.000506	ppm	0.000026	5.04	-6.095950	Y 377.433
U (409.013 nm)	-0.000202 u	ppm	0.001329	> 100.00	-175.086000	Y 377.433
V (292.401 nm)	0.000218	ppm	0.000031	14.15	32.265600	Y 377.433
Zn (206.200 nm)	0.001373	ppm	0.000383	27.94	5.520280	Y 377.433
Zr (343.823 nm)	-0.000006 u	ppm	0.000024	> 100.00	12.654100	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.996913	18834.681462	0.002655	0.27
Y 377.433	1.007842	1022788.358305	0.003183	0.32
Y_R 377.433	1.006540	77344.700000	0.001696	0.17
Y_R 488.368	1.007520	44204.800000	0.003951	0.39
Y_R2 488.368	1.013079	87472.431821	0.007032	0.69

Sample Name: 280-115891-C-2-A

Date: 10/29/2018 12:18:55 PM Rack:Tube: 1:8

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000158 u	ppm	0.000351	> 100.00	-426.387000	Y 377.433
Al (167.019 nm)	0.006401	ppm	0.002765	43.20	4.391770	Y_R 377.433
Al H (396.152 nm)	-0.023444 u	ppm	0.003853	16.44	18.613336	Y_R 377.433
As (188.980 nm)	0.000233	ppm	0.000290	> 100.00	-2.292800	Y 242.219
B (249.678 nm)	0.052741	ppm	0.001351	2.56	1344.170000	Y 242.219
Ba (493.408 nm)	0.000448	ppm	0.000055	12.34	624.620000	Y_R 488.368
Be (234.861 nm)	0.000057	ppm	0.000008	13.30	-43.021200	Y_R 488.368
Bi (223.061 nm)	-0.000509 u	ppm	0.001436	> 100.00	6.151470	Y 377.433
Ca (315.887 nm)	0.031297	ppm	0.019717	63.00	-40.380552	Y_R 377.433
Cd (214.439 nm)	0.000048 u	ppm	0.000125	> 100.00	1.126910	Y 377.433
Co (228.615 nm)	-0.000051 u	ppm	0.000046	89.68	-35.092000	Y 242.219
Cr (205.560 nm)	-0.000095 u	ppm	0.000115	> 100.00	0.301023	Y 377.433
Cu (324.754 nm)	-0.000031 u	ppm	0.000040	> 100.00	-313.167000	Y 377.433
Fe (238.204 nm)	0.012592	ppm	0.000608	4.83	62.058302	Y_R 377.433
Fe H (259.940 nm)	-0.066040 u	ppm	0.001427	2.16	31.867900	Y_R 377.433
K (766.491 nm)	0.092633	ppm	0.049767	53.72	-585.091000	Y_R2 488.368
Li (670.783 nm)	-0.001992 u	ppm	0.001667	83.69	-1449.700000	Y_R2 488.368
Mg (279.078 nm)	0.018554	ppm	0.000107	0.58	136.497000	Y 377.433
Mn (257.610 nm)	0.001692	ppm	0.000009	0.53	443.322000	Y 377.433
Mo (202.032 nm)	0.000027 u	ppm	0.000105	> 100.00	-2.180670	Y 377.433
Na (589.592 nm)	1.954180	ppm	0.033015	1.69	13003.100000	Y_R2 488.368
Na H (589.593 nm)	4.539750 u	ppm	0.216169	4.76	19854.804607	Y_R 488.368
Ni (231.604 nm)	0.000591	ppm	0.000068	11.46	1.527310	Y 377.433
P (213.618 nm)	-0.001832 u	ppm	0.002571	> 100.00	23.135500	Y 242.219
Pb (220.353 nm)	0.000392 u	ppm	0.000683	> 100.00	4.914880	Y 242.219
S (181.972 nm)	0.145525	ppm	0.009211	6.33	101.941417	Y 377.433
Sb (206.834 nm)	0.000648 u	ppm	0.001051	> 100.00	-18.454100	Y 377.433
Se (196.026 nm)	-0.003697 u	ppm	0.002839	76.80	9.990880	Y 242.219
Si (288.158 nm)	-0.007648 u	ppm	0.000341	4.46	955.167000	Y 377.433
Sn (189.925 nm)	0.000122 u	ppm	0.001431	> 100.00	8.129260	Y 377.433
Sr (421.552 nm)	0.000541	ppm	0.000053	9.76	257.232641	Y_R 488.368
Th (288.505 nm)	0.000590 u	ppm	0.004686	> 100.00	78.975900	Y 377.433
Ti (336.122 nm)	0.000689	ppm	0.000016	2.32	-190.221000	Y 377.433
Tl (190.794 nm)	0.000369 u	ppm	0.000610	> 100.00	-6.389790	Y 377.433
U (409.013 nm)	-0.000948 u	ppm	0.002507	> 100.00	-178.389000	Y 377.433
V (292.401 nm)	0.000055	ppm	0.000021	37.13	26.544900	Y 377.433
Zn (206.200 nm)	0.001757	ppm	0.000035	1.97	7.443720	Y 377.433
Zr (343.823 nm)	0.000002 u	ppm	0.000089	> 100.00	13.647000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.999568	18884.855283	0.000884	0.09
Y 377.433	1.010179	1025159.915537	0.002460	0.24
Y_R 377.433	0.994127	76390.500000	0.003154	0.32
Y_R 488.368	0.993906	43607.500000	0.017884	1.80
Y_R2 488.368	0.992264	85675.150777	0.001762	0.18

Sample Name: 280-115892-E-2-A

Date: 10/29/2018 12:22:18 PM Rack:Tube: 1:9

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001316	ppm	0.000053	4.04	-374.727000	Y 377.433
Al (167.019 nm)	0.010171	ppm	0.005244	51.56	36.539500	Y_R 377.433
Al H (396.152 nm)	0.041851 u	ppm	0.009309	22.24	364.057331	Y_R 377.433
As (188.980 nm)	0.072181	ppm	0.001244	1.72	83.621900	Y 242.219
B (249.678 nm)	2.228290 o	ppm	0.006140	0.28	52878.800000	Y 242.219
Ba (493.408 nm)	1.107270 o	ppm	0.015546	1.40	127443.000000	Y_R 488.368
Be (234.861 nm)	-0.000187 u	ppm	0.000138	73.55	1307.570000	Y_R 488.368
Bi (223.061 nm)	0.000130 u	ppm	0.002535	> 100.00	15.197300	Y 377.433
Ca (315.887 nm)	413.031096 o	ppm	4.827405	1.17	317710.542803	Y_R 377.433
Cd (214.439 nm)	-0.000086 u	ppm	0.000024	28.21	36.961800	Y 377.433
Co (228.615 nm)	0.003790	ppm	0.000125	3.31	31.410300	Y 242.219
Cr (205.560 nm)	0.000056 u	ppm	0.000205	> 100.00	-9.983900	Y 377.433
Cu (324.754 nm)	-0.002387 u	ppm	0.000126	5.29	-636.308000	Y 377.433
Fe (238.204 nm)	47.466740 o	ppm	0.443964	0.94	171305.893704	Y_R 377.433
Fe H (259.940 nm)	47.986000	ppm	0.251371	0.52	87766.300000	Y_R 377.433
K (766.491 nm)	24.575100	ppm	0.051717	0.21	26915.700000	Y_R2 488.368
Li (670.783 nm)	0.002214	ppm	0.000732	33.05	-1313.050000	Y_R2 488.368
Mg (279.078 nm)	105.975000 o	ppm	0.079743	0.08	582937.000000	Y 377.433
Mn (257.610 nm)	6.278970 o	ppm	0.000865	0.01	1417120.000000	Y 377.433
Mo (202.032 nm)	0.000282	ppm	0.000022	7.67	-0.054815	Y 377.433
Na (589.592 nm)	196.625000 o	ppm	0.167987	0.09	1248720.000000	Y_R2 488.368
Na H (589.593 nm)	203.970407	ppm	3.013500	1.48	753154.197450	Y_R 488.368
Ni (231.604 nm)	0.003157	ppm	0.000475	15.04	20.173900	Y 377.433
P (213.618 nm)	1.360910	ppm	0.001894	0.14	2826.980000	Y 242.219
Pb (220.353 nm)	-0.000037 u	ppm	0.001157	> 100.00	7.614430	Y 242.219
S (181.972 nm)	2.064809	ppm	0.000637	0.03	1051.150561	Y 377.433
Sb (206.834 nm)	-0.005072 u	ppm	0.002620	51.65	-44.401100	Y 377.433
Se (196.026 nm)	-0.000884 u	ppm	0.002473	> 100.00	8.687920	Y 242.219
Si (288.158 nm)	33.791000 o	ppm	0.139928	0.41	276974.000000	Y 377.433
Sn (189.925 nm)	0.000144 u	ppm	0.000267	> 100.00	8.170980	Y 377.433
Sr (421.552 nm)	2.338117 o	ppm	0.023006	0.98	482056.404436	Y_R 488.368
Th (288.505 nm)	0.001887 u	ppm	0.003004	> 100.00	199.667000	Y 377.433
Ti (336.122 nm)	0.000032 u	ppm	0.000060	> 100.00	988.668000	Y 377.433
Tl (190.794 nm)	0.001905	ppm	0.001008	52.91	-4.320270	Y 377.433
U (409.013 nm)	-0.021068 u	ppm	0.004472	21.23	-302.397000	Y 377.433
V (292.401 nm)	0.002591	ppm	0.000374	14.44	117.635000	Y 377.433
Zn (206.200 nm)	0.001242	ppm	0.000407	32.79	4.867980	Y 377.433
Zr (343.823 nm)	0.003856	ppm	0.000076	1.98	644.356000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.924103	17459.085358	0.000238	0.03
Y 377.433	0.938488	952405.153073	0.002824	0.30
Y_R 377.433	0.974653	74894.100000	0.018767	1.93
Y_R 488.368	0.972747	42679.100000	0.019429	2.00
Y_R2 488.368	0.963597	83199.962058	0.008081	0.84

Sample Name: CCVH-5380945

Date: 10/29/2018 12:25:43 PM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.002450 u	ppm	0.000068	2.77	-781.897000	Y 377.433
Al (167.019 nm)	46.669000 o	ppm	0.377054	0.81	24688.500000	Y_R 377.433
Al H (396.152 nm)	50.629615	ppm	0.297550	0.59	127884.319586	Y_R 377.433
As (188.980 nm)	0.000356 u	ppm	0.001095	> 100.00	-2.573450	Y 242.219
B (249.678 nm)	0.027259	ppm	0.001127	4.13	667.237000	Y 242.219
Ba (493.408 nm)	0.000332	ppm	0.000023	6.82	658.027000	Y_R 488.368
Be (234.861 nm)	0.000166	ppm	0.000018	10.88	1516.610000	Y_R 488.368
Bi (223.061 nm)	1.008240	ppm	0.004548	0.45	2460.230000	Y 377.433
Ca (315.887 nm)	-0.005279 u	ppm	0.002459	46.57	-68.520609	Y_R 377.433
Cd (214.439 nm)	-0.000226 u	ppm	0.000033	14.54	32.147700	Y 377.433
Co (228.615 nm)	0.003005	ppm	0.000170	5.66	17.824800	Y 242.219
Cr (205.560 nm)	-0.000250 u	ppm	0.000108	42.99	-15.360800	Y 377.433
Cu (324.754 nm)	-0.007330 u	ppm	0.000067	0.91	-385.218000	Y 377.433
Fe (238.204 nm)	50.990233 o	ppm	0.096839	0.19	184020.830428	Y_R 377.433
Fe H (259.940 nm)	51.219000	ppm	0.131365	0.26	93669.200000	Y_R 377.433
K (766.491 nm)	0.027423 u	ppm	0.053037	> 100.00	-658.341000	Y_R2 488.368
Li (670.783 nm)	0.000526 u	ppm	0.001055	> 100.00	-1367.920000	Y_R2 488.368
Mg (279.078 nm)	-0.019488 u	ppm	0.000466	2.39	-416.886000	Y 377.433
Mn (257.610 nm)	0.001581	ppm	0.000047	2.95	418.264000	Y 377.433
Mo (202.032 nm)	0.000207	ppm	0.000107	51.53	-0.677736	Y 377.433
Na (589.592 nm)	246.014000 o	ppm	0.186880	0.08	1559520.000000	Y_R2 488.368
Na H (589.593 nm)	249.905514	ppm	0.372931	0.15	920773.421589	Y_R 488.368
Ni (231.604 nm)	0.003363	ppm	0.000050	1.50	21.643000	Y 377.433
P (213.618 nm)	-0.005548 u	ppm	0.000140	2.52	15.488600	Y 242.219
Pb (220.353 nm)	-0.003453 u	ppm	0.000161	4.66	10.999400	Y 242.219
S (181.972 nm)	4.973697	ppm	0.005886	0.12	2453.673347	Y 377.433
Sb (206.834 nm)	-0.005343 u	ppm	0.000354	6.62	-79.195700	Y 377.433
Se (196.026 nm)	-0.002101 u	ppm	0.003719	> 100.00	2.850000	Y 242.219
Si (288.158 nm)	0.009553	ppm	0.000678	7.10	1095.640000	Y 377.433
Sn (189.925 nm)	0.001135	ppm	0.000741	65.23	10.062100	Y 377.433
Sr (421.552 nm)	0.000351	ppm	0.000005	1.34	218.084806	Y_R 488.368
Th (288.505 nm)	5.121030	ppm	0.014988	0.29	12880.300000	Y 377.433
Ti (336.122 nm)	0.001864	ppm	0.000067	3.60	-26.097000	Y 377.433
Tl (190.794 nm)	-0.002655 u	ppm	0.000744	28.01	-14.143800	Y 377.433
U (409.013 nm)	10.408100	ppm	0.022092	0.21	46125.000000	Y 377.433
V (292.401 nm)	0.002826	ppm	0.000116	4.11	-40.120700	Y 377.433
Zn (206.200 nm)	0.001151	ppm	0.000608	52.78	4.412820	Y 377.433
Zr (343.823 nm)	-0.004638 u	ppm	0.000012	0.27	-438.973000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.969235	18311.772120	0.000739	0.08
Y 377.433	0.967115	981456.774648	0.000161	0.02
Y_R 377.433	0.986670	75817.500000	0.010201	1.03
Y_R 488.368	1.001950	43960.300000	0.004333	0.43
Y_R2 488.368	0.992278	85676.390462	0.009173	0.92

Sample Name: CCV-5391053

Date: 10/29/2018 12:29:07 PM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.498207	ppm	0.001059	0.21	21654.700000	Y 377.433
Al (167.019 nm)	0.509116	ppm	0.003487	0.68	271.590000	Y_R 377.433
Al H (396.152 nm)	0.509021 u	ppm	0.001532	0.30	1404.928486	Y_R 377.433
As (188.980 nm)	1.004640	ppm	0.001205	0.12	1202.650000	Y 242.219
B (249.678 nm)	0.523932	ppm	0.000041	0.01	12537.800000	Y 242.219
Ba (493.408 nm)	0.503471	ppm	0.001135	0.23	58210.400000	Y_R 488.368
Be (234.861 nm)	0.492799	ppm	0.001106	0.22	141501.000000	Y_R 488.368
Bi (223.061 nm)	-0.000362 u	ppm	0.002228	> 100.00	6.910050	Y 377.433
Ca (315.887 nm)	5.046653	ppm	0.033499	0.66	3818.573450	Y_R 377.433
Cd (214.439 nm)	0.504756	ppm	0.001932	0.38	28831.500000	Y 377.433
Co (228.615 nm)	0.510932	ppm	0.000261	0.05	8825.900000	Y 242.219
Cr (205.560 nm)	0.502175	ppm	0.000651	0.13	7318.130000	Y 377.433
Cu (324.754 nm)	0.495196	ppm	0.001199	0.24	26089.100000	Y 377.433
Fe (238.204 nm)	2.558327	ppm	0.016545	0.65	9248.639528	Y_R 377.433
Fe H (259.940 nm)	2.506830 u	ppm	0.020380	0.81	4729.470000	Y_R 377.433
K (766.491 nm)	51.115800	ppm	0.066463	0.13	56728.500000	Y_R2 488.368
Li (670.783 nm)	1.005510	ppm	0.000107	0.01	31283.500000	Y_R2 488.368
Mg (279.078 nm)	19.751100	ppm	0.032979	0.17	108683.000000	Y 377.433
Mn (257.610 nm)	0.506649	ppm	0.000643	0.13	114404.000000	Y 377.433
Mo (202.032 nm)	0.503107	ppm	0.002907	0.58	4196.720000	Y 377.433
Na (589.592 nm)	5.188960	ppm	0.019859	0.38	34476.900000	Y_R2 488.368
Na H (589.593 nm)	6.686607 u	ppm	0.000156	0.00	28211.065582	Y_R 488.368
Ni (231.604 nm)	0.503901	ppm	0.000185	0.04	3292.830000	Y 377.433
P (213.618 nm)	0.984860	ppm	0.005540	0.56	2053.260000	Y 242.219
Pb (220.353 nm)	1.012890	ppm	0.000961	0.09	2827.600000	Y 242.219
S (181.972 nm)	-0.009812 u	ppm	0.002325	23.69	27.433883	Y 377.433
Sb (206.834 nm)	1.002770	ppm	0.004530	0.45	2643.840000	Y 377.433
Se (196.026 nm)	1.003770	ppm	0.002405	0.24	956.705000	Y 242.219
Si (288.158 nm)	5.042230	ppm	0.001456	0.03	42195.300000	Y 377.433
Sn (189.925 nm)	0.990594	ppm	0.001022	0.10	1897.700000	Y 377.433
Sr (421.552 nm)	0.499613	ppm	0.001079	0.22	103121.148345	Y_R 488.368
Th (288.505 nm)	0.004300	ppm	0.003394	78.94	103.492000	Y 377.433
Ti (336.122 nm)	0.509305	ppm	0.000566	0.11	70857.500000	Y 377.433
Tl (190.794 nm)	1.018600	ppm	0.001656	0.16	2165.600000	Y 377.433
U (409.013 nm)	-0.002509 u	ppm	0.005150	> 100.00	-222.278000	Y 377.433
V (292.401 nm)	0.504788	ppm	0.001019	0.20	17637.300000	Y 377.433
Zn (206.200 nm)	0.501169	ppm	0.000376	0.07	2504.790000	Y 377.433
Zr (343.823 nm)	0.510317	ppm	0.000941	0.18	65693.700000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.966825	18266.234383	0.000936	0.10
Y 377.433	0.971555	985962.560910	0.000638	0.07
Y_R 377.433	0.978853	75216.900000	0.001333	0.14
Y_R 488.368	0.979865	42991.400000	0.001083	0.11
Y_R2 488.368	0.981132	84714.028163	0.000339	0.03

Sample Name: CCB

Date: 10/29/2018 12:32:29 PM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000303 u	ppm	0.000216	71.30	-446.684000	Y 377.433
Al (167.019 nm)	0.000600 u	ppm	0.004978	> 100.00	1.319980	Y_R 377.433
Al H (396.152 nm)	-0.023041 u	ppm	0.006553	28.44	19.655544	Y_R 377.433
As (188.980 nm)	-0.000953 u	ppm	0.000359	37.64	-3.715540	Y 242.219
B (249.678 nm)	0.021056 Z	ppm	0.000897	4.26	592.645000 Z	Y 242.219
Ba (493.408 nm)	0.000240	ppm	0.000154	64.10	600.808000	Y_R 488.368
Be (234.861 nm)	0.000001 u	ppm	0.000022	> 100.00	-59.505100	Y_R 488.368
Bi (223.061 nm)	0.001648	ppm	0.000455	27.61	11.379200	Y 377.433
Ca (315.887 nm)	0.000991 u	ppm	0.005840	> 100.00	-63.696550	Y_R 377.433
Cd (214.439 nm)	0.000031 u	ppm	0.000059	> 100.00	0.135000	Y 377.433
Co (228.615 nm)	-0.000051 u	ppm	0.000388	> 100.00	-35.082200	Y 242.219
Cr (205.560 nm)	0.000056	ppm	0.000000	0.75	2.496190	Y 377.433
Cu (324.754 nm)	-0.000768 u	ppm	0.000250	32.56	-351.991000	Y 377.433
Fe (238.204 nm)	0.000599 u	ppm	0.001445	> 100.00	18.781664	Y_R 377.433
Fe H (259.940 nm)	-0.078826 u	ppm	0.002339	2.97	8.521920	Y_R 377.433
K (766.491 nm)	-0.009817 u	ppm	0.024367	> 100.00	-700.172000	Y_R2 488.368
Li (670.783 nm)	-0.003221 u	ppm	0.002622	81.41	-1489.630000	Y_R2 488.368
Mg (279.078 nm)	0.001985	ppm	0.000374	18.85	45.427200	Y 377.433
Mn (257.610 nm)	0.000045	ppm	0.000015	32.98	71.666700	Y 377.433
Mo (202.032 nm)	0.000484	ppm	0.000050	10.27	1.636620	Y 377.433
Na (589.592 nm)	0.152123	ppm	0.001852	1.22	1583.840000	Y_R2 488.368
Na H (589.593 nm)	1.195128 u	ppm	0.046145	3.86	7574.112271	Y_R 488.368
Ni (231.604 nm)	0.000672	ppm	0.000221	32.82	2.054620	Y 377.433
P (213.618 nm)	-0.002054 u	ppm	0.000820	39.91	22.678300	Y 242.219
Pb (220.353 nm)	0.000859	ppm	0.001138	> 100.00	6.209590	Y 242.219
S (181.972 nm)	-0.017299 u	ppm	0.002765	15.99	22.628593	Y 377.433
Sb (206.834 nm)	0.000148	ppm	0.000092	62.36	-19.762800	Y 377.433
Se (196.026 nm)	-0.003465 u	ppm	0.004220	> 100.00	10.210000	Y 242.219
Si (288.158 nm)	-0.013261 u	ppm	0.001310	9.88	909.325000	Y 377.433
Sn (189.925 nm)	-0.000896 u	ppm	0.000859	95.87	6.187460	Y 377.433
Sr (421.552 nm)	0.000016 u	ppm	0.000154	> 100.00	149.037758	Y_R 488.368
Th (288.505 nm)	0.002518	ppm	0.002310	91.72	83.647000	Y 377.433
Ti (336.122 nm)	-0.000031 u	ppm	0.000072	> 100.00	-290.819000	Y 377.433
Tl (190.794 nm)	0.001071 u	ppm	0.002148	> 100.00	-4.892060	Y 377.433
U (409.013 nm)	-0.006119 u	ppm	0.000456	7.45	-201.389000	Y 377.433
V (292.401 nm)	0.000098	ppm	0.000131	> 100.00	28.244200	Y 377.433
Zn (206.200 nm)	0.000036 u	ppm	0.000147	> 100.00	-1.164500	Y 377.433
Zr (343.823 nm)	0.000167	ppm	0.000036	21.75	34.910700	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.962876	18191.628825	0.000032	0.00
Y 377.433	0.969990	984374.592045	0.000105	0.01
Y_R 377.433	0.961535	73886.100000	0.006453	0.67
Y_R 488.368	0.972054	42648.700000	0.008655	0.89
Y_R2 488.368	0.961699	83036.101327	0.001050	0.11

Sample Name: CCVL-5398386

Date: 10/29/2018 12:35:52 PM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.008460	ppm	0.000257	3.03	-58.174400	Y 377.433
Al (167.019 nm)	0.099231	ppm	0.001688	1.70	53.492900	Y_R 377.433
Al H (396.152 nm)	0.083218 u	ppm	0.003697	4.44	289.447582	Y_R 377.433
As (188.980 nm)	0.013660	ppm	0.001830	13.40	13.814100	Y 242.219
B (249.678 nm)	0.115039	ppm	0.000337	0.29	2822.090000	Y 242.219
Ba (493.408 nm)	0.010341	ppm	0.000409	3.96	1756.970000	Y_R 488.368
Be (234.861 nm)	0.001043	ppm	0.000010	0.91	242.305000	Y_R 488.368
Bi (223.061 nm)	0.104444	ppm	0.002396	2.29	260.660000	Y 377.433
Ca (315.887 nm)	0.200470	ppm	0.008020	4.00	89.780081	Y_R 377.433
Cd (214.439 nm)	0.005169	ppm	0.000111	2.15	293.728000	Y 377.433
Co (228.615 nm)	0.010839	ppm	0.000022	0.20	153.721000	Y 242.219
Cr (205.560 nm)	0.010219	ppm	0.000056	0.54	150.625000	Y 377.433
Cu (324.754 nm)	0.014274	ppm	0.000017	0.12	447.149000	Y 377.433
Fe (238.204 nm)	0.104992	ppm	0.001411	1.34	395.493679	Y_R 377.433
Fe H (259.940 nm)	0.020104 u	ppm	0.000076	0.38	189.151000	Y_R 377.433
K (766.491 nm)	3.170740	ppm	0.018398	0.58	2872.510000	Y_R2 488.368
Li (670.783 nm)	0.018570	ppm	0.000343	1.85	-781.669000	Y_R2 488.368
Mg (279.078 nm)	0.199870	ppm	0.000595	0.30	1132.700000	Y 377.433
Mn (257.610 nm)	0.010454	ppm	0.000003	0.03	2420.840000	Y 377.433
Mo (202.032 nm)	0.018972	ppm	0.000698	3.68	155.938000	Y 377.433
Na (589.592 nm)	1.231380	ppm	0.013210	1.07	8442.910000	Y_R2 488.368
Na H (589.593 nm)	2.131425 u	ppm	0.012325	0.58	11021.747761	Y_R 488.368
Ni (231.604 nm)	0.041493	ppm	0.000679	1.64	268.911000	Y 377.433
P (213.618 nm)	2.772980 o	ppm	0.010011	0.36	5732.320000	Y 242.219
Pb (220.353 nm)	0.007692	ppm	0.000050	0.65	25.291800	Y 242.219
S (181.972 nm)	0.071011	ppm	0.009043	12.73	65.666681	Y 377.433
Sb (206.834 nm)	0.018463	ppm	0.001011	5.48	28.774400	Y 377.433
Se (196.026 nm)	0.015735	ppm	0.002497	15.87	28.243600	Y 242.219
Si (288.158 nm)	0.480879	ppm	0.000287	0.06	4944.760000	Y 377.433
Sn (189.925 nm)	0.096830	ppm	0.000783	0.81	192.624000	Y 377.433
Sr (421.552 nm)	0.010127	ppm	0.000065	0.64	2232.913557	Y_R 488.368
Th (288.505 nm)	0.014554	ppm	0.000332	2.28	114.656000	Y 377.433
Ti (336.122 nm)	0.010422	ppm	0.000003	0.03	1169.610000	Y 377.433
Tl (190.794 nm)	0.015131	ppm	0.000157	1.04	25.070600	Y 377.433
U (409.013 nm)	0.062574	ppm	0.003464	5.54	102.824000	Y 377.433
V (292.401 nm)	0.009913	ppm	0.000060	0.60	367.892000	Y 377.433
Zn (206.200 nm)	0.021571	ppm	0.000133	0.62	106.521000	Y 377.433
Zr (343.823 nm)	0.015122	ppm	0.000076	0.50	1959.700000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.967439	18277.834321	0.003657	0.38
Y 377.433	0.973200	987631.818494	0.003594	0.37
Y_R 377.433	0.963552	74041.100000	0.001271	0.13
Y_R 488.368	0.961946	42205.200000	0.003237	0.34
Y_R2 488.368	0.963012	83149.427059	0.002620	0.27

Sample Name: Bottle 115852-B-1-A

Date: 10/29/2018 12:39:15 PM Rack:Tube: 1:11

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000872	ppm	0.000048	5.46	-394.152000	Y 377.433
Al (167.019 nm)	-0.007212 u	ppm	0.002351	32.60	-2.806500	Y_R 377.433
Al H (396.152 nm)	-0.010877 u	ppm	0.003633	33.40	63.226010	Y_R 377.433
As (188.980 nm)	0.031205	ppm	0.002912	9.33	34.863500	Y 242.219
B (249.678 nm)	37.487100 o	ppm	0.183553	0.49	889257.000000	Y 242.219
Ba (493.408 nm)	0.050325	ppm	0.000390	0.78	6339.180000	Y_R 488.368
Be (234.861 nm)	0.000237	ppm	0.000011	4.80	7.465610	Y_R 488.368
Bi (223.061 nm)	0.000792	ppm	0.000782	98.71	9.305420	Y 377.433
Ca (315.887 nm)	27.297848 o	ppm	0.006871	0.03	20937.769610	Y_R 377.433
Cd (214.439 nm)	0.000302	ppm	0.000002	0.81	15.657800	Y 377.433
Co (228.615 nm)	-0.000226 u	ppm	0.000260	> 100.00	-38.036300	Y 242.219
Cr (205.560 nm)	-0.000327 u	ppm	0.000115	35.22	-3.102750	Y 377.433
Cu (324.754 nm)	0.000222 u	ppm	0.000730	> 100.00	-315.592000	Y 377.433
Fe (238.204 nm)	0.001495	ppm	0.000017	1.16	22.014694	Y_R 377.433
Fe H (259.940 nm)	-0.080097 u	ppm	0.001415	1.77	6.200640	Y_R 377.433
K (766.491 nm)	44.257200	ppm	0.120446	0.27	49024.400000	Y_R2 488.368
Li (670.783 nm)	0.674391	ppm	0.002865	0.42	20525.600000	Y_R2 488.368
Mg (279.078 nm)	18.505000	ppm	0.023122	0.12	101832.000000	Y 377.433
Mn (257.610 nm)	0.012085	ppm	0.000098	0.81	2788.910000	Y 377.433
Mo (202.032 nm)	0.012931	ppm	0.000361	2.79	105.522000	Y 377.433
Na (589.592 nm)	2318.060000 o	ppm	11.605900	0.50	14689500.000000	Y_R2 488.368
Na H (589.593 nm)	2007.225657	ppm	17.822756	0.89	7373246.762534	Y_R 488.368
Ni (231.604 nm)	-0.000830 u	ppm	0.000585	70.50	-7.773810	Y 377.433
P (213.618 nm)	1.231860	ppm	0.005260	0.43	2561.470000	Y 242.219
Pb (220.353 nm)	-0.001766 u	ppm	0.000396	22.42	-1.161380	Y 242.219
S (181.972 nm)	500.391582 bo	ppm	3.224581	0.64	243764.454331	Y 377.433
Sb (206.834 nm)	-0.004716 u	ppm	0.000548	11.63	-32.699700	Y 377.433
Se (196.026 nm)	0.056618	ppm	0.000290	0.51	66.675900	Y 242.219
Si (288.158 nm)	41.422600 o	ppm	0.110293	0.27	339298.000000	Y 377.433
Sn (189.925 nm)	0.024929	ppm	0.001488	5.97	55.453600	Y 377.433
Sr (421.552 nm)	0.987016	ppm	0.006660	0.67	203580.131127	Y_R 488.368
Th (288.505 nm)	0.007010	ppm	0.003309	47.21	95.115300	Y 377.433
Ti (336.122 nm)	0.003425	ppm	0.000024	0.70	275.568000	Y 377.433
Tl (190.794 nm)	-0.029877 u	ppm	0.000696	2.33	-70.987600	Y 377.433
U (409.013 nm)	-0.032585 u	ppm	0.000097	0.30	-324.448000	Y 377.433
V (292.401 nm)	0.001557	ppm	0.000261	16.78	78.772300	Y 377.433
Zn (206.200 nm)	0.000184	ppm	0.000165	89.52	-0.424055	Y 377.433
Zr (343.823 nm)	0.005148	ppm	0.000032	0.63	675.899000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.869322	16424.103590	0.003906	0.45
Y 377.433	0.899527	912866.860503	0.008490	0.94
Y_R 377.433	1.076720	82736.700000	0.000315	0.03
Y_R 488.368	1.097710	48162.000000	0.005324	0.48
Y_R2 488.368	1.023220	88348.010152	0.001463	0.14

Sample Name: Bottle 115852-B-2-A

Date: 10/29/2018 12:42:38 PM Rack:Tube: 1:12

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001369	ppm	0.000345	25.18	-375.497000	Y 377.433
Al (167.019 nm)	-0.005442 u	ppm	0.001837	33.76	-1.869850	Y_R 377.433
Al H (396.152 nm)	0.006267 u	ppm	0.001866	29.77	143.878612	Y_R 377.433
As (188.980 nm)	0.087224	ppm	0.001101	1.26	102.069000	Y 242.219
B (249.678 nm)	45.934000 o	ppm	0.154438	0.34	1089610.000000	Y 242.219
Ba (493.408 nm)	0.116295	ppm	0.000182	0.16	13905.200000	Y_R 488.368
Be (234.861 nm)	0.000261	ppm	0.000014	5.17	8.871890	Y_R 488.368
Bi (223.061 nm)	0.001841 u	ppm	0.003673	> 100.00	11.848200	Y 377.433
Ca (315.887 nm)	96.198688 o	ppm	0.402669	0.42	73948.220275	Y_R 377.433
Cd (214.439 nm)	0.000191	ppm	0.000029	15.19	9.325160	Y 377.433
Co (228.615 nm)	-0.000194 u	ppm	0.000190	97.64	-37.205100	Y 242.219
Cr (205.560 nm)	0.001159	ppm	0.000244	21.03	18.396500	Y 377.433
Cu (324.754 nm)	-0.000813 u	ppm	0.000635	78.11	-407.835000	Y 377.433
Fe (238.204 nm)	0.003668	ppm	0.001768	48.21	29.854057	Y_R 377.433
Fe H (259.940 nm)	-0.078150 u	ppm	0.000058	0.07	9.757090	Y_R 377.433
K (766.491 nm)	62.922400	ppm	0.091881	0.15	69990.700000	Y_R2 488.368
Li (670.783 nm)	1.160690	ppm	0.004688	0.40	36325.300000	Y_R2 488.368
Mg (279.078 nm)	36.660200	ppm	0.021663	0.06	201706.000000	Y 377.433
Mn (257.610 nm)	0.206262	ppm	0.003344	1.62	46611.600000	Y 377.433
Mo (202.032 nm)	0.104054	ppm	0.001249	1.20	866.067000	Y 377.433
Na (589.592 nm)	2651.570000 o	ppm	20.137400	0.76	16803000.000000	Y_R2 488.368
Na H (589.593 nm)	2228.306558	ppm	19.929287	0.89	8185061.055513	Y_R 488.368
Ni (231.604 nm)	0.067974	ppm	0.000399	0.59	441.986000	Y 377.433
P (213.618 nm)	1.869100	ppm	0.012920	0.69	3872.590000	Y 242.219
Pb (220.353 nm)	-0.000336 u	ppm	0.000177	52.73	2.446520	Y 242.219
S (181.972 nm)	460.360848 bo	ppm	0.159639	0.03	224266.515384	Y 377.433
Sb (206.834 nm)	-0.004615 u	ppm	0.005094	> 100.00	-32.893700	Y 377.433
Se (196.026 nm)	0.067838	ppm	0.009391	13.84	77.368000	Y 242.219
Si (288.158 nm)	27.564900 o	ppm	0.119989	0.44	226128.000000	Y 377.433
Sn (189.925 nm)	0.033167	ppm	0.000407	1.23	71.171100	Y 377.433
Sr (421.552 nm)	5.372883 o	ppm	0.004045	0.08	1107554.154465	Y_R 488.368
Th (288.505 nm)	0.006637	ppm	0.001192	17.96	98.715800	Y 377.433
Ti (336.122 nm)	0.012599	ppm	0.000108	0.86	1768.660000	Y 377.433
Tl (190.794 nm)	-0.039570 u	ppm	0.002883	7.29	-91.931300	Y 377.433
U (409.013 nm)	-0.016250 u	ppm	0.007473	45.99	-264.649000	Y 377.433
V (292.401 nm)	0.020075	ppm	0.000294	1.47	727.420000	Y 377.433
Zn (206.200 nm)	0.000504	ppm	0.000167	33.03	1.177710	Y 377.433
Zr (343.823 nm)	0.004204	ppm	0.000064	1.51	554.457000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.808457	15274.185186	0.000332	0.04
Y 377.433	0.853335	865989.525761	0.001942	0.23
Y_R 377.433	1.024660	78736.400000	0.005237	0.51
Y_R 488.368	1.040540	45653.400000	0.000794	0.08
Y_R2 488.368	1.013600	87517.415820	0.004041	0.40

Sample Name: Bottle 115852-B-3-A

Date: 10/29/2018 12:46:01 PM Rack:Tube: 1:13

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001123	ppm	0.000276	24.58	-386.412000	Y 377.433
Al (167.019 nm)	-0.010418 u	ppm	0.001402	13.46	-4.498400	Y_R 377.433
Al H (396.152 nm)	0.002399 u	ppm	0.000421	17.56	133.910113	Y_R 377.433
As (188.980 nm)	0.089694	ppm	0.001775	1.98	105.031000	Y 242.219
B (249.678 nm)	45.882300 o	ppm	0.050022	0.11	1088380.000000	Y 242.219
Ba (493.408 nm)	0.115840	ppm	0.000876	0.76	13852.900000	Y_R 488.368
Be (234.861 nm)	0.000244	ppm	0.000004	1.51	3.795830	Y_R 488.368
Bi (223.061 nm)	0.003420	ppm	0.002576	75.32	15.677500	Y 377.433
Ca (315.887 nm)	95.288014 o	ppm	0.153911	0.16	73247.572597	Y_R 377.433
Cd (214.439 nm)	0.000331	ppm	0.000213	64.27	17.309400	Y 377.433
Co (228.615 nm)	-0.000504 u	ppm	0.000370	73.36	-42.567800	Y 242.219
Cr (205.560 nm)	0.001152	ppm	0.000239	20.72	18.286500	Y 377.433
Cu (324.754 nm)	-0.001173 u	ppm	0.000188	16.06	-426.396000	Y 377.433
Fe (238.204 nm)	0.004050	ppm	0.002820	69.63	31.234389	Y_R 377.433
Fe H (259.940 nm)	-0.078368 u	ppm	0.001659	2.12	9.357970	Y_R 377.433
K (766.491 nm)	62.639000	ppm	0.159217	0.25	69672.400000	Y_R2 488.368
Li (670.783 nm)	1.156210	ppm	0.002935	0.25	36179.600000	Y_R2 488.368
Mg (279.078 nm)	36.664700	ppm	0.042359	0.12	201731.000000	Y 377.433
Mn (257.610 nm)	0.205991	ppm	0.002950	1.43	46550.300000	Y 377.433
Mo (202.032 nm)	0.106610	ppm	0.000708	0.66	887.404000	Y 377.433
Na (589.592 nm)	2662.660000 o	ppm	28.875700	1.08	16873200.000000	Y_R2 488.368
Na H (589.593 nm)	2267.540011	ppm	20.403855	0.90	8329115.823723	Y_R 488.368
Ni (231.604 nm)	0.067779	ppm	0.001793	2.65	440.717000	Y 377.433
P (213.618 nm)	1.821730	ppm	0.017196	0.94	3775.120000	Y 242.219
Pb (220.353 nm)	0.000171 u	ppm	0.000552	> 100.00	3.850900	Y 242.219
S (181.972 nm)	459.438490 bo	ppm	1.229500	0.27	223817.248339	Y 377.433
Sb (206.834 nm)	-0.002883 u	ppm	0.000216	7.49	-28.316200	Y 377.433
Se (196.026 nm)	0.070734	ppm	0.000661	0.93	80.088500	Y 242.219
Si (288.158 nm)	27.570900 o	ppm	0.127864	0.46	226177.000000	Y 377.433
Sn (189.925 nm)	0.033897	ppm	0.000702	2.07	72.562700	Y 377.433
Sr (421.552 nm)	5.349646 o	ppm	0.028409	0.53	1102764.629796	Y_R 488.368
Th (288.505 nm)	0.007100	ppm	0.002145	30.21	99.850700	Y 377.433
Ti (336.122 nm)	0.012428	ppm	0.000092	0.74	1741.990000	Y 377.433
Tl (190.794 nm)	-0.038056 u	ppm	0.001378	3.62	-88.706000	Y 377.433
U (409.013 nm)	-0.014605 u	ppm	0.005663	38.77	-257.165000	Y 377.433
V (292.401 nm)	0.020215	ppm	0.000075	0.37	732.287000	Y 377.433
Zn (206.200 nm)	0.000635	ppm	0.000464	73.15	1.830210	Y 377.433
Zr (343.823 nm)	0.004143	ppm	0.000067	1.63	546.605000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.808500	15274.993885	0.003320	0.41
Y 377.433	0.852924	865572.145826	0.003807	0.45
Y_R 377.433	1.016200	78086.900000	0.008467	0.83
Y_R 488.368	1.021850	44833.300000	0.009541	0.93
Y_R2 488.368	0.998681	86229.256018	0.000271	0.03

Sample Name: Bottle 115852-B-4-A

Date: 10/29/2018 12:49:25 PM Rack:Tube: 1:14

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001059	ppm	0.000163	15.39	-388.348000	Y 377.433
Al (167.019 nm)	-0.003893 u	ppm	0.000698	17.92	-1.049000	Y_R 377.433
Al H (396.152 nm)	-0.009128 u	ppm	0.004278	46.87	77.817461	Y_R 377.433
As (188.980 nm)	0.039710	ppm	0.001036	2.61	45.067200	Y 242.219
B (249.678 nm)	67.305700 o	ppm	0.114736	0.17	1596530.000000	Y 242.219
Ba (493.408 nm)	0.036245	ppm	0.000226	0.62	4727.860000	Y_R 488.368
Be (234.861 nm)	0.000259	ppm	0.000006	2.13	6.271410	Y_R 488.368
Bi (223.061 nm)	0.003452	ppm	0.001475	42.75	15.754100	Y 377.433
Ca (315.887 nm)	28.361333 o	ppm	0.023070	0.08	21755.986274	Y_R 377.433
Cd (214.439 nm)	0.000247	ppm	0.000055	22.35	12.508300	Y 377.433
Co (228.615 nm)	-0.000507 u	ppm	0.000252	49.62	-42.958300	Y 242.219
Cr (205.560 nm)	-0.001036 u	ppm	0.000159	15.39	-13.660800	Y 377.433
Cu (324.754 nm)	0.000383 u	ppm	0.000862	> 100.00	-305.339000	Y 377.433
Fe (238.204 nm)	0.008021	ppm	0.000725	9.04	45.564386	Y_R 377.433
Fe H (259.940 nm)	-0.075808 u	ppm	0.002334	3.08	14.032800	Y_R 377.433
K (766.491 nm)	51.302200	ppm	0.087806	0.17	56938.000000	Y_R2 488.368
Li (670.783 nm)	0.900752	ppm	0.004222	0.47	27879.900000	Y_R2 488.368
Mg (279.078 nm)	73.711700 o	ppm	0.636463	0.86	405530.000000	Y 377.433
Mn (257.610 nm)	0.013984	ppm	0.000357	2.55	3217.470000	Y 377.433
Mo (202.032 nm)	0.134837	ppm	0.000702	0.52	1123.000000	Y 377.433
Na (589.592 nm)	2414.400000 o	ppm	7.984260	0.33	15299900.000000	Y_R2 488.368
Na H (589.593 nm)	2115.393051	ppm	23.951067	1.13	7770396.600805	Y_R 488.368
Ni (231.604 nm)	0.204445	ppm	0.000929	0.45	1334.080000	Y 377.433
P (213.618 nm)	3.096860 o	ppm	0.002268	0.07	6398.700000	Y 242.219
Pb (220.353 nm)	-0.000975 u	ppm	0.001222	> 100.00	0.628098	Y 242.219
S (181.972 nm)	699.809308 bo	ppm	0.680175	0.10	340897.896777	Y 377.433
Sb (206.834 nm)	-0.005286 u	ppm	0.000838	15.85	-34.995500	Y 377.433
Se (196.026 nm)	0.086339	ppm	0.000079	0.09	94.602900	Y 242.219
Si (288.158 nm)	29.916200 o	ppm	0.133208	0.45	245330.000000	Y 377.433
Sn (189.925 nm)	0.034883	ppm	0.002270	6.51	74.443100	Y 377.433
Sr (421.552 nm)	2.291131 o	ppm	0.012588	0.55	472372.137639	Y_R 488.368
Th (288.505 nm)	0.014235	ppm	0.001838	12.91	113.907000	Y 377.433
Ti (336.122 nm)	0.002126	ppm	0.000027	1.27	97.438100	Y 377.433
Tl (190.794 nm)	-0.038186 u	ppm	0.000171	0.45	-89.008500	Y 377.433
U (409.013 nm)	0.037830	ppm	0.000588	1.55	-11.470100	Y 377.433
V (292.401 nm)	0.006567	ppm	0.000102	1.55	250.894000	Y 377.433
Zn (206.200 nm)	0.000573	ppm	0.000327	57.03	1.522410	Y 377.433
Zr (343.823 nm)	0.001951	ppm	0.000016	0.82	264.512000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.838564	15842.989385	0.003626	0.43
Y 377.433	0.881648	894722.818791	0.005796	0.66
Y_R 377.433	1.032040	79304.100000	0.000805	0.08
Y_R 488.368	1.033250	45333.600000	0.005094	0.49
Y_R2 488.368	1.019226	88003.176976	0.000176	0.02

Sample Name: Bottle 115852-B-5-A

Date: 10/29/2018 12:52:49 PM Rack:Tube: 1:15

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001108	ppm	0.000106	9.54	-388.537000	Y 377.433
Al (167.019 nm)	0.013522	ppm	0.006418	47.46	8.158360	Y_R 377.433
Al H (396.152 nm)	0.020750 u	ppm	0.007339	35.37	145.300620	Y_R 377.433
As (188.980 nm)	0.048324	ppm	0.002449	5.07	55.401300	Y 242.219
B (249.678 nm)	51.057800 o	ppm	0.032301	0.06	1211140.000000	Y 242.219
Ba (493.408 nm)	0.586378	ppm	0.003300	0.56	67694.000000	Y_R 488.368
Be (234.861 nm)	0.000274	ppm	0.000005	1.89	19.268900	Y_R 488.368
Bi (223.061 nm)	0.003332	ppm	0.000438	13.14	15.467100	Y 377.433
Ca (315.887 nm)	34.348729 o	ppm	0.266480	0.78	26362.527889	Y_R 377.433
Cd (214.439 nm)	0.000164	ppm	0.000071	43.47	7.778780	Y 377.433
Co (228.615 nm)	-0.000100 u	ppm	0.000039	39.32	-35.483900	Y 242.219
Cr (205.560 nm)	0.005576	ppm	0.000127	2.27	82.976500	Y 377.433
Cu (324.754 nm)	-0.000575 u	ppm	0.001614	> 100.00	-360.477000	Y 377.433
Fe (238.204 nm)	0.018853	ppm	0.001157	6.14	84.650972	Y_R 377.433
Fe H (259.940 nm)	-0.066142 u	ppm	0.001143	1.73	31.681300	Y_R 377.433
K (766.491 nm)	26.424700	ppm	0.086385	0.33	28993.300000	Y_R2 488.368
Li (670.783 nm)	0.842695	ppm	0.007554	0.90	25993.700000	Y_R2 488.368
Mg (279.078 nm)	51.680800 o	ppm	0.302448	0.59	284337.000000	Y 377.433
Mn (257.610 nm)	0.018582	ppm	0.000289	1.56	4255.040000	Y 377.433
Mo (202.032 nm)	0.003599	ppm	0.000690	19.17	27.630500	Y 377.433
Na (589.592 nm)	2224.930000 o	ppm	28.439800	1.28	14100400.000000	Y_R2 488.368
Na H (589.593 nm)	2038.946137	ppm	14.627402	0.72	7490220.612166	Y_R 488.368
Ni (231.604 nm)	0.080599	ppm	0.000006	0.01	524.506000	Y 377.433
P (213.618 nm)	3.758520 o	ppm	0.008073	0.21	7760.070000	Y 242.219
Pb (220.353 nm)	0.002039	ppm	0.000042	2.08	9.475570	Y 242.219
S (181.972 nm)	61.405496 o	ppm	0.099952	0.16	29940.810306	Y 377.433
Sb (206.834 nm)	-0.004330 u	ppm	0.000031	0.72	-31.451300	Y 377.433
Se (196.026 nm)	0.097832	ppm	0.001493	1.53	105.408000	Y 242.219
Si (288.158 nm)	19.833800 o	ppm	0.116383	0.59	162991.000000	Y 377.433
Sn (189.925 nm)	0.051535	ppm	0.003447	6.69	106.213000	Y 377.433
Sr (421.552 nm)	2.075240 o	ppm	0.009868	0.48	427874.798573	Y_R 488.368
Th (288.505 nm)	0.010073	ppm	0.001559	15.48	104.683000	Y 377.433
Ti (336.122 nm)	0.015177	ppm	0.000042	0.28	1938.600000	Y 377.433
Tl (190.794 nm)	-0.055068 u	ppm	0.001101	2.00	-124.782000	Y 377.433
U (409.013 nm)	-0.040605 u	ppm	0.002008	4.95	-362.835000	Y 377.433
V (292.401 nm)	0.058079	ppm	0.000088	0.15	2064.240000	Y 377.433
Zn (206.200 nm)	0.000603	ppm	0.000014	2.24	1.669130	Y 377.433
Zr (343.823 nm)	0.024462	ppm	0.000124	0.51	3161.440000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.825179	15590.117336	0.001811	0.22
Y 377.433	0.869693	882589.700564	0.003904	0.45
Y_R 377.433	1.018690	78277.700000	0.004840	0.48
Y_R 488.368	1.022320	44854.300000	0.005253	0.51
Y_R2 488.368	1.021578	88206.221644	0.006501	0.64

Sample Name: Bottle 115852-B-7-A

Date: 10/29/2018 12:56:12 PM Rack:Tube: 1:16

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000286	ppm	0.000002	0.53	-420.712000	Y 377.433
Al (167.019 nm)	-0.001990 u	ppm	0.001540	77.37	-0.048986	Y_R 377.433
Al H (396.152 nm)	-0.025516 u	ppm	0.004132	16.20	13.372673	Y_R 377.433
As (188.980 nm)	0.003795	ppm	0.001098	28.93	1.980510	Y 242.219
B (249.678 nm)	0.061818	ppm	0.004955	8.02	1559.510000	Y 242.219
Ba (493.408 nm)	-0.000287 u	ppm	0.000102	35.55	540.478000	Y_R 488.368
Be (234.861 nm)	0.000174	ppm	0.000001	0.51	-9.700470	Y_R 488.368
Bi (223.061 nm)	0.002303	ppm	0.000152	6.59	12.967600	Y 377.433
Ca (315.887 nm)	0.023133	ppm	0.004455	19.26	-46.661703	Y_R 377.433
Cd (214.439 nm)	0.000123	ppm	0.000021	17.19	5.441040	Y 377.433
Co (228.615 nm)	0.000187	ppm	0.000052	27.64	-30.964000	Y 242.219
Cr (205.560 nm)	0.000158	ppm	0.000125	79.10	3.986700	Y 377.433
Cu (324.754 nm)	-0.000029 u	ppm	0.000052	> 100.00	-313.177000	Y 377.433
Fe (238.204 nm)	-0.000622 u	ppm	0.000357	57.44	14.375466	Y_R 377.433
Fe H (259.940 nm)	-0.078496 u	ppm	0.002635	3.36	9.124000	Y_R 377.433
K (766.491 nm)	0.229250	ppm	0.010770	4.70	-431.632000	Y_R2 488.368
Li (670.783 nm)	0.003634	ppm	0.000534	14.70	-1266.920000	Y_R2 488.368
Mg (279.078 nm)	0.005914	ppm	0.000490	8.29	66.986100	Y 377.433
Mn (257.610 nm)	0.000082	ppm	0.000013	15.61	79.875600	Y 377.433
Mo (202.032 nm)	0.000102	ppm	0.000035	34.32	-1.553650	Y 377.433
Na (589.592 nm)	2.142020	ppm	0.098631	4.60	14192.800000	Y_R2 488.368
Na H (589.593 nm)	6.969330 u	ppm	0.927221	13.30	28775.282907	Y_R 488.368
Ni (231.604 nm)	0.000915	ppm	0.000578	63.21	3.641920	Y 377.433
P (213.618 nm)	-0.004066 u	ppm	0.000407	10.00	18.539400	Y 242.219
Pb (220.353 nm)	0.000193 u	ppm	0.003509	> 100.00	4.358050	Y 242.219
S (181.972 nm)	0.230933	ppm	0.003449	1.49	143.539114	Y 377.433
Sb (206.834 nm)	-0.002955 u	ppm	0.003025	> 100.00	-27.980600	Y 377.433
Se (196.026 nm)	-0.002776 u	ppm	0.000066	2.38	10.857300	Y 242.219
Si (288.158 nm)	0.002645	ppm	0.000088	3.33	1039.220000	Y 377.433
Sn (189.925 nm)	-0.000162 u	ppm	0.000422	> 100.00	7.586350	Y 377.433
Sr (421.552 nm)	0.000401	ppm	0.000019	4.73	228.328965	Y_R 488.368
Th (288.505 nm)	0.000111 u	ppm	0.001997	> 100.00	77.759600	Y 377.433
Ti (336.122 nm)	0.001503	ppm	0.000027	1.80	-76.534200	Y 377.433
Tl (190.794 nm)	0.001476 u	ppm	0.002291	> 100.00	-4.023740	Y 377.433
U (409.013 nm)	0.000052 u	ppm	0.000156	> 100.00	-173.944000	Y 377.433
V (292.401 nm)	-0.000046 u	ppm	0.000191	> 100.00	22.936000	Y 377.433
Zn (206.200 nm)	0.000332	ppm	0.000344	> 100.00	0.314869	Y 377.433
Zr (343.823 nm)	-0.000065 u	ppm	0.000045	68.32	4.996950	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.034621	19547.108915	0.000933	0.09
Y 377.433	1.055474	1071126.246072	0.002102	0.20
Y_R 377.433	1.085010	83373.900000	0.014737	1.36
Y_R 488.368	1.096090	48090.600000	0.005432	0.50
Y_R2 488.368	1.073981	92730.837221	0.001870	0.17

Sample Name: Bottle 115891-C-2-A

Date: 10/29/2018 12:59:34 PM Rack:Tube: 1:17

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000267	ppm	0.000227	85.27	-421.546000	Y 377.433
Al (167.019 nm)	-0.000351 u	ppm	0.000471	> 100.00	0.817695	Y_R 377.433
Al H (396.152 nm)	-0.023842 u	ppm	0.000417	1.75	17.606495	Y_R 377.433
As (188.980 nm)	0.002258	ppm	0.001779	78.80	0.136420	Y 242.219
B (249.678 nm)	0.035087	ppm	0.001693	4.83	925.462000	Y 242.219
Ba (493.408 nm)	-0.000640 u	ppm	0.000098	15.25	500.014000	Y_R 488.368
Be (234.861 nm)	0.000175	ppm	0.000011	6.49	-9.422240	Y_R 488.368
Bi (223.061 nm)	0.001179	ppm	0.000046	3.90	10.242800	Y 377.433
Ca (315.887 nm)	0.002011 u	ppm	0.011988	> 100.00	-62.911929	Y_R 377.433
Cd (214.439 nm)	0.000151	ppm	0.000028	18.43	7.037360	Y 377.433
Co (228.615 nm)	0.000567	ppm	0.000346	60.96	-24.377700	Y 242.219
Cr (205.560 nm)	-0.000104 u	ppm	0.000157	> 100.00	0.169582	Y 377.433
Cu (324.754 nm)	-0.000055 u	ppm	0.000200	> 100.00	-314.847000	Y 377.433
Fe (238.204 nm)	0.000316 u	ppm	0.000531	> 100.00	17.760091	Y_R 377.433
Fe H (259.940 nm)	-0.074395 u	ppm	0.002226	2.99	16.612500	Y_R 377.433
K (766.491 nm)	0.192025	ppm	0.007357	3.83	-473.446000	Y_R2 488.368
Li (670.783 nm)	0.004258	ppm	0.001425	33.46	-1246.660000	Y_R2 488.368
Mg (279.078 nm)	0.001600	ppm	0.000698	43.65	43.266200	Y 377.433
Mn (257.610 nm)	0.000025	ppm	0.000020	81.76	67.054300	Y 377.433
Mo (202.032 nm)	0.000323	ppm	0.000148	45.95	0.287003	Y 377.433
Na (589.592 nm)	1.484240	ppm	0.051594	3.48	10023.600000	Y_R2 488.368
Na H (589.593 nm)	4.441265 u	ppm	0.034802	0.78	19492.393813	Y_R 488.368
Ni (231.604 nm)	0.000193	ppm	0.000091	47.03	-1.074770	Y 377.433
P (213.618 nm)	-0.004241 u	ppm	0.001139	26.86	18.179200	Y 242.219
Pb (220.353 nm)	0.000251	ppm	0.000034	13.43	4.516730	Y 242.219
S (181.972 nm)	0.149912	ppm	0.004533	3.02	104.074820	Y 377.433
Sb (206.834 nm)	-0.003332 u	ppm	0.001638	49.15	-28.987300	Y 377.433
Se (196.026 nm)	-0.004763 u	ppm	0.000020	0.42	8.990000	Y 242.219
Si (288.158 nm)	-0.016742 u	ppm	0.000189	1.13	880.902000	Y 377.433
Sn (189.925 nm)	-0.001400 u	ppm	0.000265	18.91	5.225260	Y 377.433
Sr (421.552 nm)	0.000057 u	ppm	0.000150	> 100.00	157.330512	Y_R 488.368
Th (288.505 nm)	0.001961	ppm	0.000295	15.07	82.303000	Y 377.433
Ti (336.122 nm)	0.001460	ppm	0.000034	2.31	-82.648700	Y 377.433
Tl (190.794 nm)	0.001492	ppm	0.001894	> 100.00	-3.993000	Y 377.433
U (409.013 nm)	-0.003022 u	ppm	0.000507	16.79	-187.605000	Y 377.433
V (292.401 nm)	0.000075	ppm	0.000023	31.17	27.136800	Y 377.433
Zn (206.200 nm)	0.000430	ppm	0.000199	46.42	0.804463	Y 377.433
Zr (343.823 nm)	-0.000133 u	ppm	0.000034	25.59	-3.775520	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.024250	19351.162863	0.003553	0.35
Y 377.433	1.039239	1054650.251546	0.002088	0.20
Y_R 377.433	1.043320	80170.900000	0.001453	0.14
Y_R 488.368	1.051550	46136.400000	0.015305	1.46
Y_R2 488.368	1.081178	93352.280391	0.000945	0.09

Sample Name: Bottle 115892-E-2-A

Date: 10/29/2018 1:02:56 PM Rack:Tube: 1:18

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001401	ppm	0.000046	3.26	-371.044000	Y 377.433
Al (167.019 nm)	0.003337	ppm	0.002563	76.81	32.623400	Y_R 377.433
Al H (396.152 nm)	0.034706 u	ppm	0.009965	28.71	344.440763	Y_R 377.433
As (188.980 nm)	0.081248	ppm	0.003299	4.06	94.503200	Y 242.219
B (249.678 nm)	2.218130 o	ppm	0.002876	0.13	52638.500000	Y 242.219
Ba (493.408 nm)	1.075710	ppm	0.007231	0.67	123829.000000	Y_R 488.368
Be (234.861 nm)	-0.000450 u	ppm	0.000111	24.71	1217.730000	Y_R 488.368
Bi (223.061 nm)	-0.000544 u	ppm	0.000053	9.79	13.487700	Y 377.433
Ca (315.887 nm)	409.536276 o	ppm	2.733398	0.67	315021.722540	Y_R 377.433
Cd (214.439 nm)	-0.000213 u	ppm	0.000042	19.73	29.260900	Y 377.433
Co (228.615 nm)	0.004455	ppm	0.000197	4.43	42.913700	Y 242.219
Cr (205.560 nm)	-0.000208 u	ppm	0.000201	96.72	-13.703000	Y 377.433
Cu (324.754 nm)	-0.002651 u	ppm	0.000211	7.95	-648.494000	Y 377.433
Fe (238.204 nm)	46.948222 o	ppm	0.348093	0.74	169434.761426	Y_R 377.433
Fe H (259.940 nm)	47.383900	ppm	0.311051	0.66	86666.900000	Y_R 377.433
K (766.491 nm)	23.920700	ppm	0.001515	0.01	26180.700000	Y_R2 488.368
Li (670.783 nm)	0.008902	ppm	0.000057	0.64	-1095.790000	Y_R2 488.368
Mg (279.078 nm)	101.099000 o	ppm	0.121252	0.12	556118.000000	Y 377.433
Mn (257.610 nm)	6.052490 o	ppm	0.007794	0.13	1366010.000000	Y 377.433
Mo (202.032 nm)	0.000064	ppm	0.000038	59.07	-1.869720	Y 377.433
Na (589.592 nm)	190.397000 o	ppm	0.338164	0.18	1209190.000000	Y_R2 488.368
Na H (589.593 nm)	196.117134	ppm	1.435591	0.73	724289.716935	Y_R 488.368
Ni (231.604 nm)	0.002472	ppm	0.000149	6.02	15.671800	Y 377.433
P (213.618 nm)	1.402260	ppm	0.002631	0.19	2912.070000	Y 242.219
Pb (220.353 nm)	0.003140	ppm	0.000546	17.39	16.455200	Y 242.219
S (181.972 nm)	2.509049	ppm	0.003920	0.16	1267.010289	Y 377.433
Sb (206.834 nm)	-0.006049 u	ppm	0.001536	25.40	-46.888000	Y 377.433
Se (196.026 nm)	0.011440	ppm	0.000376	3.28	20.182700	Y 242.219
Si (288.158 nm)	33.550700 o	ppm	0.042059	0.13	275011.000000	Y 377.433
Sn (189.925 nm)	0.007309	ppm	0.000592	8.10	21.839500	Y 377.433
Sr (421.552 nm)	2.243267 o	ppm	0.006972	0.31	462506.826392	Y_R 488.368
Th (288.505 nm)	0.006984	ppm	0.001859	26.61	207.906000	Y 377.433
Ti (336.122 nm)	0.000362	ppm	0.000020	5.46	1023.810000	Y 377.433
Tl (190.794 nm)	-0.004311 u	ppm	0.000833	19.31	-17.571900	Y 377.433
U (409.013 nm)	-0.020709 u	ppm	0.001699	8.21	-300.547000	Y 377.433
V (292.401 nm)	0.002163	ppm	0.000145	6.71	102.741000	Y 377.433
Zn (206.200 nm)	0.000105 u	ppm	0.000186	> 100.00	-0.819516	Y 377.433
Zr (343.823 nm)	0.003560	ppm	0.000050	1.40	604.883000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.941931	17795.907334	0.001644	0.17
Y 377.433	0.974082	988527.152254	0.000944	0.10
Y_R 377.433	1.043750	80203.900000	0.010697	1.02
Y_R 488.368	1.063880	46677.700000	0.013031	1.22
Y_R2 488.368	1.041608	89935.673215	0.002870	0.28

Sample Name: MB 280-434511/1-A

Date: 10/29/2018 1:06:19 PM Rack:Tube: 1:19

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000160 u	ppm	0.000172	> 100.00	-440.423000	Y 377.433
Al (167.019 nm)	0.003146	ppm	0.002043	64.94	2.679620	Y_R 377.433
Al H (396.152 nm)	-0.024941 u	ppm	0.005558	22.28	14.844247	Y_R 377.433
As (188.980 nm)	-0.000593 u	ppm	0.001196	> 100.00	-3.284520	Y 242.219
B (249.678 nm)	0.044595	ppm	0.000059	0.13	1150.930000	Y 242.219
Ba (493.408 nm)	-0.000596 u	ppm	0.000340	56.99	505.063000	Y_R 488.368
Be (234.861 nm)	0.000013 u	ppm	0.000026	> 100.00	-55.323500	Y_R 488.368
Bi (223.061 nm)	0.002217	ppm	0.000640	28.85	12.763500	Y 377.433
Ca (315.887 nm)	0.021746	ppm	0.007014	32.26	-47.728754	Y_R 377.433
Cd (214.439 nm)	0.000009 u	ppm	0.000028	> 100.00	-1.053150	Y 377.433
Co (228.615 nm)	0.000233	ppm	0.000209	89.92	-30.170900	Y 242.219
Cr (205.560 nm)	0.000289	ppm	0.000111	38.52	5.888350	Y 377.433
Cu (324.754 nm)	0.000308	ppm	0.000429	> 100.00	-296.587000	Y 377.433
Fe (238.204 nm)	0.023459	ppm	0.001460	6.22	101.271825	Y_R 377.433
Fe H (259.940 nm)	-0.057960 u	ppm	0.000117	0.20	46.619400	Y_R 377.433
K (766.491 nm)	0.082912	ppm	0.018479	22.29	-596.011000	Y_R2 488.368
Li (670.783 nm)	0.001397	ppm	0.001211	86.67	-1339.610000	Y_R2 488.368
Mg (279.078 nm)	0.004127	ppm	0.000168	4.08	57.091200	Y 377.433
Mn (257.610 nm)	0.000409	ppm	0.000007	1.67	153.771000	Y 377.433
Mo (202.032 nm)	0.000247	ppm	0.000040	16.00	-0.341330	Y 377.433
Na (589.592 nm)	0.340781	ppm	0.031963	9.38	2777.740000	Y_R2 488.368
Na H (589.593 nm)	2.991665 u	ppm	0.017585	0.59	14169.767913	Y_R 488.368
Ni (231.604 nm)	-0.000201 u	ppm	0.000425	> 100.00	-3.654120	Y 377.433
P (213.618 nm)	-0.001337 u	ppm	0.000124	9.27	24.153100	Y 242.219
Pb (220.353 nm)	-0.000225 u	ppm	0.000266	> 100.00	3.192950	Y 242.219
S (181.972 nm)	0.226133	ppm	0.006730	2.98	141.202000	Y 377.433
Sb (206.834 nm)	0.001080	ppm	0.000775	71.82	-17.301400	Y 377.433
Se (196.026 nm)	-0.000172 u	ppm	0.002231	> 100.00	13.300200	Y 242.219
Si (288.158 nm)	-0.006886 u	ppm	0.001988	28.86	961.389000	Y 377.433
Sn (189.925 nm)	0.000535	ppm	0.000737	> 100.00	8.916940	Y 377.433
Sr (421.552 nm)	-0.000044 u	ppm	0.000036	82.05	136.595446	Y_R 488.368
Th (288.505 nm)	-0.000456 u	ppm	0.000842	> 100.00	76.383800	Y 377.433
Ti (336.122 nm)	0.000311	ppm	0.000066	21.37	-243.019000	Y 377.433
Tl (190.794 nm)	-0.000131 u	ppm	0.001554	> 100.00	-7.457230	Y 377.433
U (409.013 nm)	0.003861	ppm	0.000339	8.77	-157.006000	Y 377.433
V (292.401 nm)	0.000001 u	ppm	0.000113	> 100.00	23.836900	Y 377.433
Zn (206.200 nm)	0.001490	ppm	0.000151	10.11	6.106350	Y 377.433
Zr (343.823 nm)	0.000085	ppm	0.000052	61.02	24.331000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.992299	18747.512249	0.003196	0.32
Y 377.433	1.004364	1019258.268911	0.002406	0.24
Y_R 377.433	1.012080	77770.100000	0.002922	0.29
Y_R 488.368	1.026760	45048.800000	0.001390	0.14
Y_R2 488.368	1.034272	89302.286194	0.001240	0.12

Sample Name: LCS 280-434511/2-A

Date: 10/29/2018 1:09:41 PM Rack:Tube: 1:20

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.050998	ppm	0.000029	0.06	1802.500000	Y 377.433
Al (167.019 nm)	2.079640	ppm	0.024680	1.19	1100.390000	Y_R 377.433
Al H (396.152 nm)	2.045326	ppm	0.001887	0.09	5345.007149	Y_R 377.433
As (188.980 nm)	0.986401	ppm	0.001138	0.12	1180.780000	Y 242.219
B (249.678 nm)	1.062260	ppm	0.001196	0.11	25308.000000	Y 242.219
Ba (493.408 nm)	2.041950 o	ppm	0.010989	0.54	234291.000000	Y_R 488.368
Be (234.861 nm)	0.048625	ppm	0.000174	0.36	13880.500000	Y_R 488.368
Bi (223.061 nm)	1.956390	ppm	0.001418	0.07	4751.450000	Y 377.433
Ca (315.887 nm)	50.628494 o	ppm	0.165370	0.33	38887.794496	Y_R 377.433
Cd (214.439 nm)	0.099112	ppm	0.000044	0.04	5660.870000	Y 377.433
Co (228.615 nm)	0.496215	ppm	0.001261	0.25	8588.600000	Y 242.219
Cr (205.560 nm)	0.203814	ppm	0.000862	0.42	2970.920000	Y 377.433
Cu (324.754 nm)	0.246880	ppm	0.000313	0.13	12875.800000	Y 377.433
Fe (238.204 nm)	1.123977	ppm	0.007332	0.65	4072.620121	Y_R 377.433
Fe H (259.940 nm)	1.043520 u	ppm	0.003293	0.32	2057.720000	Y_R 377.433
K (766.491 nm)	51.525700	ppm	0.053402	0.10	57189.000000	Y_R2 488.368
Li (670.783 nm)	1.015230	ppm	0.001828	0.18	31599.300000	Y_R2 488.368
Mg (279.078 nm)	48.648100 o	ppm	0.013113	0.03	267600.000000	Y 377.433
Mn (257.610 nm)	0.503545	ppm	0.000415	0.08	113704.000000	Y 377.433
Mo (202.032 nm)	1.030170	ppm	0.001766	0.17	8595.840000	Y 377.433
Na (589.592 nm)	50.215200 o	ppm	0.067595	0.13	322773.000000	Y_R2 488.368
Na H (589.593 nm)	53.740476	ppm	0.158050	0.29	202426.442109	Y_R 488.368
Ni (231.604 nm)	0.482968	ppm	0.002880	0.60	3157.090000	Y 377.433
P (213.618 nm)	9.769960 o	ppm	0.014134	0.14	20128.600000	Y 242.219
Pb (220.353 nm)	0.503561	ppm	0.000754	0.15	1409.270000	Y 242.219
S (181.972 nm)	2.069891	ppm	0.006848	0.33	1040.420048	Y 377.433
Sb (206.834 nm)	0.510995	ppm	0.001256	0.25	1326.070000	Y 377.433
Se (196.026 nm)	1.971220	ppm	0.004344	0.22	1866.180000	Y 242.219
Si (288.158 nm)	9.923410	ppm	0.035267	0.36	82057.800000	Y 377.433
Sn (189.925 nm)	2.001780	ppm	0.011208	0.56	3826.790000	Y 377.433
Sr (421.552 nm)	0.996340	ppm	0.004251	0.43	205501.894316	Y_R 488.368
Th (288.505 nm)	1.030400	ppm	0.002214	0.21	2679.920000	Y 377.433
Ti (336.122 nm)	1.025930	ppm	0.000535	0.05	143149.000000	Y 377.433
Tl (190.794 nm)	2.018700	ppm	0.002445	0.12	4296.880000	Y 377.433
U (409.013 nm)	2.120090	ppm	0.004005	0.19	9200.530000	Y 377.433
V (292.401 nm)	0.515893	ppm	0.000020	0.00	18066.100000	Y 377.433
Zn (206.200 nm)	0.488769	ppm	0.002141	0.44	2442.790000	Y 377.433
Zr (343.823 nm)	0.509996	ppm	0.003371	0.66	65648.400000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.975257	18425.535581	0.001894	0.19
Y 377.433	0.985210	999820.499494	0.001350	0.14
Y_R 377.433	1.002850	77060.500000	0.001111	0.11
Y_R 488.368	1.014810	44524.800000	0.002527	0.25
Y_R2 488.368	1.020349	88100.084254	0.001175	0.12

Sample Name: CCVH-5380945

Date: 10/29/2018 1:13:05 PM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.002207 u	ppm	0.000339	15.36	-771.884000	Y 377.433
Al (167.019 nm)	47.729800 o	ppm	0.200217	0.42	25248.900000	Y_R 377.433
Al H (396.152 nm)	50.682281	ppm	0.219143	0.43	128017.268982	Y_R 377.433
As (188.980 nm)	0.000392 u	ppm	0.000926	> 100.00	-2.529820	Y 242.219
B (249.678 nm)	0.020926	ppm	0.000805	3.85	517.120000	Y 242.219
Ba (493.408 nm)	-0.000060 u	ppm	0.000076	> 100.00	613.089000	Y_R 488.368
Be (234.861 nm)	0.000152	ppm	0.000005	3.39	1510.640000	Y_R 488.368
Bi (223.061 nm)	1.012850	ppm	0.002655	0.26	2471.410000	Y 377.433
Ca (315.887 nm)	-0.007167 u	ppm	0.006934	96.76	-69.972719	Y_R 377.433
Cd (214.439 nm)	-0.000381 u	ppm	0.000053	13.82	23.210300	Y 377.433
Co (228.615 nm)	0.003084	ppm	0.000015	0.48	19.192900	Y 242.219
Cr (205.560 nm)	-0.000191 u	ppm	0.000053	27.70	-14.483900	Y 377.433
Cu (324.754 nm)	-0.006956 u	ppm	0.000008	0.11	-365.535000	Y 377.433
Fe (238.204 nm)	50.833421 o	ppm	0.152113	0.30	183454.954767	Y_R 377.433
Fe H (259.940 nm)	51.420700	ppm	0.157223	0.31	94037.500000	Y_R 377.433
K (766.491 nm)	0.078465	ppm	0.034293	43.70	-601.007000	Y_R2 488.368
Li (670.783 nm)	0.002655	ppm	0.001650	62.12	-1298.730000	Y_R2 488.368
Mg (279.078 nm)	-0.019876 u	ppm	0.001963	9.87	-419.760000	Y 377.433
Mn (257.610 nm)	0.001468	ppm	0.000003	0.21	392.727000	Y 377.433
Mo (202.032 nm)	0.000209	ppm	0.000254	> 100.00	-0.666236	Y 377.433
Na (589.592 nm)	239.926000 o	ppm	0.865900	0.36	1520950.000000	Y_R2 488.368
Na H (589.593 nm)	247.574301	ppm	0.271752	0.11	912213.526394	Y_R 488.368
Ni (231.604 nm)	0.003664	ppm	0.000872	23.79	23.611500	Y 377.433
P (213.618 nm)	-0.007184 u	ppm	0.000402	5.60	12.122700	Y 242.219
Pb (220.353 nm)	-0.004026 u	ppm	0.000158	3.91	9.455540	Y 242.219
S (181.972 nm)	5.105365	ppm	0.001851	0.04	2517.806905	Y 377.433
Sb (206.834 nm)	-0.004342 u	ppm	0.000238	5.48	-76.627900	Y 377.433
Se (196.026 nm)	-0.005720 u	ppm	0.004731	82.71	-0.536971	Y 242.219
Si (288.158 nm)	0.005662	ppm	0.000370	6.53	1063.860000	Y 377.433
Sn (189.925 nm)	0.000162	ppm	0.000215	> 100.00	8.204380	Y 377.433
Sr (421.552 nm)	0.000431	ppm	0.000008	1.87	234.572517	Y_R 488.368
Th (288.505 nm)	5.106470	ppm	0.019540	0.38	12845.100000	Y 377.433
Ti (336.122 nm)	0.001880	ppm	0.000086	4.56	-23.765300	Y 377.433
Tl (190.794 nm)	-0.001158 u	ppm	0.000885	76.44	-10.946800	Y 377.433
U (409.013 nm)	10.425600	ppm	0.004676	0.04	46202.700000	Y 377.433
V (292.401 nm)	0.002762	ppm	0.000149	5.39	-43.402900	Y 377.433
Zn (206.200 nm)	0.001069	ppm	0.000469	43.84	3.999260	Y 377.433
Zr (343.823 nm)	-0.004699 u	ppm	0.000062	1.32	-447.047000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.997081	18837.853946	0.001236	0.12
Y 377.433	0.995011	1009766.732408	0.001478	0.15
Y_R 377.433	1.015340	78020.500000	0.001480	0.15
Y_R 488.368	1.031060	45237.600000	0.001022	0.10
Y_R2 488.368	1.037901	89615.615882	0.002498	0.24

Sample Name: CCV-5391053

Date: 10/29/2018 1:16:28 PM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.496209	ppm	0.000202	0.04	21566.400000	Y 377.433
Al (167.019 nm)	0.524346	ppm	0.001419	0.27	279.643000	Y_R 377.433
Al H (396.152 nm)	0.506422 u	ppm	0.001119	0.22	1398.436566	Y_R 377.433
As (188.980 nm)	1.003870	ppm	0.001560	0.16	1201.720000	Y 242.219
B (249.678 nm)	0.517693	ppm	0.000991	0.19	12389.600000	Y 242.219
Ba (493.408 nm)	0.502672	ppm	0.001908	0.38	58118.800000	Y_R 488.368
Be (234.861 nm)	0.489963	ppm	0.003640	0.74	140688.000000	Y_R 488.368
Bi (223.061 nm)	-0.000747 u	ppm	0.000157	21.02	5.977150	Y 377.433
Ca (315.887 nm)	5.068180	ppm	0.028023	0.55	3835.133931	Y_R 377.433
Cd (214.439 nm)	0.501254	ppm	0.002156	0.43	28631.400000	Y 377.433
Co (228.615 nm)	0.507851	ppm	0.000760	0.15	8772.580000	Y 242.219
Cr (205.560 nm)	0.505044	ppm	0.000805	0.16	7359.990000	Y 377.433
Cu (324.754 nm)	0.497108	ppm	0.001223	0.25	26193.700000	Y 377.433
Fe (238.204 nm)	2.564446	ppm	0.020885	0.81	9270.722874	Y_R 377.433
Fe H (259.940 nm)	2.519550 u	ppm	0.017889	0.71	4752.700000	Y_R 377.433
K (766.491 nm)	50.412200	ppm	0.051816	0.10	55938.200000	Y_R2 488.368
Li (670.783 nm)	0.999197	ppm	0.000303	0.03	31078.400000	Y_R2 488.368
Mg (279.078 nm)	19.444900	ppm	0.040364	0.21	106999.000000	Y 377.433
Mn (257.610 nm)	0.504134	ppm	0.000264	0.05	113837.000000	Y 377.433
Mo (202.032 nm)	0.503769	ppm	0.002028	0.40	4202.250000	Y 377.433
Na (589.592 nm)	5.101840	ppm	0.044167	0.87	33922.800000	Y_R2 488.368
Na H (589.593 nm)	7.204075 u	ppm	0.020578	0.29	30110.132165	Y_R 488.368
Ni (231.604 nm)	0.503539	ppm	0.002582	0.51	3290.450000	Y 377.433
P (213.618 nm)	0.973178	ppm	0.001813	0.19	2029.220000	Y 242.219
Pb (220.353 nm)	1.005580	ppm	0.001218	0.12	2807.210000	Y 242.219
S (181.972 nm)	0.074219	ppm	0.005708	7.69	68.358489	Y 377.433
Sb (206.834 nm)	1.003900	ppm	0.005252	0.52	2646.900000	Y 377.433
Se (196.026 nm)	1.000980	ppm	0.004067	0.41	954.086000	Y 242.219
Si (288.158 nm)	5.004380	ppm	0.010057	0.20	41886.200000	Y 377.433
Sn (189.925 nm)	0.990660	ppm	0.002547	0.26	1897.830000	Y 377.433
Sr (421.552 nm)	0.492493	ppm	0.002873	0.58	101653.682750	Y_R 488.368
Th (288.505 nm)	0.003319	ppm	0.001089	32.80	101.081000	Y 377.433
Ti (336.122 nm)	0.508545	ppm	0.000082	0.02	70751.400000	Y 377.433
Tl (190.794 nm)	1.015270	ppm	0.000348	0.03	2158.490000	Y 377.433
U (409.013 nm)	-0.001837 u	ppm	0.004318	> 100.00	-219.244000	Y 377.433
V (292.401 nm)	0.502604	ppm	0.000654	0.13	17560.800000	Y 377.433
Zn (206.200 nm)	0.497026	ppm	0.001293	0.26	2484.070000	Y 377.433
Zr (343.823 nm)	0.509027	ppm	0.000834	0.16	65527.800000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.994649	18791.906700	0.003710	0.37
Y 377.433	0.998296	1013100.313330	0.004583	0.46
Y_R 377.433	1.001390	76948.600000	0.005586	0.56
Y_R 488.368	1.013440	44464.600000	0.004436	0.44
Y_R2 488.368	1.008488	87076.028038	0.000652	0.06

Sample Name: CCB

Date: 10/29/2018 1:19:50 PM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000247 u	ppm	0.000075	30.31	-444.255000	Y 377.433
Al (167.019 nm)	0.001940 u	ppm	0.004684	> 100.00	2.026970	Y_R 377.433
Al H (396.152 nm)	-0.025594 u	ppm	0.002941	11.49	13.228536	Y_R 377.433
As (188.980 nm)	0.001950	ppm	0.001740	89.26	-0.233035	Y 242.219
B (249.678 nm)	0.017134 Z	ppm	0.000196	1.14	499.628000 Z	Y 242.219
Ba (493.408 nm)	0.000001 u	ppm	0.000249	> 100.00	573.409000	Y_R 488.368
Be (234.861 nm)	0.000018	ppm	0.000019	> 100.00	-54.512100	Y_R 488.368
Bi (223.061 nm)	0.003562	ppm	0.002129	59.75	16.021200	Y 377.433
Ca (315.887 nm)	0.004094	ppm	0.002868	70.06	-61.309783	Y_R 377.433
Cd (214.439 nm)	0.000072	ppm	0.000018	24.49	2.496820	Y 377.433
Co (228.615 nm)	0.000016 u	ppm	0.000340	> 100.00	-33.925700	Y 242.219
Cr (205.560 nm)	-0.000083 u	ppm	0.000150	> 100.00	0.468288	Y 377.433
Cu (324.754 nm)	-0.000582 u	ppm	0.000584	> 100.00	-343.316000	Y 377.433
Fe (238.204 nm)	-0.000732 u	ppm	0.000489	66.70	13.975877	Y_R 377.433
Fe H (259.940 nm)	-0.077164 u	ppm	0.003148	4.08	11.555800	Y_R 377.433
K (766.491 nm)	0.032987	ppm	0.045704	> 100.00	-652.091000	Y_R2 488.368
Li (670.783 nm)	0.001945	ppm	0.000882	45.35	-1321.810000	Y_R2 488.368
Mg (279.078 nm)	0.001680	ppm	0.000117	6.96	43.691500	Y 377.433
Mn (257.610 nm)	0.000009 u	ppm	0.000032	> 100.00	63.511700	Y 377.433
Mo (202.032 nm)	0.000782	ppm	0.000079	10.15	4.117750	Y 377.433
Na (589.592 nm)	0.178910	ppm	0.008684	4.85	1753.310000	Y_R2 488.368
Na H (589.593 nm)	1.720983 u	ppm	0.027479	1.60	9504.784478	Y_R 488.368
Ni (231.604 nm)	-0.000160 u	ppm	0.000257	> 100.00	-3.385410	Y 377.433
P (213.618 nm)	-0.001255 u	ppm	0.000252	20.07	24.323100	Y 242.219
Pb (220.353 nm)	-0.000930 u	ppm	0.000016	1.71	1.222800	Y 242.219
S (181.972 nm)	0.054424 Z	ppm	0.004674	8.59	57.564036 Z	Y 377.433
Sb (206.834 nm)	0.000019 u	ppm	0.001190	> 100.00	-20.110600	Y 377.433
Se (196.026 nm)	0.000522 u	ppm	0.001519	> 100.00	13.956300	Y 242.219
Si (288.158 nm)	-0.018294 u	ppm	0.002466	13.48	868.227000	Y 377.433
Sn (189.925 nm)	-0.000676 u	ppm	0.000684	> 100.00	6.605430	Y 377.433
Sr (421.552 nm)	-0.000078 u	ppm	0.000003	3.28	129.488663	Y_R 488.368
Th (288.505 nm)	0.001292 u	ppm	0.003817	> 100.00	80.666300	Y 377.433
Ti (336.122 nm)	0.000138	ppm	0.000009	6.73	-267.233000	Y 377.433
Tl (190.794 nm)	-0.000074 u	ppm	0.000096	> 100.00	-7.334260	Y 377.433
U (409.013 nm)	0.000866 u	ppm	0.002366	> 100.00	-170.338000	Y 377.433
V (292.401 nm)	0.000108	ppm	0.000131	> 100.00	27.998700	Y 377.433
Zn (206.200 nm)	-0.000145 u	ppm	0.000295	> 100.00	-2.071630	Y 377.433
Zr (343.823 nm)	0.000083	ppm	0.000084	> 100.00	24.047200	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.985639	18621.685106	0.001233	0.13
Y 377.433	0.990984	1005680.155286	0.001205	0.12
Y_R 377.433	0.987614	75890.100000	0.000242	0.02
Y_R 488.368	1.002510	43985.000000	0.001638	0.16
Y_R2 488.368	1.002922	86595.391350	0.008381	0.84

Sample Name: CCVL-5398386

Date: 10/29/2018 1:23:13 PM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.008929	ppm	0.000155	1.73	-37.299300	Y 377.433
Al (167.019 nm)	0.108114	ppm	0.003105	2.87	58.185300	Y_R 377.433
Al H (396.152 nm)	0.075413 u	ppm	0.002191	2.91	269.710937	Y_R 377.433
As (188.980 nm)	0.015667	ppm	0.001545	9.86	16.222500	Y 242.219
B (249.678 nm)	0.111055	ppm	0.000693	0.62	2727.600000	Y 242.219
Ba (493.408 nm)	0.010039	ppm	0.000191	1.90	1722.350000	Y_R 488.368
Be (234.861 nm)	0.001015	ppm	0.000040	3.96	234.199000	Y_R 488.368
Bi (223.061 nm)	0.103797	ppm	0.001675	1.61	259.090000	Y 377.433
Ca (315.887 nm)	0.197391	ppm	0.005818	2.95	87.410602	Y_R 377.433
Cd (214.439 nm)	0.005196	ppm	0.000064	1.23	295.252000	Y 377.433
Co (228.615 nm)	0.010667	ppm	0.000027	0.25	150.727000	Y 242.219
Cr (205.560 nm)	0.009921	ppm	0.000179	1.80	146.278000	Y 377.433
Cu (324.754 nm)	0.014959	ppm	0.000660	4.41	484.374000	Y 377.433
Fe (238.204 nm)	0.104573	ppm	0.002478	2.37	393.983692	Y_R 377.433
Fe H (259.940 nm)	0.025404 u	ppm	0.001007	3.97	198.828000	Y_R 377.433
K (766.491 nm)	3.201910	ppm	0.003927	0.12	2907.520000	Y_R2 488.368
Li (670.783 nm)	0.022409	ppm	0.000990	4.42	-656.928000	Y_R2 488.368
Mg (279.078 nm)	0.195490	ppm	0.001707	0.87	1108.730000	Y 377.433
Mn (257.610 nm)	0.010359	ppm	0.000033	0.32	2399.400000	Y 377.433
Mo (202.032 nm)	0.018737	ppm	0.000253	1.35	153.980000	Y 377.433
Na (589.592 nm)	1.219040	ppm	0.017065	1.40	8363.480000	Y_R2 488.368
Na H (589.593 nm)	2.441478 u	ppm	0.001688	0.07	12159.574897	Y_R 488.368
Ni (231.604 nm)	0.041716	ppm	0.000485	1.16	270.366000	Y 377.433
P (213.618 nm)	2.748930 o	ppm	0.007986	0.29	5682.850000	Y 242.219
Pb (220.353 nm)	0.009011	ppm	0.000567	6.29	28.961900	Y 242.219
S (181.972 nm)	0.134183 Q	ppm	0.000308	0.23	96.436753 Q	Y 377.433
Sb (206.834 nm)	0.020816	ppm	0.001780	8.55	35.006100	Y 377.433
Se (196.026 nm)	0.017141	ppm	0.005800	33.84	29.564100	Y 242.219
Si (288.158 nm)	0.467369	ppm	0.000559	0.12	4834.420000	Y 377.433
Sn (189.925 nm)	0.097467	ppm	0.000784	0.80	193.840000	Y 377.433
Sr (421.552 nm)	0.009776	ppm	0.000029	0.30	2160.640657	Y_R 488.368
Th (288.505 nm)	0.017053	ppm	0.002735	16.04	120.716000	Y 377.433
Ti (336.122 nm)	0.010484	ppm	0.000114	1.09	1178.300000	Y 377.433
Tl (190.794 nm)	0.015201	ppm	0.001308	8.60	25.221100	Y 377.433
U (409.013 nm)	0.063200	ppm	0.003456	5.47	105.609000	Y 377.433
V (292.401 nm)	0.009937	ppm	0.000023	0.23	369.298000	Y 377.433
Zn (206.200 nm)	0.020832	ppm	0.000278	1.33	102.828000	Y 377.433
Zr (343.823 nm)	0.015065	ppm	0.000077	0.51	1952.390000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.009132	19065.544886	0.002139	0.21
Y 377.433	1.014440	1029483.387503	0.002530	0.25
Y_R 377.433	1.016340	78097.100000	0.005305	0.52
Y_R 488.368	1.030670	45220.600000	0.000916	0.09
Y_R2 488.368	1.039046	89714.465100	0.003684	0.35

Sample Name: 280-115890-N-2-A

Date: 10/29/2018 1:26:36 PM Rack:Tube: 1:21

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000479	ppm	0.000090	18.71	-412.424000	Y 377.433
Al (167.019 nm)	0.074217	ppm	0.003405	4.59	41.344500	Y_R 377.433
Al H (396.152 nm)	0.070217 u	ppm	0.006547	9.32	295.917953	Y_R 377.433
As (188.980 nm)	0.002377	ppm	0.000383	16.09	0.264638	Y 242.219
B (249.678 nm)	0.133437	ppm	0.000691	0.52	3255.680000	Y 242.219
Ba (493.408 nm)	0.071282	ppm	0.000297	0.42	8754.780000	Y_R 488.368
Be (234.861 nm)	0.000011	ppm	0.000004	39.16	-3.353290	Y_R 488.368
Bi (223.061 nm)	-0.000919 u	ppm	0.000459	49.94	5.435890	Y 377.433
Ca (315.887 nm)	93.330100 o	ppm	0.107789	0.12	71741.206073	Y_R 377.433
Cd (214.439 nm)	0.000002 u	ppm	0.000042	> 100.00	0.139272	Y 377.433
Co (228.615 nm)	-0.000419 u	ppm	0.000097	23.09	-41.445700	Y 242.219
Cr (205.560 nm)	0.000575	ppm	0.000060	10.52	9.603770	Y 377.433
Cu (324.754 nm)	0.000122	ppm	0.000100	81.42	-355.314000	Y 377.433
Fe (238.204 nm)	1.786420	ppm	0.008552	0.48	6463.124736	Y_R 377.433
Fe H (259.940 nm)	1.709650 u	ppm	0.000295	0.02	3273.950000	Y_R 377.433
K (766.491 nm)	5.409690	ppm	0.006514	0.12	5387.500000	Y_R2 488.368
Li (670.783 nm)	0.094371	ppm	0.001326	1.41	1681.060000	Y_R2 488.368
Mg (279.078 nm)	51.397400 o	ppm	0.109395	0.21	282774.000000	Y 377.433
Mn (257.610 nm)	0.049116	ppm	0.000080	0.16	11146.200000	Y 377.433
Mo (202.032 nm)	0.000551	ppm	0.000136	24.67	2.190820	Y 377.433
Na (589.592 nm)	50.751200 o	ppm	0.073103	0.14	322352.000000	Y_R2 488.368
Na H (589.593 nm)	53.339814	ppm	0.261063	0.49	199102.937730	Y_R 488.368
Ni (231.604 nm)	-0.001297 u	ppm	0.000057	4.38	-10.745000	Y 377.433
P (213.618 nm)	0.004225	ppm	0.001319	31.23	35.596500	Y 242.219
Pb (220.353 nm)	0.000033 u	ppm	0.000850	> 100.00	4.026450	Y 242.219
S (181.972 nm)	53.513971 o	ppm	0.050211	0.09	26097.033753	Y 377.433
Sb (206.834 nm)	-0.000644 u	ppm	0.001372	> 100.00	-22.252100	Y 377.433
Se (196.026 nm)	-0.002320 u	ppm	0.002676	> 100.00	10.996900	Y 242.219
Si (288.158 nm)	5.592480	ppm	0.003368	0.06	46689.000000	Y 377.433
Sn (189.925 nm)	0.009085	ppm	0.001488	16.38	25.227600	Y 377.433
Sr (421.552 nm)	3.413088 o	ppm	0.000950	0.03	703619.401597	Y_R 488.368
Th (288.505 nm)	0.003119	ppm	0.001468	47.07	86.117100	Y 377.433
Ti (336.122 nm)	0.000493	ppm	0.000073	14.80	69.557100	Y 377.433
Tl (190.794 nm)	0.000902	ppm	0.000407	45.11	-5.299190	Y 377.433
U (409.013 nm)	-0.008202 u	ppm	0.000564	6.88	-226.475000	Y 377.433
V (292.401 nm)	0.000211	ppm	0.000210	99.66	32.884500	Y 377.433
Zn (206.200 nm)	0.003984	ppm	0.000199	4.98	18.579100	Y 377.433
Zr (343.823 nm)	0.000105	ppm	0.000024	23.20	31.970700	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.968561	18299.026034	0.003909	0.40
Y 377.433	0.979720	994249.127192	0.002977	0.30
Y_R 377.433	1.001370	76947.500000	0.003352	0.33
Y_R 488.368	1.012200	44409.900000	0.002339	0.23
Y_R2 488.368	1.027136	88686.105563	0.003991	0.39

Sample Name: 280-115890-N-2-Asd@5

Date: 10/29/2018 1:29:59 PM Rack:Tube: 1:22

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000177	ppm	0.000023	12.75	-425.612000	Y 377.433
Al (167.019 nm)	0.015578	ppm	0.000330	2.12	9.450990	Y_R 377.433
Al H (396.152 nm)	-0.008082 u	ppm	0.008951	> 100.00	65.360015	Y_R 377.433
As (188.980 nm)	0.000787	ppm	0.001084	> 100.00	-1.631400	Y 242.219
B (249.678 nm)	0.034584	ppm	0.001928	5.58	913.027000	Y 242.219
Ba (493.408 nm)	0.013763	ppm	0.000437	3.18	2152.980000	Y_R 488.368
Be (234.861 nm)	0.000057	ppm	0.000016	27.55	-32.965800	Y_R 488.368
Bi (223.061 nm)	0.003828	ppm	0.000990	25.85	16.719600	Y 377.433
Ca (315.887 nm)	18.209540 o	ppm	0.451514	2.48	13945.470224	Y_R 377.433
Cd (214.439 nm)	0.000025	ppm	0.000011	44.98	0.139874	Y 377.433
Co (228.615 nm)	-0.000127 u	ppm	0.000020	15.52	-36.407800	Y 242.219
Cr (205.560 nm)	-0.000213 u	ppm	0.000075	35.12	-1.510650	Y 377.433
Cu (324.754 nm)	-0.000362 u	ppm	0.000129	35.63	-340.397000	Y 377.433
Fe (238.204 nm)	0.344469	ppm	0.011151	3.24	1259.676001	Y_R 377.433
Fe H (259.940 nm)	0.260002 u	ppm	0.010511	4.04	627.161000	Y_R 377.433
K (766.491 nm)	1.012110	ppm	0.057905	5.72	447.750000	Y_R2 488.368
Li (670.783 nm)	0.019407	ppm	0.000414	2.13	-754.490000	Y_R2 488.368
Mg (279.078 nm)	11.023600	ppm	0.520300	4.72	60675.800000	Y 377.433
Mn (257.610 nm)	0.010748	ppm	0.000507	4.71	2487.100000	Y 377.433
Mo (202.032 nm)	0.000429	ppm	0.000092	21.37	1.175720	Y 377.433
Na (589.592 nm)	9.237540	ppm	0.104873	1.14	59180.900000	Y_R2 488.368
Na H (589.593 nm)	11.392441	ppm	0.308943	2.71	45028.526580	Y_R 488.368
Ni (231.604 nm)	-0.000194 u	ppm	0.000677	> 100.00	-3.594660	Y 377.433
P (213.618 nm)	-0.002106 u	ppm	0.000144	6.83	22.570600	Y 242.219
Pb (220.353 nm)	-0.000896 u	ppm	0.000236	26.37	1.353130	Y 242.219
S (181.972 nm)	11.576320 o	ppm	0.548259	4.74	5669.733938	Y 377.433
Sb (206.834 nm)	0.001754	ppm	0.000128	7.30	-15.602800	Y 377.433
Se (196.026 nm)	-0.001476 u	ppm	0.001727	> 100.00	12.023500	Y 242.219
Si (288.158 nm)	1.182560	ppm	0.054716	4.63	10675.100000	Y 377.433
Sn (189.925 nm)	0.001472	ppm	0.000756	51.35	10.703900	Y 377.433
Sr (421.552 nm)	0.661660	ppm	0.019347	2.92	136520.772307	Y_R 488.368
Th (288.505 nm)	-0.002705 u	ppm	0.000942	34.83	71.076900	Y 377.433
Ti (336.122 nm)	0.000593	ppm	0.000056	9.49	-147.792000	Y 377.433
Tl (190.794 nm)	0.001034	ppm	0.000274	26.47	-4.979590	Y 377.433
U (409.013 nm)	-0.000020 u	ppm	0.007675	> 100.00	-177.373000	Y 377.433
V (292.401 nm)	0.000045 u	ppm	0.000104	> 100.00	26.378100	Y 377.433
Zn (206.200 nm)	0.001358	ppm	0.000329	24.26	5.445060	Y 377.433
Zr (343.823 nm)	0.000036 u	ppm	0.000091	> 100.00	18.959300	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.008026	19044.636639	0.000017	0.00
Y 377.433	1.015299	1030355.135971	0.001332	0.13
Y_R 377.433	1.020340	78404.800000	0.005378	0.53
Y_R 488.368	1.028240	45113.700000	0.008264	0.80
Y_R2 488.368	1.048042	90491.207823	0.004422	0.42

Sample Name: 280-115890-N-2-B MS

Date: 10/29/2018 1:33:22 PM Rack:Tube: 1:23

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.051720	ppm	0.000006	0.01	1834.760000	Y 377.433
Al (167.019 nm)	2.145430	ppm	0.028814	1.34	1136.190000	Y_R 377.433
Al H (396.152 nm)	2.185863	ppm	0.002926	0.13	5739.883176	Y_R 377.433
As (188.980 nm)	1.009950	ppm	0.004749	0.47	1209.020000	Y 242.219
B (249.678 nm)	1.181690 o	ppm	0.002104	0.18	28138.000000	Y 242.219
Ba (493.408 nm)	2.107150 o	ppm	0.000518	0.02	241776.000000	Y_R 488.368
Be (234.861 nm)	0.048804	ppm	0.000046	0.09	13981.300000	Y_R 488.368
Bi (223.061 nm)	1.972700	ppm	0.001845	0.09	4791.270000	Y 377.433
Ca (315.887 nm)	142.123852 o	ppm	0.376343	0.26	109281.858099	Y_R 377.433
Cd (214.439 nm)	0.097656	ppm	0.000017	0.02	5579.200000	Y 377.433
Co (228.615 nm)	0.486836	ppm	0.000841	0.17	8426.200000	Y 242.219
Cr (205.560 nm)	0.202696	ppm	0.000308	0.15	2954.180000	Y 377.433
Cu (324.754 nm)	0.249426	ppm	0.000122	0.05	12958.000000	Y 377.433
Fe (238.204 nm)	2.776908	ppm	0.021536	0.78	10037.414696	Y_R 377.433
Fe H (259.940 nm)	2.731710 u	ppm	0.007024	0.26	5140.070000	Y_R 377.433
K (766.491 nm)	57.156300	ppm	0.066133	0.12	63513.800000	Y_R2 488.368
Li (670.783 nm)	1.114890	ppm	0.001630	0.15	34837.100000	Y_R2 488.368
Mg (279.078 nm)	99.165000 o	ppm	0.016885	0.02	545496.000000	Y 377.433
Mn (257.610 nm)	0.546377	ppm	0.000444	0.08	123370.000000	Y 377.433
Mo (202.032 nm)	1.032680	ppm	0.003687	0.36	8616.780000	Y 377.433
Na (589.592 nm)	98.312900 o	ppm	0.119856	0.12	627678.000000	Y_R2 488.368
Na H (589.593 nm)	103.414661	ppm	0.644025	0.62	384878.419480	Y_R 488.368
Ni (231.604 nm)	0.474888	ppm	0.001670	0.35	3104.300000	Y 377.433
P (213.618 nm)	9.910770 o	ppm	0.042796	0.43	20418.400000	Y 242.219
Pb (220.353 nm)	0.497852	ppm	0.001502	0.30	1393.410000	Y 242.219
S (181.972 nm)	55.743146 o	ppm	0.108645	0.19	27183.967123	Y 377.433
Sb (206.834 nm)	0.516954	ppm	0.001632	0.32	1341.420000	Y 377.433
Se (196.026 nm)	1.991600	ppm	0.001525	0.08	1885.070000	Y 242.219
Si (288.158 nm)	15.399300 o	ppm	0.010812	0.07	126777.000000	Y 377.433
Sn (189.925 nm)	2.003270	ppm	0.000430	0.02	3829.630000	Y 377.433
Sr (421.552 nm)	4.339583 o	ppm	0.007472	0.17	894579.962085	Y_R 488.368
Th (288.505 nm)	1.027960	ppm	0.000802	0.08	2674.590000	Y 377.433
Ti (336.122 nm)	1.026900	ppm	0.000979	0.10	143566.000000	Y 377.433
Tl (190.794 nm)	1.990110	ppm	0.001716	0.09	4235.780000	Y 377.433
U (409.013 nm)	2.124820	ppm	0.010985	0.52	9205.770000	Y 377.433
V (292.401 nm)	0.517152	ppm	0.000577	0.11	18110.200000	Y 377.433
Zn (206.200 nm)	0.480500	ppm	0.000096	0.02	2401.440000	Y 377.433
Zr (343.823 nm)	0.512040	ppm	0.000314	0.06	65916.100000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.953048	18005.948638	0.000688	0.07
Y 377.433	0.966597	980930.956434	0.000144	0.01
Y_R 377.433	0.989056	76000.900000	0.003767	0.38
Y_R 488.368	1.006020	44139.100000	0.000337	0.03
Y_R2 488.368	1.009523	87165.400884	0.007420	0.73

Sample Name: 280-115890-N-2-C MSD

Date: 10/29/2018 1:36:45 PM Rack:Tube: 1:24

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.052386	ppm	0.000216	0.41	1863.240000	Y 377.433
Al (167.019 nm)	2.193680	ppm	0.013543	0.62	1161.760000	Y_R 377.433
Al H (396.152 nm)	2.220179	ppm	0.000387	0.02	5829.944726	Y_R 377.433
As (188.980 nm)	1.027890	ppm	0.003919	0.38	1230.540000	Y 242.219
B (249.678 nm)	1.201030 o	ppm	0.003923	0.33	28596.700000	Y 242.219
Ba (493.408 nm)	2.147300 o	ppm	0.007038	0.33	246374.000000	Y_R 488.368
Be (234.861 nm)	0.048857	ppm	0.000079	0.16	13999.500000	Y_R 488.368
Bi (223.061 nm)	2.011750	ppm	0.000789	0.04	4885.990000	Y 377.433
Ca (315.887 nm)	148.282549 o	ppm	0.166280	0.11	114020.194629	Y_R 377.433
Cd (214.439 nm)	0.098911	ppm	0.000124	0.13	5650.990000	Y 377.433
Co (228.615 nm)	0.492490	ppm	0.002222	0.45	8524.390000	Y 242.219
Cr (205.560 nm)	0.206283	ppm	0.000482	0.23	3006.430000	Y 377.433
Cu (324.754 nm)	0.253637	ppm	0.000237	0.09	13180.000000	Y 377.433
Fe (238.204 nm)	2.898250	ppm	0.000567	0.02	10475.294262	Y_R 377.433
Fe H (259.940 nm)	2.862750 u	ppm	0.001208	0.04	5379.320000	Y_R 377.433
K (766.491 nm)	58.565300	ppm	0.135364	0.23	65096.500000	Y_R2 488.368
Li (670.783 nm)	1.138500	ppm	0.000757	0.07	35604.400000	Y_R2 488.368
Mg (279.078 nm)	102.909000 o	ppm	0.086949	0.08	566090.000000	Y 377.433
Mn (257.610 nm)	0.556873	ppm	0.000484	0.09	125739.000000	Y 377.433
Mo (202.032 nm)	1.043240	ppm	0.002145	0.21	8704.870000	Y 377.433
Na (589.592 nm)	101.880000 o	ppm	0.422055	0.41	650363.000000	Y_R2 488.368
Na H (589.593 nm)	106.424425	ppm	0.033464	0.03	395967.576926	Y_R 488.368
Ni (231.604 nm)	0.480788	ppm	0.001839	0.38	3142.900000	Y 377.433
P (213.618 nm)	10.087900 o	ppm	0.002506	0.02	20782.800000	Y 242.219
Pb (220.353 nm)	0.506750	ppm	0.000401	0.08	1418.290000	Y 242.219
S (181.972 nm)	59.188632 o	ppm	0.029484	0.05	28862.236330	Y 377.433
Sb (206.834 nm)	0.527273	ppm	0.002274	0.43	1368.630000	Y 377.433
Se (196.026 nm)	2.024650	ppm	0.003605	0.18	1916.110000	Y 242.219
Si (288.158 nm)	15.846200 o	ppm	0.075064	0.47	130426.000000	Y 377.433
Sn (189.925 nm)	2.023570	ppm	0.006982	0.35	3868.380000	Y 377.433
Sr (421.552 nm)	4.557267 o	ppm	0.008353	0.18	939446.973659	Y_R 488.368
Th (288.505 nm)	1.046350	ppm	0.007956	0.76	2721.000000	Y 377.433
Ti (336.122 nm)	1.037680	ppm	0.000342	0.03	145090.000000	Y 377.433
Tl (190.794 nm)	2.021810	ppm	0.006740	0.33	4303.400000	Y 377.433
U (409.013 nm)	2.161970	ppm	0.001785	0.08	9369.510000	Y 377.433
V (292.401 nm)	0.525573	ppm	0.000349	0.07	18404.600000	Y 377.433
Zn (206.200 nm)	0.491912	ppm	0.000289	0.06	2458.500000	Y 377.433
Zr (343.823 nm)	0.517126	ppm	0.001218	0.24	66571.000000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.954899	18040.910749	0.000122	0.01
Y 377.433	0.969466	983842.995799	0.002435	0.25
Y_R 377.433	1.006000	77302.800000	0.003122	0.31
Y_R 488.368	1.024460	44948.100000	0.004754	0.46
Y_R2 488.368	1.027008	88675.076904	0.002382	0.23

Sample Name: 280-115883-D-1-A

Date: 10/29/2018 1:40:07 PM Rack:Tube: 1:25

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000329	ppm	0.000334	> 100.00	-419.099000	Y 377.433
Al (167.019 nm)	0.021153	ppm	0.000442	2.09	12.432300	Y_R 377.433
Al H (396.152 nm)	0.046742 u	ppm	0.004481	9.59	341.763131	Y_R 377.433
As (188.980 nm)	-0.002602 u	ppm	0.000827	31.79	-5.697430	Y 242.219
B (249.678 nm)	0.047138	ppm	0.000013	0.03	1210.850000	Y 242.219
Ba (493.408 nm)	0.158719	ppm	0.002423	1.53	18816.200000	Y_R 488.368
Be (234.861 nm)	-0.000024 u	ppm	0.000023	95.68	-54.755700	Y_R 488.368
Bi (223.061 nm)	0.000519 u	ppm	0.000850	> 100.00	8.705610	Y 377.433
Ca (315.887 nm)	333.733613 o	ppm	1.106449	0.33	256701.194655	Y_R 377.433
Cd (214.439 nm)	0.000093	ppm	0.000019	20.30	4.098060	Y 377.433
Co (228.615 nm)	0.003370	ppm	0.000047	1.40	24.132200	Y 242.219
Cr (205.560 nm)	0.000564	ppm	0.000229	40.53	9.808880	Y 377.433
Cu (324.754 nm)	0.002843	ppm	0.000217	7.62	-353.017000	Y 377.433
Fe (238.204 nm)	0.401913	ppm	0.001660	0.41	1466.970649	Y_R 377.433
Fe H (259.940 nm)	0.311106 u	ppm	0.007224	2.32	720.468000	Y_R 377.433
K (766.491 nm)	1.007070	ppm	0.013962	1.39	442.078000	Y_R2 488.368
Li (670.783 nm)	0.005768	ppm	0.000854	14.81	-1197.580000	Y_R2 488.368
Mg (279.078 nm)	71.095900 o	ppm	0.134591	0.19	391140.000000	Y 377.433
Mn (257.610 nm)	1.027970	ppm	0.003885	0.38	232057.000000	Y 377.433
Mo (202.032 nm)	0.000459	ppm	0.000056	12.24	1.423620	Y 377.433
Na (589.592 nm)	94.921800 o	ppm	0.302260	0.32	602417.000000	Y_R2 488.368
Na H (589.593 nm)	100.708838	ppm	1.685417	1.67	373112.323818	Y_R 488.368
Ni (231.604 nm)	0.007088	ppm	0.000236	3.33	44.016300	Y 377.433
P (213.618 nm)	0.021548	ppm	0.000587	2.72	71.239700	Y 242.219
Pb (220.353 nm)	0.000866	ppm	0.001114	> 100.00	6.230360	Y 242.219
S (181.972 nm)	29.711069 o	ppm	0.009153	0.03	14505.224998	Y 377.433
Sb (206.834 nm)	-0.002026 u	ppm	0.001166	57.56	-25.609700	Y 377.433
Se (196.026 nm)	-0.001361 u	ppm	0.000792	58.17	12.894900	Y 242.219
Si (288.158 nm)	8.428800	ppm	0.015580	0.18	69852.000000	Y 377.433
Sn (189.925 nm)	0.000443	ppm	0.000301	68.09	8.740130	Y 377.433
Sr (421.552 nm)	1.555815 o	ppm	0.024104	1.55	320815.759916	Y_R 488.368
Th (288.505 nm)	0.006572	ppm	0.003413	51.93	113.367000	Y 377.433
Ti (336.122 nm)	-0.000633 u	ppm	0.000131	20.68	651.909000	Y 377.433
Tl (190.794 nm)	0.005867	ppm	0.000434	7.40	5.345550	Y 377.433
U (409.013 nm)	0.002898	ppm	0.000309	10.65	-223.335000	Y 377.433
V (292.401 nm)	0.000523	ppm	0.000502	96.08	43.700500	Y 377.433
Zn (206.200 nm)	0.025110	ppm	0.000376	1.50	124.217000	Y 377.433
Zr (343.823 nm)	0.000153	ppm	0.000073	47.77	34.213800	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.945555	17864.370812	0.000390	0.04
Y 377.433	0.962272	976541.941409	0.000889	0.09
Y_R 377.433	0.991168	76163.100000	0.002910	0.29
Y_R 488.368	1.004540	44074.200000	0.013047	1.30
Y_R2 488.368	1.013566	87514.456514	0.001863	0.18

Sample Name: 280-115883-D-8-A

Date: 10/29/2018 1:43:31 PM Rack:Tube: 1:26

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001009	ppm	0.000289	28.65	-388.826000	Y 377.433
Al (167.019 nm)	0.009597	ppm	0.002188	22.80	8.005110	Y_R 377.433
Al H (396.152 nm)	0.018980 u	ppm	0.012421	65.44	205.227464	Y_R 377.433
As (188.980 nm)	0.006647	ppm	0.001760	26.48	5.376110	Y 242.219
B (249.678 nm)	0.802987	ppm	0.001990	0.25	19135.500000	Y 242.219
Ba (493.408 nm)	1.145930 o	ppm	0.006558	0.57	131774.000000	Y_R 488.368
Be (234.861 nm)	-0.000152 u	ppm	0.000018	11.98	-12.428700	Y_R 488.368
Bi (223.061 nm)	-0.001246 u	ppm	0.001094	87.79	4.843430	Y 377.433
Ca (315.887 nm)	181.851416 o	ppm	1.220913	0.67	139847.122923	Y_R 377.433
Cd (214.439 nm)	0.000084	ppm	0.000034	40.34	5.969950	Y 377.433
Co (228.615 nm)	0.012944	ppm	0.000035	0.27	189.835000	Y 242.219
Cr (205.560 nm)	0.001181	ppm	0.000016	1.32	18.100900	Y 377.433
Cu (324.754 nm)	-0.000219 u	ppm	0.000030	13.89	-420.388000	Y 377.433
Fe (238.204 nm)	3.043555	ppm	0.010589	0.35	10999.641488	Y_R 377.433
Fe H (259.940 nm)	2.995640 u	ppm	0.014166	0.47	5621.950000	Y_R 377.433
K (766.491 nm)	21.832000	ppm	0.121258	0.56	23834.400000	Y_R2 488.368
Li (670.783 nm)	0.026512	ppm	0.000085	0.32	-523.651000	Y_R2 488.368
Mg (279.078 nm)	80.850900 o	ppm	0.080764	0.10	444800.000000	Y 377.433
Mn (257.610 nm)	5.352610 o	ppm	0.013002	0.24	1208060.000000	Y 377.433
Mo (202.032 nm)	0.000562	ppm	0.000364	64.73	2.284970	Y 377.433
Na (589.592 nm)	234.184000 o	ppm	1.372220	0.59	1486790.000000	Y_R2 488.368
Na H (589.593 nm)	242.074774	ppm	0.623594	0.26	893099.373860	Y_R 488.368
Ni (231.604 nm)	0.019717	ppm	0.000356	1.80	126.680000	Y 377.433
P (213.618 nm)	0.096251	ppm	0.001510	1.57	224.941000	Y 242.219
Pb (220.353 nm)	0.001464	ppm	0.000882	60.26	8.114880	Y 242.219
S (181.972 nm)	3.088182	ppm	0.004722	0.15	1547.475555	Y 377.433
Sb (206.834 nm)	-0.000809 u	ppm	0.001139	> 100.00	-22.945600	Y 377.433
Se (196.026 nm)	-0.000256 u	ppm	0.000321	> 100.00	16.723800	Y 242.219
Si (288.158 nm)	8.435210	ppm	0.001595	0.02	69904.300000	Y 377.433
Sn (189.925 nm)	0.001459	ppm	0.000780	53.43	10.680300	Y 377.433
Sr (421.552 nm)	1.110616 o	ppm	0.001726	0.16	229055.401072	Y_R 488.368
Th (288.505 nm)	0.003986	ppm	0.000200	5.02	189.105000	Y 377.433
Ti (336.122 nm)	-0.000280 u	ppm	0.000013	4.67	233.534000	Y 377.433
Tl (190.794 nm)	0.003628	ppm	0.001189	32.78	0.531026	Y 377.433
U (409.013 nm)	-0.010829 u	ppm	0.002408	22.24	-253.541000	Y 377.433
V (292.401 nm)	0.000281	ppm	0.000070	24.93	37.153200	Y 377.433
Zn (206.200 nm)	0.003612	ppm	0.000131	3.63	16.715700	Y 377.433
Zr (343.823 nm)	0.000143	ppm	0.000080	56.01	40.366500	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.940491	17768.699628	0.000306	0.03
Y 377.433	0.951345	965452.560177	0.000595	0.06
Y_R 377.433	0.986629	75814.400000	0.004890	0.50
Y_R 488.368	1.002780	43997.000000	0.004389	0.44
Y_R2 488.368	1.000747	86407.623624	0.003885	0.39

Sample Name: 280-115883-D-9-A

Date: 10/29/2018 1:46:54 PM Rack:Tube: 1:27

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001011	ppm	0.000203	20.07	-388.875000	Y 377.433
Al (167.019 nm)	0.044949	ppm	0.005134	11.42	24.817600	Y_R 377.433
Al H (396.152 nm)	0.082001 u	ppm	0.003790	4.62	428.911277	Y_R 377.433
As (188.980 nm)	0.001208	ppm	0.001371	> 100.00	-1.124430	Y 242.219
B (249.678 nm)	0.035874	ppm	0.000397	1.11	944.045000	Y 242.219
Ba (493.408 nm)	0.037601	ppm	0.000078	0.21	4952.530000	Y_R 488.368
Be (234.861 nm)	-0.000087 u	ppm	0.000005	6.05	-81.364700	Y_R 488.368
Bi (223.061 nm)	0.000970 u	ppm	0.001845	> 100.00	9.751690	Y 377.433
Ca (315.887 nm)	329.603983 o	ppm	1.330804	0.40	253523.968245	Y_R 377.433
Cd (214.439 nm)	0.000087	ppm	0.000098	> 100.00	3.458350	Y 377.433
Co (228.615 nm)	0.002383	ppm	0.000182	7.66	7.061900	Y 242.219
Cr (205.560 nm)	0.000049 u	ppm	0.000261	> 100.00	2.369010	Y 377.433
Cu (324.754 nm)	-0.001885 u	ppm	0.000278	14.75	-600.488000	Y 377.433
Fe (238.204 nm)	0.107382	ppm	0.000217	0.20	404.118157	Y_R 377.433
Fe H (259.940 nm)	0.018886 u	ppm	0.000327	1.73	186.927000	Y_R 377.433
K (766.491 nm)	0.692479	ppm	0.044365	6.41	88.708000	Y_R2 488.368
Li (670.783 nm)	0.012773	ppm	0.000391	3.06	-969.997000	Y_R2 488.368
Mg (279.078 nm)	180.806000 o	ppm	0.075903	0.04	994670.000000	Y 377.433
Mn (257.610 nm)	4.206310 o	ppm	0.003080	0.07	949358.000000	Y 377.433
Mo (202.032 nm)	0.000206	ppm	0.000013	6.44	-0.687023	Y 377.433
Na (589.592 nm)	556.275000 o	ppm	2.019710	0.36	3525630.000000	Y_R2 488.368
Na H (589.593 nm)	583.385990	ppm	1.227522	0.21	2145264.379037	Y_R 488.368
Ni (231.604 nm)	0.015817	ppm	0.000676	4.28	101.067000	Y 377.433
P (213.618 nm)	0.038866	ppm	0.001769	4.55	106.872000	Y 242.219
Pb (220.353 nm)	0.001543	ppm	0.000399	25.89	8.067350	Y 242.219
S (181.972 nm)	143.197161 bo	ppm	0.074051	0.05	69789.868909	Y 377.433
Sb (206.834 nm)	-0.004161 u	ppm	0.000047	1.12	-31.201000	Y 377.433
Se (196.026 nm)	-0.000604 u	ppm	0.001843	> 100.00	16.065200	Y 242.219
Si (288.158 nm)	13.516900 o	ppm	0.139488	1.03	111405.000000	Y 377.433
Sn (189.925 nm)	0.000639	ppm	0.000060	9.33	9.115060	Y 377.433
Sr (421.552 nm)	2.069925 o	ppm	0.011761	0.57	426779.225156	Y_R 488.368
Th (288.505 nm)	0.007383	ppm	0.000467	6.33	175.759000	Y 377.433
Ti (336.122 nm)	-0.000064 u	ppm	0.000050	79.11	718.635000	Y 377.433
Tl (190.794 nm)	0.004265	ppm	0.001506	35.32	1.930480	Y 377.433
U (409.013 nm)	-0.010356 u	ppm	0.004614	44.56	-281.703000	Y 377.433
V (292.401 nm)	0.000447	ppm	0.000166	37.05	42.340000	Y 377.433
Zn (206.200 nm)	0.010964	ppm	0.000339	3.10	53.482700	Y 377.433
Zr (343.823 nm)	-0.000100 u	ppm	0.000070	69.70	0.840621	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.908141	17157.519270	0.001409	0.16
Y 377.433	0.923418	937112.189795	0.001403	0.15
Y_R 377.433	0.962853	73987.400000	0.001878	0.20
Y_R 488.368	0.968627	42498.300000	0.003828	0.40
Y_R2 488.368	0.985352	85078.353795	0.000060	0.01

Sample Name: 280-115883-B-16-A

Date: 10/29/2018 1:50:17 PM Rack:Tube: 1:28

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000607	ppm	0.000108	17.81	-406.606000	Y 377.433
Al (167.019 nm)	0.125399	ppm	0.003953	3.15	67.740300	Y_R 377.433
Al H (396.152 nm)	0.117826 u	ppm	0.002993	2.54	439.673443	Y_R 377.433
As (188.980 nm)	0.000694	ppm	0.000609	87.80	-1.746440	Y 242.219
B (249.678 nm)	0.115894	ppm	0.000445	0.38	2841.040000	Y 242.219
Ba (493.408 nm)	0.154361	ppm	0.001028	0.67	18275.000000	Y_R 488.368
Be (234.861 nm)	0.000019	ppm	0.000002	8.35	-31.333100	Y_R 488.368
Bi (223.061 nm)	-0.001299 u	ppm	0.001209	93.11	4.356250	Y 377.433
Ca (315.887 nm)	147.237569 o	ppm	1.611824	1.09	113216.160781	Y_R 377.433
Cd (214.439 nm)	0.000038	ppm	0.000014	35.63	1.262610	Y 377.433
Co (228.615 nm)	0.001022	ppm	0.000459	44.94	-16.470500	Y 242.219
Cr (205.560 nm)	0.000256	ppm	0.000160	62.50	5.215660	Y 377.433
Cu (324.754 nm)	-0.001102 u	ppm	0.000219	19.84	-453.950000	Y 377.433
Fe (238.204 nm)	0.771361	ppm	0.009373	1.22	2800.165849	Y_R 377.433
Fe H (259.940 nm)	0.677707 u	ppm	0.000232	0.03	1389.820000	Y_R 377.433
K (766.491 nm)	1.564470	ppm	0.037962	2.43	1068.200000	Y_R2 488.368
Li (670.783 nm)	0.012838	ppm	0.000224	1.75	-967.901000	Y_R2 488.368
Mg (279.078 nm)	32.602700	ppm	0.002021	0.01	179384.000000	Y 377.433
Mn (257.610 nm)	1.567990 o	ppm	0.001850	0.12	353931.000000	Y 377.433
Mo (202.032 nm)	0.000539	ppm	0.000070	13.06	2.090010	Y 377.433
Na (589.592 nm)	30.302200 o	ppm	0.055363	0.18	192935.000000	Y_R2 488.368
Na H (589.593 nm)	32.075975	ppm	0.081454	0.25	121106.112904	Y_R 488.368
Ni (231.604 nm)	0.003568	ppm	0.000084	2.35	21.017300	Y 377.433
P (213.618 nm)	0.063487	ppm	0.000937	1.48	157.530000	Y 242.219
Pb (220.353 nm)	0.000464 u	ppm	0.002123	> 100.00	5.121160	Y 242.219
S (181.972 nm)	35.573617 o	ppm	0.061630	0.17	17362.016436	Y 377.433
Sb (206.834 nm)	-0.003027 u	ppm	0.000910	30.07	-28.345500	Y 377.433
Se (196.026 nm)	-0.002662 u	ppm	0.001384	52.00	12.013400	Y 242.219
Si (288.158 nm)	7.942980	ppm	0.020785	0.26	65884.500000	Y 377.433
Sn (189.925 nm)	0.000326 u	ppm	0.001171	> 100.00	8.517360	Y 377.433
Sr (421.552 nm)	0.551643	ppm	0.004252	0.77	113845.065804	Y_R 488.368
Th (288.505 nm)	-0.000035 u	ppm	0.000714	> 100.00	107.247000	Y 377.433
Ti (336.122 nm)	0.002065	ppm	0.000172	8.34	455.088000	Y 377.433
Tl (190.794 nm)	0.002107	ppm	0.000199	9.47	-2.705640	Y 377.433
U (409.013 nm)	0.005816	ppm	0.001494	25.68	-175.173000	Y 377.433
V (292.401 nm)	-0.000032 u	ppm	0.000172	> 100.00	24.306600	Y 377.433
Zn (206.200 nm)	0.005020	ppm	0.000043	0.86	23.759900	Y 377.433
Zr (343.823 nm)	0.000019 u	ppm	0.000044	> 100.00	18.044800	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.988096	18668.113047	0.001599	0.16
Y 377.433	1.000331	1015165.249316	0.001218	0.12
Y_R 377.433	1.040440	79949.600000	0.027432	2.64
Y_R 488.368	1.065710	46757.900000	0.023452	2.20
Y_R2 488.368	1.069401	92335.424344	0.000630	0.06

Sample Name: Bottle 115883-D-1-A

Date: 10/29/2018 1:53:39 PM Rack:Tube: 1:29

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000848	ppm	0.000205	24.21	-396.085000	Y 377.433
Al (167.019 nm)	0.011730	ppm	0.003588	30.59	7.451330	Y_R 377.433
Al H (396.152 nm)	0.041471 u	ppm	0.001009	2.43	337.132551	Y_R 377.433
As (188.980 nm)	0.005214	ppm	0.005441	> 100.00	3.679280	Y 242.219
B (249.678 nm)	0.044508	ppm	0.000422	0.95	1148.490000	Y 242.219
Ba (493.408 nm)	0.159834	ppm	0.000331	0.21	18948.400000	Y_R 488.368
Be (234.861 nm)	0.000174	ppm	0.000022	12.60	2.160020	Y_R 488.368
Bi (223.061 nm)	0.000024 u	ppm	0.000281	> 100.00	7.504810	Y 377.433
Ca (315.887 nm)	353.217147 o	ppm	1.868506	0.53	271691.300685	Y_R 377.433
Cd (214.439 nm)	0.000121	ppm	0.000023	18.68	5.651240	Y 377.433
Co (228.615 nm)	0.003962	ppm	0.000026	0.66	34.368200	Y 242.219
Cr (205.560 nm)	-0.000282 u	ppm	0.000205	72.61	-2.533670	Y 377.433
Cu (324.754 nm)	0.003415	ppm	0.000078	2.27	-337.156000	Y 377.433
Fe (238.204 nm)	0.396248	ppm	0.000818	0.21	1446.526591	Y_R 377.433
Fe H (259.940 nm)	0.297136 u	ppm	0.000745	0.25	694.961000	Y_R 377.433
K (766.491 nm)	1.082750	ppm	0.057412	5.30	527.098000	Y_R2 488.368
Li (670.783 nm)	0.006559	ppm	0.001550	23.63	-1171.900000	Y_R2 488.368
Mg (279.078 nm)	73.345600 o	ppm	0.263677	0.36	403516.000000	Y 377.433
Mn (257.610 nm)	1.056350	ppm	0.004024	0.38	238464.000000	Y 377.433
Mo (202.032 nm)	0.000209	ppm	0.000061	29.12	-0.663168	Y 377.433
Na (589.592 nm)	95.782300 o	ppm	0.882975	0.92	607872.000000	Y_R2 488.368
Na H (589.593 nm)	99.804138	ppm	0.331954	0.33	369791.960089	Y_R 488.368
Ni (231.604 nm)	0.006997	ppm	0.000837	11.96	43.416000	Y 377.433
P (213.618 nm)	0.026033	ppm	0.002204	8.46	80.468000	Y 242.219
Pb (220.353 nm)	0.000681 u	ppm	0.002273	> 100.00	5.712410	Y 242.219
S (181.972 nm)	32.507534 o	ppm	0.009496	0.03	15867.403785	Y 377.433
Sb (206.834 nm)	-0.004925 u	ppm	0.001029	20.89	-33.302700	Y 377.433
Se (196.026 nm)	0.002011	ppm	0.002093	> 100.00	16.085000	Y 242.219
Si (288.158 nm)	9.353880	ppm	0.029998	0.32	77406.700000	Y 377.433
Sn (189.925 nm)	0.005177	ppm	0.000436	8.43	17.773000	Y 377.433
Sr (421.552 nm)	1.579735 o	ppm	0.002748	0.17	325745.943347	Y_R 488.368
Th (288.505 nm)	-0.000336 u	ppm	0.003672	> 100.00	96.878800	Y 377.433
Ti (336.122 nm)	0.000141	ppm	0.000067	47.20	821.445000	Y 377.433
Tl (190.794 nm)	-0.001335 u	ppm	0.001632	> 100.00	-10.023700	Y 377.433
U (409.013 nm)	0.007703	ppm	0.001856	24.10	-205.715000	Y 377.433
V (292.401 nm)	0.000318	ppm	0.000130	40.83	35.470200	Y 377.433
Zn (206.200 nm)	0.023917	ppm	0.000304	1.27	118.253000	Y 377.433
Zr (343.823 nm)	0.000013	ppm	0.000009	70.67	16.213500	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.968378	18295.582155	0.001880	0.19
Y 377.433	0.991436	1006138.858448	0.001929	0.19
Y_R 377.433	1.050120	80693.400000	0.001241	0.12
Y_R 488.368	1.069400	46919.700000	0.008040	0.75
Y_R2 488.368	1.053161	90933.164835	0.003483	0.33

Sample Name: Bottle 115883-D-8-A

Date: 10/29/2018 1:57:03 PM Rack:Tube: 1:30

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001397	ppm	0.000312	22.30	-371.571000	Y 377.433
Al (167.019 nm)	0.000113 u	ppm	0.001557	> 100.00	2.650660	Y_R 377.433
Al H (396.152 nm)	0.011044 u	ppm	0.008879	80.40	186.413022	Y_R 377.433
As (188.980 nm)	0.014065	ppm	0.000413	2.94	14.280500	Y 242.219
B (249.678 nm)	0.834849	ppm	0.002139	0.26	19892.100000	Y 242.219
Ba (493.408 nm)	1.107610 o	ppm	0.009915	0.90	127389.000000	Y_R 488.368
Be (234.861 nm)	0.000050	ppm	0.000018	35.63	29.370000	Y_R 488.368
Bi (223.061 nm)	0.001686	ppm	0.002338	> 100.00	11.866900	Y 377.433
Ca (315.887 nm)	184.537333 o	ppm	2.040285	1.11	141913.595239	Y_R 377.433
Cd (214.439 nm)	0.000149	ppm	0.000004	2.47	9.225190	Y 377.433
Co (228.615 nm)	0.013709	ppm	0.000009	0.07	203.063000	Y 242.219
Cr (205.560 nm)	0.000417	ppm	0.000204	49.03	7.104900	Y 377.433
Cu (324.754 nm)	0.000031 u	ppm	0.000060	> 100.00	-413.566000	Y 377.433
Fe (238.204 nm)	2.502785	ppm	0.021516	0.86	9048.212801	Y_R 377.433
Fe H (259.940 nm)	2.437900 u	ppm	0.021119	0.87	4603.620000	Y_R 377.433
K (766.491 nm)	21.372500	ppm	0.013240	0.06	23318.300000	Y_R2 488.368
Li (670.783 nm)	0.029485	ppm	0.000011	0.04	-427.052000	Y_R2 488.368
Mg (279.078 nm)	80.019900 o	ppm	0.072753	0.09	440229.000000	Y 377.433
Mn (257.610 nm)	5.281520 o	ppm	0.006807	0.13	1192020.000000	Y 377.433
Mo (202.032 nm)	0.000241	ppm	0.000149	61.68	-0.395666	Y 377.433
Na (589.592 nm)	228.627000 o	ppm	0.314959	0.14	1451500.000000	Y_R2 488.368
Na H (589.593 nm)	233.036069	ppm	2.814075	1.21	859875.710288	Y_R 488.368
Ni (231.604 nm)	0.020431	ppm	0.000796	3.90	131.318000	Y 377.433
P (213.618 nm)	0.075447	ppm	0.001246	1.65	182.136000	Y 242.219
Pb (220.353 nm)	0.001801	ppm	0.000229	12.73	9.009220	Y 242.219
S (181.972 nm)	3.224267	ppm	0.002355	0.07	1613.589402	Y 377.433
Sb (206.834 nm)	-0.003879 u	ppm	0.001277	32.92	-30.959200	Y 377.433
Se (196.026 nm)	0.011204	ppm	0.000199	1.77	27.534100	Y 242.219
Si (288.158 nm)	8.985570	ppm	0.057569	0.64	74398.800000	Y 377.433
Sn (189.925 nm)	0.006177	ppm	0.000878	14.21	19.681000	Y 377.433
Sr (421.552 nm)	1.080888	ppm	0.009026	0.84	222928.269864	Y_R 488.368
Th (288.505 nm)	0.003920	ppm	0.000646	16.49	187.488000	Y 377.433
Ti (336.122 nm)	0.000862	ppm	0.000099	11.51	402.043000	Y 377.433
Tl (190.794 nm)	-0.003640 u	ppm	0.001696	46.60	-14.963300	Y 377.433
U (409.013 nm)	-0.005769 u	ppm	0.001910	33.11	-232.078000	Y 377.433
V (292.401 nm)	0.000281	ppm	0.000156	55.68	35.612000	Y 377.433
Zn (206.200 nm)	0.003168	ppm	0.000607	19.17	14.498000	Y 377.433
Zr (343.823 nm)	0.000002 u	ppm	0.000068	> 100.00	20.785200	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.971479	18354.170135	0.001235	0.13
Y 377.433	0.995619	1010383.289538	0.000624	0.06
Y_R 377.433	1.060840	81516.900000	0.009316	0.88
Y_R 488.368	1.087600	47718.100000	0.007472	0.69
Y_R2 488.368	1.061315	91637.272127	0.000266	0.03

Sample Name: CCVH-5380945

Date: 10/29/2018 2:00:26 PM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.002445 u	ppm	0.000103	4.22	-781.581000	Y 377.433
Al (167.019 nm)	51.067600 o	ppm	0.104301	0.20	27013.300000	Y_R 377.433
Al H (396.152 nm)	50.307234	ppm	0.187406	0.37	127070.508912	Y_R 377.433
As (188.980 nm)	0.002792 u	ppm	0.004050	> 100.00	0.333797	Y 242.219
B (249.678 nm)	0.002610	ppm	0.000950	36.41	80.148300	Y 242.219
Ba (493.408 nm)	0.000268	ppm	0.000003	1.08	652.314000	Y_R 488.368
Be (234.861 nm)	-0.000208 u	ppm	0.000037	17.59	1460.570000	Y_R 488.368
Bi (223.061 nm)	1.013160	ppm	0.005707	0.56	2472.430000	Y 377.433
Ca (315.887 nm)	-0.008163 u	ppm	0.000059	0.72	-70.739139	Y_R 377.433
Cd (214.439 nm)	-0.000294 u	ppm	0.000073	24.82	29.805900	Y 377.433
Co (228.615 nm)	0.003129	ppm	0.000320	10.22	19.979900	Y 242.219
Cr (205.560 nm)	-0.000378 u	ppm	0.000013	3.43	-17.672100	Y 377.433
Cu (324.754 nm)	-0.007317 u	ppm	0.000025	0.35	-392.645000	Y 377.433
Fe (238.204 nm)	52.678210 o	ppm	0.123832	0.24	190112.093367	Y_R 377.433
Fe H (259.940 nm)	52.908800	ppm	0.188006	0.36	96754.400000	Y_R 377.433
K (766.491 nm)	-0.000109 u	ppm	0.067509	> 100.00	-689.268000	Y_R2 488.368
Li (670.783 nm)	0.002473	ppm	0.000225	9.09	-1304.650000	Y_R2 488.368
Mg (279.078 nm)	-0.018775 u	ppm	0.000949	5.05	-415.671000	Y 377.433
Mn (257.610 nm)	0.001574	ppm	0.000074	4.72	416.660000	Y 377.433
Mo (202.032 nm)	-0.000041 u	ppm	0.000100	> 100.00	-2.744940	Y 377.433
Na (589.592 nm)	237.635000 o	ppm	0.194799	0.08	1506430.000000	Y_R2 488.368
Na H (589.593 nm)	240.186100	ppm	1.088718	0.45	885085.579534	Y_R 488.368
Ni (231.604 nm)	0.004147	ppm	0.000050	1.20	26.837100	Y 377.433
P (213.618 nm)	-0.006910 u	ppm	0.000080	1.16	12.687600	Y 242.219
Pb (220.353 nm)	-0.002996 u	ppm	0.001886	62.96	12.515100	Y 242.219
S (181.972 nm)	5.067667	ppm	0.029460	0.58	2499.444956	Y 377.433
Sb (206.834 nm)	-0.006063 u	ppm	0.000925	15.26	-81.464000	Y 377.433
Se (196.026 nm)	-0.002459 u	ppm	0.005632	> 100.00	2.195000	Y 242.219
Si (288.158 nm)	0.012605	ppm	0.001924	15.27	1120.560000	Y 377.433
Sn (189.925 nm)	0.001846	ppm	0.000801	43.40	11.418300	Y 377.433
Sr (421.552 nm)	0.000383	ppm	0.000020	5.30	224.585295	Y_R 488.368
Th (288.505 nm)	5.074470	ppm	0.000645	0.01	12765.500000	Y 377.433
Ti (336.122 nm)	0.001832	ppm	0.000028	1.51	-30.394700	Y 377.433
Tl (190.794 nm)	-0.002413 u	ppm	0.000036	1.51	-13.671300	Y 377.433
U (409.013 nm)	10.412300	ppm	0.002565	0.02	46145.200000	Y 377.433
V (292.401 nm)	0.002556	ppm	0.000097	3.79	-53.562300	Y 377.433
Zn (206.200 nm)	0.000888	ppm	0.000139	15.71	3.096040	Y 377.433
Zr (343.823 nm)	-0.004784 u	ppm	0.000007	0.15	-452.914000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.988937	18683.991040	0.000697	0.07
Y 377.433	0.984795	999399.330801	0.000062	0.01
Y_R 377.433	1.030130	79156.800000	0.000294	0.03
Y_R 488.368	1.068000	46858.100000	0.002215	0.21
Y_R2 488.368	1.042463	90009.509242	0.000778	0.07

Sample Name: CCV-5391053

Date: 10/29/2018 2:03:50 PM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.495832	ppm	0.000679	0.14	21549.900000	Y 377.433
Al (167.019 nm)	0.535809	ppm	0.000907	0.17	285.705000	Y_R 377.433
Al H (396.152 nm)	0.500630 u	ppm	0.004157	0.83	1383.914811	Y_R 377.433
As (188.980 nm)	1.012720	ppm	0.000785	0.08	1212.350000	Y 242.219
B (249.678 nm)	0.502345	ppm	0.000130	0.03	12025.400000	Y 242.219
Ba (493.408 nm)	0.501995	ppm	0.000397	0.08	58041.100000	Y_R 488.368
Be (234.861 nm)	0.483184	ppm	0.001218	0.25	138741.000000	Y_R 488.368
Bi (223.061 nm)	-0.000985 u	ppm	0.000486	49.33	5.402250	Y 377.433
Ca (315.887 nm)	5.083530	ppm	0.025981	0.51	3846.945211	Y_R 377.433
Cd (214.439 nm)	0.503722	ppm	0.000157	0.03	28772.400000	Y 377.433
Co (228.615 nm)	0.506378	ppm	0.002148	0.42	8747.110000	Y 242.219
Cr (205.560 nm)	0.507455	ppm	0.001557	0.31	7395.200000	Y 377.433
Cu (324.754 nm)	0.497320	ppm	0.000039	0.01	26204.800000	Y 377.433
Fe (238.204 nm)	2.576535	ppm	0.007968	0.31	9314.345986	Y_R 377.433
Fe H (259.940 nm)	2.525750 u	ppm	0.007560	0.30	4764.020000	Y_R 377.433
K (766.491 nm)	49.708700	ppm	0.235309	0.47	55148.000000	Y_R2 488.368
Li (670.783 nm)	0.990895	ppm	0.000499	0.05	30808.700000	Y_R2 488.368
Mg (279.078 nm)	19.434800	ppm	0.028193	0.15	106943.000000	Y 377.433
Mn (257.610 nm)	0.505133	ppm	0.000397	0.08	114062.000000	Y 377.433
Mo (202.032 nm)	0.505318	ppm	0.000466	0.09	4215.180000	Y 377.433
Na (589.592 nm)	4.924670	ppm	0.009719	0.20	32799.000000	Y_R2 488.368
Na H (589.593 nm)	5.845284 u	ppm	0.013961	0.24	25120.461061	Y_R 488.368
Ni (231.604 nm)	0.507262	ppm	0.001354	0.27	3314.800000	Y 377.433
P (213.618 nm)	0.976324	ppm	0.005001	0.51	2035.700000	Y 242.219
Pb (220.353 nm)	1.006480	ppm	0.001579	0.16	2809.720000	Y 242.219
S (181.972 nm)	0.004565	ppm	0.003886	85.13	34.430930	Y 377.433
Sb (206.834 nm)	1.008050	ppm	0.001005	0.10	2657.960000	Y 377.433
Se (196.026 nm)	1.000300	ppm	0.000793	0.08	953.446000	Y 242.219
Si (288.158 nm)	4.987830	ppm	0.013551	0.27	41751.100000	Y 377.433
Sn (189.925 nm)	0.995820	ppm	0.000341	0.03	1907.670000	Y 377.433
Sr (421.552 nm)	0.488112	ppm	0.000652	0.13	100750.691090	Y_R 488.368
Th (288.505 nm)	0.000781	ppm	0.000730	93.49	94.964400	Y 377.433
Ti (336.122 nm)	0.510109	ppm	0.000800	0.16	70969.900000	Y 377.433
Tl (190.794 nm)	1.019840	ppm	0.001167	0.11	2168.210000	Y 377.433
U (409.013 nm)	-0.006669 u	ppm	0.001168	17.51	-240.750000	Y 377.433
V (292.401 nm)	0.502877	ppm	0.000528	0.11	17569.900000	Y 377.433
Zn (206.200 nm)	0.498615	ppm	0.000619	0.12	2492.020000	Y 377.433
Zr (343.823 nm)	0.509830	ppm	0.000750	0.15	65631.100000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.997587	18847.427533	0.000912	0.09
Y 377.433	0.999906	1014734.529636	0.000738	0.07
Y_R 377.433	1.012370	77792.500000	0.004604	0.45
Y_R 488.368	1.033440	45341.900000	0.004508	0.44
Y_R2 488.368	1.040996	89882.871957	0.004561	0.44

Sample Name: CCB

Date: 10/29/2018 2:07:14 PM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000092 u	ppm	0.000160	> 100.00	-437.380000	Y 377.433
Al (167.019 nm)	0.000864	ppm	0.000313	36.23	1.460410	Y_R 377.433
Al H (396.152 nm)	-0.023313 u	ppm	0.002774	11.90	18.944392	Y_R 377.433
As (188.980 nm)	-0.000498 u	ppm	0.002520	> 100.00	-3.169710	Y 242.219
B (249.678 nm)	0.003470	ppm	0.000339	9.76	175.520000	Y 242.219
Ba (493.408 nm)	-0.000191 u	ppm	0.000237	> 100.00	551.384000	Y_R 488.368
Be (234.861 nm)	0.000012 u	ppm	0.000018	> 100.00	-56.270700	Y_R 488.368
Bi (223.061 nm)	0.002232	ppm	0.000878	39.32	12.797100	Y 377.433
Ca (315.887 nm)	0.010040	ppm	0.005473	54.51	-56.734643	Y_R 377.433
Cd (214.439 nm)	0.000069	ppm	0.000009	13.26	2.359430	Y 377.433
Co (228.615 nm)	-0.000069 u	ppm	0.000280	> 100.00	-35.401600	Y 242.219
Cr (205.560 nm)	-0.000106 u	ppm	0.000106	> 100.00	0.147416	Y 377.433
Cu (324.754 nm)	0.000338	ppm	0.000358	> 100.00	-293.406000	Y 377.433
Fe (238.204 nm)	0.001834	ppm	0.000066	3.61	23.237852	Y_R 377.433
Fe H (259.940 nm)	-0.076909 u	ppm	0.001557	2.02	12.022100	Y_R 377.433
K (766.491 nm)	-0.014774 u	ppm	0.041677	> 100.00	-705.741000	Y_R2 488.368
Li (670.783 nm)	0.003634	ppm	0.000160	4.40	-1266.920000	Y_R2 488.368
Mg (279.078 nm)	0.001106	ppm	0.001153	> 100.00	40.540600	Y 377.433
Mn (257.610 nm)	0.000036	ppm	0.000015	41.29	69.642300	Y 377.433
Mo (202.032 nm)	0.000233 u	ppm	0.000332	> 100.00	-0.462888	Y 377.433
Na (589.592 nm)	0.055144	ppm	0.014271	25.88	968.143000	Y_R2 488.368
Na H (589.593 nm)	0.521461 u	ppm	0.031359	6.01	5100.006332	Y_R 488.368
Ni (231.604 nm)	0.000293	ppm	0.000111	38.06	-0.427169	Y 377.433
P (213.618 nm)	-0.001866 u	ppm	0.002087	> 100.00	23.065000	Y 242.219
Pb (220.353 nm)	-0.001609 u	ppm	0.000319	19.83	-0.667435	Y 242.219
S (181.972 nm)	0.003830	ppm	0.004617	> 100.00	32.920151	Y 377.433
Sb (206.834 nm)	0.000987 u	ppm	0.003421	> 100.00	-17.540700	Y 377.433
Se (196.026 nm)	-0.002091 u	ppm	0.001847	88.33	11.500700	Y 242.219
Si (288.158 nm)	-0.015850 u	ppm	0.000519	3.27	888.180000	Y 377.433
Sn (189.925 nm)	-0.000145 u	ppm	0.001110	> 100.00	7.618980	Y 377.433
Sr (421.552 nm)	-0.000071 u	ppm	0.000047	66.94	131.119539	Y_R 488.368
Th (288.505 nm)	0.000530 u	ppm	0.003593	> 100.00	78.782900	Y 377.433
Ti (336.122 nm)	0.000329	ppm	0.000014	4.16	-240.577000	Y 377.433
Tl (190.794 nm)	-0.001189 u	ppm	0.000191	16.03	-9.714190	Y 377.433
U (409.013 nm)	-0.000444 u	ppm	0.004477	> 100.00	-176.165000	Y 377.433
V (292.401 nm)	-0.000183 u	ppm	0.000160	87.39	18.124400	Y 377.433
Zn (206.200 nm)	0.000111 u	ppm	0.000218	> 100.00	-0.788252	Y 377.433
Zr (343.823 nm)	0.000079	ppm	0.000002	2.36	23.503900	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.999256	18878.962044	0.000228	0.02
Y 377.433	1.004776	1019676.151618	0.000195	0.02
Y_R 377.433	1.009290	77555.400000	0.006412	0.64
Y_R 488.368	1.032240	45289.400000	0.011192	1.08
Y_R2 488.368	1.037084	89545.045838	0.001104	0.11

Sample Name: CCVL-5398386

Date: 10/29/2018 2:10:37 PM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.008753	ppm	0.000335	3.83	-45.207400	Y 377.433
Al (167.019 nm)	0.110538	ppm	0.009165	8.29	59.466800	Y_R 377.433
Al H (396.152 nm)	0.073228 u	ppm	0.008886	12.14	264.223702	Y_R 377.433
As (188.980 nm)	0.015775	ppm	0.000372	2.36	16.351500	Y 242.219
B (249.678 nm)	0.101404	ppm	0.000124	0.12	2498.670000	Y 242.219
Ba (493.408 nm)	0.009907	ppm	0.000011	0.11	1707.300000	Y_R 488.368
Be (234.861 nm)	0.000988	ppm	0.000012	1.24	226.509000	Y_R 488.368
Bi (223.061 nm)	0.103750	ppm	0.002035	1.96	258.975000	Y 377.433
Ca (315.887 nm)	0.214778	ppm	0.001451	0.68	100.787798	Y_R 377.433
Cd (214.439 nm)	0.005137	ppm	0.000101	1.96	291.897000	Y 377.433
Co (228.615 nm)	0.010759	ppm	0.000041	0.38	152.325000	Y 242.219
Cr (205.560 nm)	0.010127	ppm	0.000092	0.91	149.283000	Y 377.433
Cu (324.754 nm)	0.015390	ppm	0.000263	1.71	507.096000	Y 377.433
Fe (238.204 nm)	0.106061	ppm	0.003184	3.00	399.353443	Y_R 377.433
Fe H (259.940 nm)	0.024376 u	ppm	0.000573	2.35	196.950000	Y_R 377.433
K (766.491 nm)	3.161230	ppm	0.073402	2.32	2861.820000	Y_R2 488.368
Li (670.783 nm)	0.023507	ppm	0.000486	2.07	-621.263000	Y_R2 488.368
Mg (279.078 nm)	0.195963	ppm	0.000964	0.49	1111.270000	Y 377.433
Mn (257.610 nm)	0.010410	ppm	0.000025	0.24	2410.810000	Y 377.433
Mo (202.032 nm)	0.018924	ppm	0.000463	2.44	155.540000	Y 377.433
Na (589.592 nm)	1.085320	ppm	0.021615	1.99	7515.670000	Y_R2 488.368
Na H (589.593 nm)	1.545321 u	ppm	0.106936	6.92	8868.901264	Y_R 488.368
Ni (231.604 nm)	0.041521	ppm	0.000300	0.72	269.095000	Y 377.433
P (213.618 nm)	2.761990 o	ppm	0.012660	0.46	5709.710000	Y 242.219
Pb (220.353 nm)	0.008413	ppm	0.001425	16.94	27.296600	Y 242.219
S (181.972 nm)	0.096998	ppm	0.001509	1.56	78.324620	Y 377.433
Sb (206.834 nm)	0.021664	ppm	0.001697	7.83	37.250100	Y 377.433
Se (196.026 nm)	0.017144	ppm	0.001195	6.97	29.567300	Y 242.219
Si (288.158 nm)	0.470649	ppm	0.004111	0.87	4861.210000	Y 377.433
Sn (189.925 nm)	0.095489	ppm	0.000879	0.92	190.065000	Y 377.433
Sr (421.552 nm)	0.009820	ppm	0.000090	0.91	2169.702242	Y_R 488.368
Th (288.505 nm)	0.017413	ppm	0.000914	5.25	121.650000	Y 377.433
Ti (336.122 nm)	0.010527	ppm	0.000114	1.09	1184.260000	Y 377.433
Tl (190.794 nm)	0.016826	ppm	0.000693	4.12	28.688400	Y 377.433
U (409.013 nm)	0.066393	ppm	0.002119	3.19	119.818000	Y 377.433
V (292.401 nm)	0.009680	ppm	0.000121	1.25	360.009000	Y 377.433
Zn (206.200 nm)	0.020778	ppm	0.000321	1.54	102.557000	Y 377.433
Zr (343.823 nm)	0.015048	ppm	0.000028	0.19	1950.230000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.016387	19202.604271	0.001346	0.13
Y 377.433	1.020901	1036040.680729	0.002166	0.21
Y_R 377.433	1.035530	79571.700000	0.008444	0.82
Y_R 488.368	1.062290	46607.800000	0.008885	0.84
Y_R2 488.368	1.060766	91589.822498	0.005815	0.55

Sample Name: Bottle 115883-D-9-A

Date: 10/29/2018 2:14:00 PM Rack:Tube: 1:31

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001416	ppm	0.000249	17.61	-370.875000	Y 377.433
Al (167.019 nm)	0.020327	ppm	0.001042	5.13	11.790500	Y_R 377.433
Al H (396.152 nm)	0.049641 u	ppm	0.001134	2.28	350.541851	Y_R 377.433
As (188.980 nm)	0.007116	ppm	0.004360	61.27	5.964090	Y 242.219
B (249.678 nm)	0.032515	ppm	0.000364	1.12	864.436000	Y 242.219
Ba (493.408 nm)	0.035871	ppm	0.000773	2.15	4756.190000	Y_R 488.368
Be (234.861 nm)	0.000097	ppm	0.000024	25.18	-29.463900	Y_R 488.368
Bi (223.061 nm)	0.002461	ppm	0.000874	35.50	13.363100	Y 377.433
Ca (315.887 nm)	336.729291 o	ppm	2.284228	0.68	259005.988302	Y_R 377.433
Cd (214.439 nm)	0.000159	ppm	0.000048	30.30	7.547520	Y 377.433
Co (228.615 nm)	0.002964	ppm	0.000525	17.72	17.103900	Y 242.219
Cr (205.560 nm)	-0.000134 u	ppm	0.000484	> 100.00	-0.290688	Y 377.433
Cu (324.754 nm)	-0.001656 u	ppm	0.000297	17.95	-590.117000	Y 377.433
Fe (238.204 nm)	0.078325	ppm	0.000235	0.30	299.262880	Y_R 377.433
Fe H (259.940 nm)	-0.015519 u	ppm	0.002509	16.17	124.109000	Y_R 377.433
K (766.491 nm)	0.794963	ppm	0.015423	1.94	203.827000	Y_R2 488.368
Li (670.783 nm)	0.014211	ppm	0.001615	11.37	-923.279000	Y_R2 488.368
Mg (279.078 nm)	181.197000 o	ppm	0.704606	0.39	996819.000000	Y 377.433
Mn (257.610 nm)	4.176340 o	ppm	0.011235	0.27	942596.000000	Y 377.433
Mo (202.032 nm)	-0.000035 u	ppm	0.000078	> 100.00	-2.701690	Y 377.433
Na (589.592 nm)	547.461000 o	ppm	0.295372	0.05	3469770.000000	Y_R2 488.368
Na H (589.593 nm)	561.694696	ppm	10.070829	1.79	2065617.607908	Y_R 488.368
Ni (231.604 nm)	0.015665	ppm	0.000550	3.51	100.065000	Y 377.433
P (213.618 nm)	0.040406	ppm	0.002176	5.39	110.040000	Y 242.219
Pb (220.353 nm)	0.000505 u	ppm	0.001050	> 100.00	5.180790	Y 242.219
S (181.972 nm)	151.484480 bo	ppm	0.480890	0.32	73826.427249	Y 377.433
Sb (206.834 nm)	-0.003090 u	ppm	0.000620	20.07	-28.357900	Y 377.433
Se (196.026 nm)	-0.001875 u	ppm	0.001644	87.70	14.851400	Y 242.219
Si (288.158 nm)	14.038200 o	ppm	0.023127	0.16	115661.000000	Y 377.433
Sn (189.925 nm)	0.002737	ppm	0.000014	0.52	13.118000	Y 377.433
Sr (421.552 nm)	2.011893 o	ppm	0.031869	1.58	414818.243267	Y_R 488.368
Th (288.505 nm)	0.007170	ppm	0.001319	18.40	174.594000	Y 377.433
Ti (336.122 nm)	0.000539	ppm	0.000123	22.76	826.224000	Y 377.433
Tl (190.794 nm)	0.002531	ppm	0.000629	24.85	-1.765390	Y 377.433
U (409.013 nm)	-0.009421 u	ppm	0.006304	66.92	-279.006000	Y 377.433
V (292.401 nm)	0.000164	ppm	0.000022	13.23	33.625200	Y 377.433
Zn (206.200 nm)	0.008102	ppm	0.000766	9.46	39.171500	Y 377.433
Zr (343.823 nm)	-0.000180 u	ppm	0.000111	61.58	-9.509540	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.946284	17878.154135	0.008017	0.85
Y 377.433	0.964604	978908.891869	0.006093	0.63
Y_R 377.433	1.043560	80189.100000	0.001028	0.10
Y_R 488.368	1.065790	46761.300000	0.009571	0.90
Y_R2 488.368	1.044147	90154.917751	0.009398	0.90

Sample Name: Bottle 115883-B-16-A

Date: 10/29/2018 2:17:23 PM Rack:Tube: 1:32

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000983	ppm	0.000065	6.64	-390.034000	Y 377.433
Al (167.019 nm)	0.038652	ppm	0.000193	0.50	21.861000	Y_R 377.433
Al H (396.152 nm)	0.036518 u	ppm	0.000502	1.37	234.893749	Y_R 377.433
As (188.980 nm)	0.003190	ppm	0.001174	36.81	1.248900	Y 242.219
B (249.678 nm)	0.117687	ppm	0.000533	0.45	2883.700000	Y 242.219
Ba (493.408 nm)	0.154603	ppm	0.000556	0.36	18302.900000	Y_R 488.368
Be (234.861 nm)	0.000148	ppm	0.000021	14.38	3.449610	Y_R 488.368
Bi (223.061 nm)	0.001319	ppm	0.000942	71.44	10.691600	Y 377.433
Ca (315.887 nm)	148.196542 o	ppm	1.314596	0.89	113953.968973	Y_R 377.433
Cd (214.439 nm)	0.000106	ppm	0.000009	8.32	5.070540	Y 377.433
Co (228.615 nm)	0.001597	ppm	0.000400	25.02	-6.520260	Y 242.219
Cr (205.560 nm)	-0.000004 u	ppm	0.000086	> 100.00	1.441880	Y 377.433
Cu (324.754 nm)	-0.000838 u	ppm	0.000064	7.67	-440.740000	Y 377.433
Fe (238.204 nm)	0.692901	ppm	0.007315	1.06	2517.032562	Y_R 377.433
Fe H (259.940 nm)	0.604998 u	ppm	0.000098	0.02	1257.060000	Y_R 377.433
K (766.491 nm)	1.557980	ppm	0.050412	3.24	1060.920000	Y_R2 488.368
Li (670.783 nm)	0.012882	ppm	0.000331	2.57	-966.486000	Y_R2 488.368
Mg (279.078 nm)	33.234200	ppm	0.056102	0.17	182858.000000	Y 377.433
Mn (257.610 nm)	1.591930 o	ppm	0.001907	0.12	359335.000000	Y 377.433
Mo (202.032 nm)	0.000441	ppm	0.000035	8.04	1.274270	Y 377.433
Na (589.592 nm)	30.451600 o	ppm	0.063879	0.21	193881.000000	Y_R2 488.368
Na H (589.593 nm)	31.477153	ppm	0.030475	0.10	118907.241981	Y_R 488.368
Ni (231.604 nm)	0.004735	ppm	0.000122	2.57	28.643500	Y 377.433
P (213.618 nm)	0.066218	ppm	0.002800	4.23	163.148000	Y 242.219
Pb (220.353 nm)	0.002497	ppm	0.001564	62.65	10.816200	Y 242.219
S (181.972 nm)	38.155128 o	ppm	0.056269	0.15	18619.482673	Y 377.433
Sb (206.834 nm)	-0.002671 u	ppm	0.000206	7.71	-27.394700	Y 377.433
Se (196.026 nm)	-0.003151 u	ppm	0.002685	85.22	11.584200	Y 242.219
Si (288.158 nm)	8.211730	ppm	0.014724	0.18	68079.300000	Y 377.433
Sn (189.925 nm)	0.001282	ppm	0.000139	10.88	10.342400	Y 377.433
Sr (421.552 nm)	0.550174	ppm	0.002756	0.50	113542.349845	Y_R 488.368
Th (288.505 nm)	-0.000290 u	ppm	0.004427	> 100.00	107.075000	Y 377.433
Ti (336.122 nm)	0.002169	ppm	0.000544	25.06	473.130000	Y 377.433
Tl (190.794 nm)	0.002508	ppm	0.000271	10.82	-1.843060	Y 377.433
U (409.013 nm)	0.008707	ppm	0.000306	3.51	-162.614000	Y 377.433
V (292.401 nm)	-0.000070 u	ppm	0.000353	> 100.00	22.995800	Y 377.433
Zn (206.200 nm)	0.002773	ppm	0.000194	7.01	12.522600	Y 377.433
Zr (343.823 nm)	-0.000076 u	ppm	0.000010	12.75	5.541450	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.998885	18871.942258	0.000430	0.04
Y 377.433	1.012315	1027326.903734	0.000133	0.01
Y_R 377.433	1.065430	81869.400000	0.017998	1.69
Y_R 488.368	1.096680	48116.600000	0.012167	1.11
Y_R2 488.368	1.082657	93480.010431	0.008347	0.77

Sample Name: MB 280-434588/1-A

Date: 10/29/2018 2:20:46 PM Rack:Tube: 1:33

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000177 u	ppm	0.000042	23.79	-441.220000	Y 377.433
Al (167.019 nm)	0.009482	ppm	0.001035	10.92	6.018450	Y_R 377.433
Al H (396.152 nm)	-0.015297 u	ppm	0.006149	40.20	39.208582	Y_R 377.433
As (188.980 nm)	0.001176	ppm	0.000093	7.95	-1.161240	Y 242.219
B (249.678 nm)	0.001571	ppm	0.000181	11.52	130.468000	Y 242.219
Ba (493.408 nm)	0.000132 u	ppm	0.000270	> 100.00	588.431000	Y_R 488.368
Be (234.861 nm)	0.000076	ppm	0.000020	26.21	-37.545700	Y_R 488.368
Bi (223.061 nm)	0.003069	ppm	0.001122	36.54	14.827200	Y 377.433
Ca (315.887 nm)	0.068422	ppm	0.003647	5.33	-11.817207	Y_R 377.433
Cd (214.439 nm)	0.000056	ppm	0.000025	45.11	1.586410	Y 377.433
Co (228.615 nm)	0.000361	ppm	0.000254	70.39	-27.959200	Y 242.219
Cr (205.560 nm)	-0.000147 u	ppm	0.000361	> 100.00	-0.453860	Y 377.433
Cu (324.754 nm)	0.000082 u	ppm	0.000312	> 100.00	-307.006000	Y 377.433
Fe (238.204 nm)	0.010088	ppm	0.000964	9.55	53.023706	Y_R 377.433
Fe H (259.940 nm)	-0.072362 u	ppm	0.000027	0.04	20.323300	Y_R 377.433
K (766.491 nm)	0.061379	ppm	0.038558	62.82	-620.198000	Y_R2 488.368
Li (670.783 nm)	0.003028	ppm	0.002466	81.44	-1286.610000	Y_R2 488.368
Mg (279.078 nm)	0.004464	ppm	0.000386	8.64	58.994900	Y 377.433
Mn (257.610 nm)	0.000896	ppm	0.000032	3.58	263.659000	Y 377.433
Mo (202.032 nm)	0.000132	ppm	0.000060	45.90	-1.307080	Y 377.433
Na (589.592 nm)	0.082763	ppm	0.013314	16.09	1143.770000	Y_R2 488.368
Na H (589.593 nm)	0.897966 u	ppm	0.027999	3.12	6482.737194	Y_R 488.368
Ni (231.604 nm)	0.000388	ppm	0.000094	24.10	0.198526	Y 377.433
P (213.618 nm)	-0.003885 u	ppm	0.000301	7.74	18.911700	Y 242.219
Pb (220.353 nm)	-0.000369 u	ppm	0.000418	> 100.00	2.786610	Y 242.219
S (181.972 nm)	0.030074	ppm	0.003192	10.61	45.705534	Y 377.433
Sb (206.834 nm)	-0.000346 u	ppm	0.001060	> 100.00	-21.083100	Y 377.433
Se (196.026 nm)	-0.001953 u	ppm	0.000691	35.36	11.629400	Y 242.219
Si (288.158 nm)	-0.016083 u	ppm	0.000779	4.84	886.282000	Y 377.433
Sn (189.925 nm)	0.000508	ppm	0.000323	63.43	8.865960	Y 377.433
Sr (421.552 nm)	-0.000045 u	ppm	0.000108	> 100.00	136.291433	Y_R 488.368
Th (288.505 nm)	0.001693 u	ppm	0.002475	> 100.00	81.666700	Y 377.433
Ti (336.122 nm)	0.000738	ppm	0.000078	10.59	-183.229000	Y 377.433
Tl (190.794 nm)	-0.001667 u	ppm	0.001183	70.94	-10.736100	Y 377.433
U (409.013 nm)	0.003434	ppm	0.000741	21.59	-158.920000	Y 377.433
V (292.401 nm)	-0.000072 u	ppm	0.000140	> 100.00	22.134900	Y 377.433
Zn (206.200 nm)	0.001542	ppm	0.000349	22.62	6.364780	Y 377.433
Zr (343.823 nm)	-0.000010 u	ppm	0.000047	> 100.00	12.097800	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.009911	19080.253658	0.003129	0.31
Y 377.433	1.015550	1030609.848479	0.002771	0.27
Y_R 377.433	1.047310	80477.200000	0.003185	0.30
Y_R 488.368	1.087830	47728.100000	0.012714	1.17
Y_R2 488.368	1.065736	92018.964844	0.010133	0.95

Sample Name: LCS 280-434588/2-A

Date: 10/29/2018 2:24:09 PM Rack:Tube: 1:34

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.051478	ppm	0.000238	0.46	1823.710000	Y 377.433
Al (167.019 nm)	2.266540	ppm	0.025876	1.14	1199.140000	Y_R 377.433
Al H (396.152 nm)	2.058633	ppm	0.020640	1.00	5379.463742	Y_R 377.433
As (188.980 nm)	1.026330	ppm	0.001399	0.14	1228.680000	Y 242.219
B (249.678 nm)	1.053180	ppm	0.000211	0.02	25092.500000	Y 242.219
Ba (493.408 nm)	2.026690 o	ppm	0.012279	0.61	232545.000000	Y_R 488.368
Be (234.861 nm)	0.047909	ppm	0.000284	0.59	13675.800000	Y_R 488.368
Bi (223.061 nm)	2.014410	ppm	0.000471	0.02	4892.160000	Y 377.433
Ca (315.887 nm)	53.098825 o	ppm	0.300418	0.57	40788.401593	Y_R 377.433
Cd (214.439 nm)	0.100571	ppm	0.000178	0.18	5744.240000	Y 377.433
Co (228.615 nm)	0.499940	ppm	0.000192	0.04	8652.950000	Y 242.219
Cr (205.560 nm)	0.205879	ppm	0.000239	0.12	3001.030000	Y 377.433
Cu (324.754 nm)	0.248654	ppm	0.000090	0.04	12969.100000	Y 377.433
Fe (238.204 nm)	1.154259	ppm	0.009487	0.82	4181.897853	Y_R 377.433
Fe H (259.940 nm)	1.063160 u	ppm	0.007933	0.75	2093.590000	Y_R 377.433
K (766.491 nm)	51.045700	ppm	0.175053	0.34	56649.800000	Y_R2 488.368
Li (670.783 nm)	1.011210	ppm	0.000382	0.04	31468.800000	Y_R2 488.368
Mg (279.078 nm)	49.040300 o	ppm	0.062915	0.13	269757.000000	Y 377.433
Mn (257.610 nm)	0.507127	ppm	0.000062	0.01	114512.000000	Y 377.433
Mo (202.032 nm)	1.031110	ppm	0.000945	0.09	8603.620000	Y 377.433
Na (589.592 nm)	49.426400 o	ppm	0.041631	0.08	317744.000000	Y_R2 488.368
Na H (589.593 nm)	50.882995	ppm	0.063797	0.13	191919.516885	Y_R 488.368
Ni (231.604 nm)	0.487853	ppm	0.000923	0.19	3189.050000	Y 377.433
P (213.618 nm)	10.074600 o	ppm	0.002194	0.02	20755.500000	Y 242.219
Pb (220.353 nm)	0.505123	ppm	0.000703	0.14	1413.630000	Y 242.219
S (181.972 nm)	2.037071	ppm	0.013446	0.66	1024.436647	Y 377.433
Sb (206.834 nm)	0.520335	ppm	0.001512	0.29	1350.840000	Y 377.433
Se (196.026 nm)	2.080200	ppm	0.001928	0.09	1968.580000	Y 242.219
Si (288.158 nm)	10.166000	ppm	0.020658	0.20	84038.800000	Y 377.433
Sn (189.925 nm)	1.989680	ppm	0.000951	0.05	3803.710000	Y 377.433
Sr (421.552 nm)	0.983595	ppm	0.006402	0.65	202875.101991	Y_R 488.368
Th (288.505 nm)	1.033050	ppm	0.002169	0.21	2686.460000	Y 377.433
Ti (336.122 nm)	1.027160	ppm	0.000218	0.02	143328.000000	Y 377.433
Tl (190.794 nm)	2.056180	ppm	0.003943	0.19	4376.920000	Y 377.433
U (409.013 nm)	2.132710	ppm	0.001793	0.08	9256.160000	Y 377.433
V (292.401 nm)	0.518799	ppm	0.000361	0.07	18168.000000	Y 377.433
Zn (206.200 nm)	0.499454	ppm	0.001485	0.30	2496.210000	Y 377.433
Zr (343.823 nm)	0.511480	ppm	0.000042	0.01	65839.400000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.989003	18685.248099	0.000566	0.06
Y 377.433	0.996678	1011457.959880	0.000558	0.06
Y_R 377.433	1.041790	80053.100000	0.006420	0.62
Y_R 488.368	1.073920	47118.200000	0.007991	0.74
Y_R2 488.368	1.050597	90711.792984	0.001365	0.13

Sample Name: 280-115924-E-1-B

Date: 10/29/2018 2:27:32 PM Rack:Tube: 1:35

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000195 u	ppm	0.000349	> 100.00	-425.011000	Y 377.433
Al (167.019 nm)	0.006369	ppm	0.003370	52.91	4.380830	Y_R 377.433
Al H (396.152 nm)	-0.000395 u	ppm	0.000938	> 100.00	120.930678	Y_R 377.433
As (188.980 nm)	0.002172 u	ppm	0.003374	> 100.00	0.032751	Y 242.219
B (249.678 nm)	0.039398	ppm	0.000037	0.09	1027.680000	Y 242.219
Ba (493.408 nm)	0.033599	ppm	0.000194	0.58	4441.890000	Y_R 488.368
Be (234.861 nm)	0.000053	ppm	0.000011	19.87	-43.990500	Y_R 488.368
Bi (223.061 nm)	0.000637 u	ppm	0.001519	> 100.00	8.931610	Y 377.433
Ca (315.887 nm)	100.473208 o	ppm	0.254999	0.25	77236.920847	Y_R 377.433
Cd (214.439 nm)	0.000030	ppm	0.000010	33.16	0.130948	Y 377.433
Co (228.615 nm)	-0.000388 u	ppm	0.000059	15.34	-40.916200	Y 242.219
Cr (205.560 nm)	0.002115	ppm	0.000153	7.22	32.513100	Y 377.433
Cu (324.754 nm)	-0.000541 u	ppm	0.000057	10.57	-398.039000	Y 377.433
Fe (238.204 nm)	0.020635	ppm	0.000456	2.21	91.081478	Y_R 377.433
Fe H (259.940 nm)	-0.061491 u	ppm	0.003226	5.25	40.173500	Y_R 377.433
K (766.491 nm)	0.877281	ppm	0.007205	0.82	296.293000	Y_R2 488.368
Li (670.783 nm)	0.010154	ppm	0.001392	13.71	-1055.110000	Y_R2 488.368
Mg (279.078 nm)	35.867200	ppm	0.003164	0.01	197344.000000	Y 377.433
Mn (257.610 nm)	0.000604	ppm	0.000006	0.97	197.718000	Y 377.433
Mo (202.032 nm)	0.002060	ppm	0.000418	20.31	14.784400	Y 377.433
Na (589.592 nm)	4.261420	ppm	0.001034	0.02	27688.400000	Y_R2 488.368
Na H (589.593 nm)	4.917188 u	ppm	0.046425	0.94	21272.247038	Y_R 488.368
Ni (231.604 nm)	-0.001104 u	ppm	0.000272	24.63	-9.550550	Y 377.433
P (213.618 nm)	0.000968 u	ppm	0.002391	> 100.00	28.895900	Y 242.219
Pb (220.353 nm)	0.001426	ppm	0.001560	> 100.00	7.785490	Y 242.219
S (181.972 nm)	10.107771	ppm	0.002752	0.03	4954.402629	Y 377.433
Sb (206.834 nm)	0.001198	ppm	0.000918	76.62	-16.942000	Y 377.433
Se (196.026 nm)	-0.001679 u	ppm	0.003747	> 100.00	11.885100	Y 242.219
Si (288.158 nm)	12.471600 o	ppm	0.028211	0.23	102868.000000	Y 377.433
Sn (189.925 nm)	0.000797	ppm	0.000445	55.82	9.416190	Y 377.433
Sr (421.552 nm)	0.086892	ppm	0.001128	1.30	18054.974999	Y_R 488.368
Th (288.505 nm)	-0.000568 u	ppm	0.001489	> 100.00	76.203100	Y 377.433
Ti (336.122 nm)	0.000429	ppm	0.000087	20.15	82.946300	Y 377.433
Tl (190.794 nm)	0.004398	ppm	0.002349	53.40	2.207450	Y 377.433
U (409.013 nm)	-0.001517 u	ppm	0.003293	> 100.00	-199.692000	Y 377.433
V (292.401 nm)	0.000241	ppm	0.000091	37.85	32.885800	Y 377.433
Zn (206.200 nm)	0.001326	ppm	0.000106	7.99	5.286900	Y 377.433
Zr (343.823 nm)	-0.000030 u	ppm	0.000075	> 100.00	9.650040	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.992050	18742.815010	0.000836	0.08
Y 377.433	1.003150	1018025.895122	0.000235	0.02
Y_R 377.433	1.044130	80233.200000	0.004053	0.39
Y_R 488.368	1.088010	47736.100000	0.015703	1.44
Y_R2 488.368	1.057377	91297.213412	0.006858	0.65

Sample Name: 280-115924-E-1-Bsd@5

Date: 10/29/2018 2:30:55 PM Rack:Tube: 1:36

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000215 u	ppm	0.000214	99.45	-443.003000	Y 377.433
Al (167.019 nm)	0.002790	ppm	0.001032	36.99	2.481000	Y_R 377.433
Al H (396.152 nm)	-0.019073 u	ppm	0.005944	31.16	38.377469	Y_R 377.433
As (188.980 nm)	0.000480 u	ppm	0.001783	> 100.00	-1.996720	Y 242.219
B (249.678 nm)	0.009151	ppm	0.000085	0.93	310.252000	Y 242.219
Ba (493.408 nm)	0.006120	ppm	0.000150	2.45	1278.370000	Y_R 488.368
Be (234.861 nm)	0.000053	ppm	0.000027	50.39	-44.198100	Y_R 488.368
Bi (223.061 nm)	0.000765	ppm	0.000358	46.78	9.238720	Y 377.433
Ca (315.887 nm)	19.964449 o	ppm	0.051010	0.26	15295.649822	Y_R 377.433
Cd (214.439 nm)	-0.000016 u	ppm	0.000023	> 100.00	-2.496050	Y 377.433
Co (228.615 nm)	0.000011 u	ppm	0.000365	> 100.00	-34.021100	Y 242.219
Cr (205.560 nm)	0.000250	ppm	0.000275	> 100.00	5.328290	Y 377.433
Cu (324.754 nm)	-0.000342 u	ppm	0.000278	81.29	-341.326000	Y 377.433
Fe (238.204 nm)	0.007033	ppm	0.000894	12.72	41.997680	Y_R 377.433
Fe H (259.940 nm)	-0.074231 u	ppm	0.004832	6.51	16.911400	Y_R 377.433
K (766.491 nm)	0.264003	ppm	0.035698	13.52	-392.593000	Y_R2 488.368
Li (670.783 nm)	0.005131	ppm	0.000206	4.02	-1218.280000	Y_R2 488.368
Mg (279.078 nm)	7.071070	ppm	0.001876	0.03	38933.100000	Y 377.433
Mn (257.610 nm)	0.000127	ppm	0.000004	3.09	90.075700	Y 377.433
Mo (202.032 nm)	0.000202	ppm	0.000030	15.11	-0.722915	Y 377.433
Na (589.592 nm)	0.866289	ppm	0.002218	0.26	6120.960000	Y_R2 488.368
Na H (589.593 nm)	1.430756 u	ppm	0.070156	4.90	8444.943388	Y_R 488.368
Ni (231.604 nm)	-0.001403 u	ppm	0.000367	26.12	-11.512400	Y 377.433
P (213.618 nm)	-0.001788 u	ppm	0.003875	> 100.00	23.225700	Y 242.219
Pb (220.353 nm)	0.000355 u	ppm	0.000706	> 100.00	4.813550	Y 242.219
S (181.972 nm)	1.942245	ppm	0.004896	0.25	977.093980	Y 377.433
Sb (206.834 nm)	0.001283 u	ppm	0.002049	> 100.00	-16.760900	Y 377.433
Se (196.026 nm)	-0.000739 u	ppm	0.002341	> 100.00	12.769900	Y 242.219
Si (288.158 nm)	2.423270	ppm	0.005632	0.23	20807.400000	Y 377.433
Sn (189.925 nm)	0.000158 u	ppm	0.000613	> 100.00	8.197220	Y 377.433
Sr (421.552 nm)	0.017048	ppm	0.000136	0.80	3659.407153	Y_R 488.368
Th (288.505 nm)	0.000805 u	ppm	0.001270	> 100.00	79.514700	Y 377.433
Ti (336.122 nm)	0.000574	ppm	0.000014	2.51	-144.795000	Y 377.433
Tl (190.794 nm)	0.001276 u	ppm	0.001876	> 100.00	-4.452210	Y 377.433
U (409.013 nm)	-0.000684 u	ppm	0.001643	> 100.00	-180.942000	Y 377.433
V (292.401 nm)	0.000005 u	ppm	0.000104	> 100.00	24.657400	Y 377.433
Zn (206.200 nm)	0.000446	ppm	0.000189	42.48	0.885888	Y 377.433
Zr (343.823 nm)	-0.000043 u	ppm	0.000099	> 100.00	7.897800	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.010068	19083.227000	0.001944	0.19
Y 377.433	1.013957	1028993.108330	0.002274	0.22
Y_R 377.433	1.057940	81293.800000	0.004196	0.40
Y_R 488.368	1.098500	48196.500000	0.008900	0.81
Y_R2 488.368	1.078324	93105.892476	0.003732	0.35

Sample Name: 280-115924-E-1-C MS

Date: 10/29/2018 2:34:17 PM Rack:Tube: 1:37

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.052107	ppm	0.000252	0.48	1852.110000	Y 377.433
Al (167.019 nm)	2.234250	ppm	0.007701	0.34	1182.040000	Y_R 377.433
Al H (396.152 nm)	2.102198	ppm	0.002271	0.11	5534.144057	Y_R 377.433
As (188.980 nm)	1.027520	ppm	0.000044	0.00	1230.120000	Y 242.219
B (249.678 nm)	1.122720 o	ppm	0.001858	0.17	26741.800000	Y 242.219
Ba (493.408 nm)	2.048030 o	ppm	0.005161	0.25	235011.000000	Y_R 488.368
Be (234.861 nm)	0.048349	ppm	0.000464	0.96	13799.700000	Y_R 488.368
Bi (223.061 nm)	2.027900	ppm	0.005345	0.26	4924.850000	Y 377.433
Ca (315.887 nm)	153.059518 o	ppm	0.188495	0.12	117695.465414	Y_R 377.433
Cd (214.439 nm)	0.099204	ppm	0.000855	0.86	5666.050000	Y 377.433
Co (228.615 nm)	0.492970	ppm	0.005075	1.03	8532.700000	Y 242.219
Cr (205.560 nm)	0.207699	ppm	0.000722	0.35	3027.560000	Y 377.433
Cu (324.754 nm)	0.249330	ppm	0.000195	0.08	12945.600000	Y 377.433
Fe (238.204 nm)	1.086316	ppm	0.001814	0.17	3936.716990	Y_R 377.433
Fe H (259.940 nm)	1.004250 u	ppm	0.002283	0.23	1986.020000	Y_R 377.433
K (766.491 nm)	52.442200	ppm	0.020783	0.04	58218.500000	Y_R2 488.368
Li (670.783 nm)	1.026040	ppm	0.000633	0.06	31950.600000	Y_R2 488.368
Mg (279.078 nm)	85.447700 o	ppm	0.091549	0.11	470039.000000	Y 377.433
Mn (257.610 nm)	0.502814	ppm	0.002620	0.52	113539.000000	Y 377.433
Mo (202.032 nm)	1.042920	ppm	0.006161	0.59	8702.190000	Y 377.433
Na (589.592 nm)	53.737600 o	ppm	0.047976	0.09	345102.000000	Y_R2 488.368
Na H (589.593 nm)	55.358957	ppm	0.007198	0.01	208373.174236	Y_R 488.368
Ni (231.604 nm)	0.479323	ppm	0.002952	0.62	3133.260000	Y 377.433
P (213.618 nm)	10.172200 o	ppm	0.042187	0.41	20956.300000	Y 242.219
Pb (220.353 nm)	0.501278	ppm	0.000362	0.07	1402.810000	Y 242.219
S (181.972 nm)	12.550849 o	ppm	0.056481	0.45	6145.532003	Y 377.433
Sb (206.834 nm)	0.533351	ppm	0.001836	0.34	1385.310000	Y 377.433
Se (196.026 nm)	2.086740	ppm	0.010614	0.51	1974.740000	Y 242.219
Si (288.158 nm)	22.959500 o	ppm	0.095606	0.42	188518.000000	Y 377.433
Sn (189.925 nm)	2.023740	ppm	0.009982	0.49	3868.690000	Y 377.433
Sr (421.552 nm)	1.062047	ppm	0.004976	0.47	219044.861474	Y_R 488.368
Th (288.505 nm)	1.033980	ppm	0.006388	0.62	2688.640000	Y 377.433
Ti (336.122 nm)	1.040400	ppm	0.002549	0.25	145486.000000	Y 377.433
Tl (190.794 nm)	2.033140	ppm	0.012405	0.61	4327.640000	Y 377.433
U (409.013 nm)	2.132810	ppm	0.007083	0.33	9237.550000	Y 377.433
V (292.401 nm)	0.521174	ppm	0.002598	0.50	18250.900000	Y 377.433
Zn (206.200 nm)	0.487266	ppm	0.006369	1.31	2435.270000	Y 377.433
Zr (343.823 nm)	0.515558	ppm	0.001513	0.29	66364.100000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.980378	18522.284856	0.009435	0.96
Y 377.433	0.989978	1004658.565417	0.004892	0.49
Y_R 377.433	1.035570	79574.800000	0.000895	0.09
Y_R 488.368	1.072960	47075.800000	0.000754	0.07
Y_R2 488.368	1.052160	90846.746003	0.008416	0.80

Sample Name: 280-115924-E-1-D MSD

Date: 10/29/2018 2:37:41 PM Rack:Tube: 1:38

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.051659	ppm	0.000491	0.95	1831.650000	Y 377.433
Al (167.019 nm)	2.228840	ppm	0.017741	0.80	1179.180000	Y_R 377.433
Al H (396.152 nm)	2.075194	ppm	0.012761	0.61	5464.096109	Y_R 377.433
As (188.980 nm)	1.027460	ppm	0.003920	0.38	1230.050000	Y 242.219
B (249.678 nm)	1.107660 o	ppm	0.001133	0.10	26384.400000	Y 242.219
Ba (493.408 nm)	2.038990 o	ppm	0.004882	0.24	233975.000000	Y_R 488.368
Be (234.861 nm)	0.049235	ppm	0.000293	0.60	14053.900000	Y_R 488.368
Bi (223.061 nm)	2.023090	ppm	0.004401	0.22	4913.200000	Y 377.433
Ca (315.887 nm)	147.872316 o	ppm	0.334618	0.23	113704.572911	Y_R 377.433
Cd (214.439 nm)	0.101224	ppm	0.000167	0.16	5781.480000	Y 377.433
Co (228.615 nm)	0.490266	ppm	0.000590	0.12	8485.800000	Y 242.219
Cr (205.560 nm)	0.209100	ppm	0.000114	0.05	3047.970000	Y 377.433
Cu (324.754 nm)	0.247896	ppm	0.000249	0.10	12873.400000	Y 377.433
Fe (238.204 nm)	1.092134	ppm	0.006015	0.55	3957.710948	Y_R 377.433
Fe H (259.940 nm)	0.997646 u	ppm	0.004142	0.42	1973.970000	Y_R 377.433
K (766.491 nm)	52.160200	ppm	0.024939	0.05	57901.700000	Y_R2 488.368
Li (670.783 nm)	1.019620	ppm	0.000152	0.01	31741.900000	Y_R2 488.368
Mg (279.078 nm)	85.548100 o	ppm	0.082693	0.10	470592.000000	Y 377.433
Mn (257.610 nm)	0.505268	ppm	0.000248	0.05	114092.000000	Y 377.433
Mo (202.032 nm)	1.047980	ppm	0.002479	0.24	8744.490000	Y 377.433
Na (589.592 nm)	53.242500 o	ppm	0.162923	0.31	341949.000000	Y_R2 488.368
Na H (589.593 nm)	54.942389	ppm	0.124135	0.23	206836.296451	Y_R 488.368
Ni (231.604 nm)	0.486463	ppm	0.000694	0.14	3179.940000	Y 377.433
P (213.618 nm)	10.130500 o	ppm	0.034491	0.34	20870.400000	Y 242.219
Pb (220.353 nm)	0.503980	ppm	0.001164	0.23	1410.280000	Y 242.219
S (181.972 nm)	12.136241 o	ppm	0.016330	0.13	5943.588013	Y 377.433
Sb (206.834 nm)	0.531248	ppm	0.001694	0.32	1379.850000	Y 377.433
Se (196.026 nm)	2.083060	ppm	0.003416	0.16	1971.280000	Y 242.219
Si (288.158 nm)	22.348100 o	ppm	0.094331	0.42	183525.000000	Y 377.433
Sn (189.925 nm)	2.045250	ppm	0.010174	0.50	3909.720000	Y 377.433
Sr (421.552 nm)	1.056662	ppm	0.004666	0.44	217934.957945	Y_R 488.368
Th (288.505 nm)	1.032610	ppm	0.000416	0.04	2684.980000	Y 377.433
Ti (336.122 nm)	1.037470	ppm	0.000936	0.09	145060.000000	Y 377.433
Tl (190.794 nm)	2.054680	ppm	0.001886	0.09	4373.600000	Y 377.433
U (409.013 nm)	2.111620	ppm	0.001572	0.07	9144.670000	Y 377.433
V (292.401 nm)	0.522294	ppm	0.000278	0.05	18290.600000	Y 377.433
Zn (206.200 nm)	0.497992	ppm	0.000893	0.18	2488.900000	Y 377.433
Zr (343.823 nm)	0.511193	ppm	0.000349	0.07	65802.400000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.999275	18879.313963	0.001754	0.18
Y 377.433	0.998857	1013669.890065	0.000587	0.06
Y_R 377.433	1.033740	79434.600000	0.004024	0.39
Y_R 488.368	1.065590	46752.700000	0.005980	0.56
Y_R2 488.368	1.054922	91085.230778	0.002305	0.22

Sample Name: 280-115845-B-5-A

Date: 10/29/2018 2:41:04 PM Rack:Tube: 1:39

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000164	ppm	0.000193	> 100.00	-426.645000	Y 377.433
Al (167.019 nm)	0.214724	ppm	0.002164	1.01	115.214000	Y_R 377.433
Al H (396.152 nm)	0.241213 u	ppm	0.003059	1.27	961.458777	Y_R 377.433
As (188.980 nm)	0.004432	ppm	0.000824	18.60	2.734670	Y 242.219
B (249.678 nm)	2.501130 o	ppm	0.012527	0.50	59416.300000	Y 242.219
Ba (493.408 nm)	0.030871	ppm	0.000089	0.29	4251.440000	Y_R 488.368
Be (234.861 nm)	0.000172	ppm	0.000031	18.21	25.633400	Y_R 488.368
Bi (223.061 nm)	0.002405	ppm	0.000081	3.38	13.407300	Y 377.433
Ca (315.887 nm)	626.131286 o	ppm	0.545221	0.09	481664.089942	Y_R 377.433
Cd (214.439 nm)	0.000024	ppm	0.000019	80.69	0.864850	Y 377.433
Co (228.615 nm)	0.002702	ppm	0.000015	0.57	12.681000	Y 242.219
Cr (205.560 nm)	0.000809	ppm	0.000028	3.47	13.148100	Y 377.433
Cu (324.754 nm)	-0.003891 u	ppm	0.000085	2.19	-881.928000	Y 377.433
Fe (238.204 nm)	1.223996	ppm	0.002015	0.16	4433.550306	Y_R 377.433
Fe H (259.940 nm)	1.139890 u	ppm	0.003738	0.33	2233.690000	Y_R 377.433
K (766.491 nm)	20.534100	ppm	0.021328	0.10	22376.500000	Y_R2 488.368
Li (670.783 nm)	0.774991	ppm	0.000983	0.13	23794.000000	Y_R2 488.368
Mg (279.078 nm)	103.990000 o	ppm	0.315080	0.30	572091.000000	Y 377.433
Mn (257.610 nm)	0.199526	ppm	0.000058	0.03	45091.400000	Y 377.433
Mo (202.032 nm)	0.005895	ppm	0.000700	11.88	46.794400	Y 377.433
Na (589.592 nm)	258.635000 o	ppm	0.915020	0.35	1639570.000000	Y_R2 488.368
Na H (589.593 nm)	264.986773	ppm	1.678666	0.63	976178.639820	Y_R 488.368
Ni (231.604 nm)	0.011612	ppm	0.000726	6.25	73.615300	Y 377.433
P (213.618 nm)	0.029249	ppm	0.003243	11.09	87.084600	Y 242.219
Pb (220.353 nm)	0.002268	ppm	0.000487	21.49	10.125000	Y 242.219
S (181.972 nm)	661.660343 bo	ppm	0.865792	0.13	322316.518646	Y 377.433
Sb (206.834 nm)	-0.003262 u	ppm	0.002958	90.69	-29.126700	Y 377.433
Se (196.026 nm)	0.004779	ppm	0.000756	15.81	17.889600	Y 242.219
Si (288.158 nm)	12.205500 o	ppm	0.047482	0.39	100695.000000	Y 377.433
Sn (189.925 nm)	0.000566 u	ppm	0.001386	> 100.00	8.975770	Y 377.433
Sr (421.552 nm)	7.796191 o	ppm	0.120059	1.54	1607023.733109	Y_R 488.368
Th (288.505 nm)	0.002056 u	ppm	0.003063	> 100.00	86.610000	Y 377.433
Ti (336.122 nm)	0.003059	ppm	0.000067	2.20	2070.530000	Y 377.433
Tl (190.794 nm)	0.005854	ppm	0.000565	9.65	5.267420	Y 377.433
U (409.013 nm)	0.002903	ppm	0.001055	36.36	-277.521000	Y 377.433
V (292.401 nm)	0.002609	ppm	0.000296	11.34	117.348000	Y 377.433
Zn (206.200 nm)	0.012366	ppm	0.000399	3.22	60.493000	Y 377.433
Zr (343.823 nm)	0.001462	ppm	0.000082	5.58	204.984000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.957894	18097.505331	0.005717	0.60
Y 377.433	0.963008	977289.419107	0.009708	1.01
Y_R 377.433	1.014100	77925.500000	0.033786	3.33
Y_R 488.368	1.046630	45920.600000	0.029620	2.83
Y_R2 488.368	1.059035	91440.366933	0.008699	0.82

Sample Name: 280-115845-B-6-A

Date: 10/29/2018 2:44:28 PM Rack:Tube: 1:40

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000286	ppm	0.000194	67.68	-424.753000	Y 377.433
Al (167.019 nm)	0.008784	ppm	0.000045	0.51	5.653420	Y_R 377.433
Al H (396.152 nm)	0.049732 u	ppm	0.003354	6.74	480.523685	Y_R 377.433
As (188.980 nm)	0.003756	ppm	0.000604	16.09	1.932890	Y 242.219
B (249.678 nm)	5.677740 o	ppm	0.014226	0.25	134765.000000	Y 242.219
Ba (493.408 nm)	0.016378	ppm	0.000569	3.48	2592.490000	Y_R 488.368
Be (234.861 nm)	0.000174	ppm	0.000017	9.75	-9.996270	Y_R 488.368
Bi (223.061 nm)	0.002321	ppm	0.001173	50.52	13.014500	Y 377.433
Ca (315.887 nm)	631.376433 o	ppm	2.308992	0.37	485699.564259	Y_R 377.433
Cd (214.439 nm)	0.000269	ppm	0.000166	61.46	13.788600	Y 377.433
Co (228.615 nm)	0.000530	ppm	0.000391	73.76	-25.030300	Y 242.219
Cr (205.560 nm)	0.000288	ppm	0.000123	42.60	5.851280	Y 377.433
Cu (324.754 nm)	-0.001576 u	ppm	0.000243	15.40	-770.797000	Y 377.433
Fe (238.204 nm)	0.016849	ppm	0.001224	7.27	77.421486	Y_R 377.433
Fe H (259.940 nm)	-0.072785 u	ppm	0.002480	3.41	19.552700	Y_R 377.433
K (766.491 nm)	33.300700	ppm	0.026083	0.08	36717.100000	Y_R2 488.368
Li (670.783 nm)	1.490460	ppm	0.000410	0.03	47039.400000	Y_R2 488.368
Mg (279.078 nm)	243.306000 o	ppm	0.143158	0.06	1338480.000000	Y 377.433
Mn (257.610 nm)	0.524551	ppm	0.000037	0.01	118444.000000	Y 377.433
Mo (202.032 nm)	0.013566	ppm	0.000442	3.26	110.817000	Y 377.433
Na (589.592 nm)	1386.770000 o	ppm	3.964260	0.29	8788170.000000	Y_R2 488.368
Na H (589.593 nm)	1349.729149	ppm	16.558556	1.23	4959058.779112	Y_R 488.368
Ni (231.604 nm)	0.007571	ppm	0.000473	6.25	47.159300	Y 377.433
P (213.618 nm)	0.009817	ppm	0.000395	4.02	47.103900	Y 242.219
Pb (220.353 nm)	-0.000038 u	ppm	0.001905	> 100.00	4.019570	Y 242.219
S (181.972 nm)	1106.492574 bo	ppm	0.731696	0.07	538988.485590	Y 377.433
Sb (206.834 nm)	-0.002685 u	ppm	0.002797	> 100.00	-27.803400	Y 377.433
Se (196.026 nm)	0.003033	ppm	0.001034	34.10	16.710900	Y 242.219
Si (288.158 nm)	14.645800 o	ppm	0.121903	0.83	120624.000000	Y 377.433
Sn (189.925 nm)	-0.000547 u	ppm	0.001316	> 100.00	6.852670	Y 377.433
Sr (421.552 nm)	14.456909 bo	ppm	0.177171	1.23	2979868.607145	Y_R 488.368
Th (288.505 nm)	0.004876	ppm	0.000495	10.14	102.567000	Y 377.433
Ti (336.122 nm)	-0.000662 u	ppm	0.000184	27.78	1563.860000	Y 377.433
Tl (190.794 nm)	0.005042	ppm	0.003067	60.83	3.556890	Y 377.433
U (409.013 nm)	0.168544	ppm	0.008633	5.12	456.763000	Y 377.433
V (292.401 nm)	0.002377	ppm	0.000155	6.51	101.421000	Y 377.433
Zn (206.200 nm)	0.016451	ppm	0.001584	9.63	80.920300	Y 377.433
Zr (343.823 nm)	0.000766	ppm	0.000044	5.73	111.954000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.909469	17182.597635	0.003827	0.42
Y 377.433	0.926884	940629.159862	0.004674	0.50
Y_R 377.433	1.017370	78176.800000	0.007959	0.78
Y_R 488.368	1.046100	45897.400000	0.019238	1.84
Y_R2 488.368	0.959548	82850.321420	0.006398	0.67

Sample Name: CCVH-5380945

Date: 10/29/2018 2:47:52 PM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.002484 u	ppm	0.000061	2.46	-781.962000	Y 377.433
Al (167.019 nm)	49.055500 o	ppm	0.287607	0.59	25949.200000	Y_R 377.433
Al H (396.152 nm)	50.799961	ppm	0.218702	0.43	128314.337807	Y_R 377.433
As (188.980 nm)	0.002679	ppm	0.001830	68.30	0.213087	Y 242.219
B (249.678 nm)	0.005503	ppm	0.000298	5.41	151.228000	Y 242.219
Ba (493.408 nm)	0.000226	ppm	0.000120	52.85	645.890000	Y_R 488.368
Be (234.861 nm)	0.000232	ppm	0.000126	54.50	1534.600000	Y_R 488.368
Bi (223.061 nm)	1.016060	ppm	0.001432	0.14	2479.200000	Y 377.433
Ca (315.887 nm)	0.030946	ppm	0.008655	27.97	-40.650020	Y_R 377.433
Cd (214.439 nm)	-0.000279 u	ppm	0.000078	27.87	29.070100	Y 377.433
Co (228.615 nm)	0.003029	ppm	0.000403	13.30	18.249800	Y 242.219
Cr (205.560 nm)	-0.000388 u	ppm	0.000123	31.77	-17.361300	Y 377.433
Cu (324.754 nm)	-0.008013 u	ppm	0.000164	2.04	-429.752000	Y 377.433
Fe (238.204 nm)	51.229092 o	ppm	0.257842	0.50	184882.778464	Y_R 377.433
Fe H (259.940 nm)	51.480000	ppm	0.265337	0.52	94145.700000	Y_R 377.433
K (766.491 nm)	0.044571	ppm	0.051360	> 100.00	-639.079000	Y_R2 488.368
Li (670.783 nm)	0.000927	ppm	0.000997	> 100.00	-1354.870000	Y_R2 488.368
Mg (279.078 nm)	-0.013579 u	ppm	0.000867	6.38	-382.748000	Y 377.433
Mn (257.610 nm)	0.001473	ppm	0.000001	0.04	393.963000	Y 377.433
Mo (202.032 nm)	-0.000108 u	ppm	0.000177	> 100.00	-3.308370	Y 377.433
Na (589.592 nm)	234.155000 o	ppm	0.626548	0.27	1484380.000000	Y_R2 488.368
Na H (589.593 nm)	240.166470	ppm	3.002885	1.25	885013.886178	Y_R 488.368
Ni (231.604 nm)	0.003406	ppm	0.000552	16.20	21.923500	Y 377.433
P (213.618 nm)	-0.003538 u	ppm	0.003786	> 100.00	19.624000	Y 242.219
Pb (220.353 nm)	-0.003093 u	ppm	0.001515	48.98	11.811300	Y 242.219
S (181.972 nm)	5.164772	ppm	0.020984	0.41	2546.743159	Y 377.433
Sb (206.834 nm)	-0.006940 u	ppm	0.000408	5.88	-83.234700	Y 377.433
Se (196.026 nm)	-0.000831 u	ppm	0.003016	> 100.00	4.049590	Y 242.219
Si (288.158 nm)	0.002241	ppm	0.000715	31.90	1035.920000	Y 377.433
Sn (189.925 nm)	0.001498	ppm	0.001120	74.74	10.753700	Y 377.433
Sr (421.552 nm)	0.001068	ppm	0.000037	3.50	365.778147	Y_R 488.368
Th (288.505 nm)	5.077880	ppm	0.004619	0.09	12772.800000	Y 377.433
Ti (336.122 nm)	0.001838	ppm	0.000135	7.32	-29.504700	Y 377.433
Tl (190.794 nm)	-0.005290 u	ppm	0.000272	5.14	-19.768600	Y 377.433
U (409.013 nm)	10.421700	ppm	0.013244	0.13	46185.400000	Y 377.433
V (292.401 nm)	0.002366	ppm	0.000208	8.81	-58.087600	Y 377.433
Zn (206.200 nm)	0.001025	ppm	0.000167	16.32	3.782730	Y 377.433
Zr (343.823 nm)	-0.004728 u	ppm	0.000095	2.01	-450.691000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.964026	18213.357602	0.002261	0.23
Y 377.433	0.958507	972721.400468	0.001435	0.15
Y_R 377.433	0.970814	74599.100000	0.004990	0.51
Y_R 488.368	1.004230	44060.500000	0.014680	1.46
Y_R2 488.368	1.002198	86532.936216	0.003312	0.33

Sample Name: CCV-5391053

Date: 10/29/2018 2:51:15 PM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.494675	ppm	0.000730	0.15	21498.600000	Y 377.433
Al (167.019 nm)	0.540143	ppm	0.004054	0.75	287.997000	Y_R 377.433
Al H (396.152 nm)	0.501075 u	ppm	0.006404	1.28	1385.010315	Y_R 377.433
As (188.980 nm)	1.012740	ppm	0.001136	0.11	1212.370000	Y 242.219
B (249.678 nm)	0.500958	ppm	0.000819	0.16	11992.500000	Y 242.219
Ba (493.408 nm)	0.503092	ppm	0.001714	0.34	58166.500000	Y_R 488.368
Be (234.861 nm)	0.479276	ppm	0.001307	0.27	137619.000000	Y_R 488.368
Bi (223.061 nm)	-0.003402 u	ppm	0.000073	2.15	-0.458202	Y 377.433
Ca (315.887 nm)	5.094798	ppm	0.014670	0.29	3855.613620	Y_R 377.433
Cd (214.439 nm)	0.503177	ppm	0.000368	0.07	28741.300000	Y 377.433
Co (228.615 nm)	0.508991	ppm	0.000089	0.02	8792.310000	Y 242.219
Cr (205.560 nm)	0.509568	ppm	0.003283	0.64	7426.030000	Y 377.433
Cu (324.754 nm)	0.494916	ppm	0.000035	0.01	26075.600000	Y 377.433
Fe (238.204 nm)	2.592878	ppm	0.014938	0.58	9373.322074	Y_R 377.433
Fe H (259.940 nm)	2.533350 u	ppm	0.018133	0.72	4777.890000	Y_R 377.433
K (766.491 nm)	49.414000	ppm	0.133619	0.27	54816.900000	Y_R2 488.368
Li (670.783 nm)	0.985157	ppm	0.004732	0.48	30622.200000	Y_R2 488.368
Mg (279.078 nm)	19.416900	ppm	0.022477	0.12	106845.000000	Y 377.433
Mn (257.610 nm)	0.505423	ppm	0.000803	0.16	114127.000000	Y 377.433
Mo (202.032 nm)	0.506919	ppm	0.001795	0.35	4228.540000	Y 377.433
Na (589.592 nm)	4.927700	ppm	0.078561	1.59	32819.700000	Y_R2 488.368
Na H (589.593 nm)	5.663835 u	ppm	0.054012	0.95	24454.937713	Y_R 488.368
Ni (231.604 nm)	0.507088	ppm	0.000237	0.05	3313.670000	Y 377.433
P (213.618 nm)	0.926337	ppm	0.006320	0.68	1932.850000	Y 242.219
Pb (220.353 nm)	1.003980	ppm	0.001925	0.19	2802.750000	Y 242.219
S (181.972 nm)	0.068869	ppm	0.010954	15.91	65.749235	Y 377.433
Sb (206.834 nm)	1.014890	ppm	0.001970	0.19	2676.080000	Y 377.433
Se (196.026 nm)	1.003030	ppm	0.003358	0.33	956.004000	Y 242.219
Si (288.158 nm)	4.980480	ppm	0.010047	0.20	41691.000000	Y 377.433
Sn (189.925 nm)	0.990327	ppm	0.003520	0.36	1897.200000	Y 377.433
Sr (421.552 nm)	0.484762	ppm	0.002129	0.44	100060.344790	Y_R 488.368
Th (288.505 nm)	0.003988	ppm	0.001097	27.50	102.943000	Y 377.433
Ti (336.122 nm)	0.511523	ppm	0.000442	0.09	71167.400000	Y 377.433
Tl (190.794 nm)	1.024400	ppm	0.001250	0.12	2177.950000	Y 377.433
U (409.013 nm)	0.000491 u	ppm	0.003264	> 100.00	-208.844000	Y 377.433
V (292.401 nm)	0.503718	ppm	0.000241	0.05	17598.600000	Y 377.433
Zn (206.200 nm)	0.500091	ppm	0.001778	0.36	2499.400000	Y 377.433
Zr (343.823 nm)	0.510412	ppm	0.000046	0.01	65706.000000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.975475	18429.667932	0.003030	0.31
Y 377.433	0.975852	990323.618355	0.004129	0.42
Y_R 377.433	0.993009	76304.600000	0.003265	0.33
Y_R 488.368	1.019960	44750.700000	0.000275	0.03
Y_R2 488.368	1.021818	88226.946411	0.005183	0.51

Sample Name: CCB

Date: 10/29/2018 2:54:37 PM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000356 u	ppm	0.000057	15.87	-449.113000	Y 377.433
Al (167.019 nm)	-0.001869 u	ppm	0.002465	> 100.00	0.015676	Y_R 377.433
Al H (396.152 nm)	-0.024725 u	ppm	0.003377	13.66	15.397915	Y_R 377.433
As (188.980 nm)	0.001242	ppm	0.001601	> 100.00	-1.081920	Y 242.219
B (249.678 nm)	0.003985	ppm	0.000681	17.08	187.731000	Y 242.219
Ba (493.408 nm)	-0.000310 u	ppm	0.000335	> 100.00	537.781000	Y_R 488.368
Be (234.861 nm)	0.000041	ppm	0.000001	1.66	-48.036600	Y_R 488.368
Bi (223.061 nm)	0.004414	ppm	0.000668	15.14	18.086100	Y 377.433
Ca (315.887 nm)	0.002819 u	ppm	0.010460	> 100.00	-62.290457	Y_R 377.433
Cd (214.439 nm)	0.000097	ppm	0.000038	39.62	3.912130	Y 377.433
Co (228.615 nm)	0.000101 u	ppm	0.000191	> 100.00	-32.454900	Y 242.219
Cr (205.560 nm)	-0.000329 u	ppm	0.000106	32.19	-3.118500	Y 377.433
Cu (324.754 nm)	-0.000707 u	ppm	0.000108	15.25	-349.125000	Y 377.433
Fe (238.204 nm)	0.000635	ppm	0.000230	36.25	18.911538	Y_R 377.433
Fe H (259.940 nm)	-0.078664 u	ppm	0.001273	1.62	8.817540	Y_R 377.433
K (766.491 nm)	0.063631	ppm	0.043962	69.09	-617.669000	Y_R2 488.368
Li (670.783 nm)	0.000358 u	ppm	0.001930	> 100.00	-1373.370000	Y_R2 488.368
Mg (279.078 nm)	0.003473	ppm	0.001528	44.00	53.592700	Y 377.433
Mn (257.610 nm)	0.000018	ppm	0.000002	10.49	65.582900	Y 377.433
Mo (202.032 nm)	0.000182	ppm	0.000164	90.13	-0.890593	Y 377.433
Na (589.592 nm)	0.058328	ppm	0.005292	9.07	989.192000	Y_R2 488.368
Na H (589.593 nm)	0.397676 u	ppm	0.015435	3.88	4645.928285	Y_R 488.368
Ni (231.604 nm)	-0.000583 u	ppm	0.000522	89.59	-6.147730	Y 377.433
P (213.618 nm)	-0.002385 u	ppm	0.000380	15.92	21.997500	Y 242.219
Pb (220.353 nm)	-0.000320 u	ppm	0.000241	75.15	2.920470	Y 242.219
S (181.972 nm)	0.028380	ppm	0.002167	7.64	44.878448	Y 377.433
Sb (206.834 nm)	0.001791	ppm	0.000497	27.76	-15.421000	Y 377.433
Se (196.026 nm)	-0.002846 u	ppm	0.000941	33.05	10.791800	Y 242.219
Si (288.158 nm)	-0.020752 u	ppm	0.000460	2.22	848.155000	Y 377.433
Sn (189.925 nm)	-0.000745 u	ppm	0.000666	89.36	6.475100	Y 377.433
Sr (421.552 nm)	-0.000102 u	ppm	0.000096	93.76	124.544432	Y_R 488.368
Th (288.505 nm)	0.000237 u	ppm	0.005546	> 100.00	78.051400	Y 377.433
Ti (336.122 nm)	0.000258	ppm	0.000009	3.55	-250.529000	Y 377.433
Tl (190.794 nm)	0.000838	ppm	0.000234	27.92	-5.388080	Y 377.433
U (409.013 nm)	0.000417 u	ppm	0.001554	> 100.00	-172.339000	Y 377.433
V (292.401 nm)	-0.000186 u	ppm	0.000053	28.30	18.101700	Y 377.433
Zn (206.200 nm)	0.000397	ppm	0.000313	78.83	0.641945	Y 377.433
Zr (343.823 nm)	0.000140	ppm	0.000027	19.00	31.402700	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.977825	18474.048984	0.000822	0.08
Y 377.433	0.981341	995894.141975	0.003169	0.32
Y_R 377.433	0.994941	76453.100000	0.001454	0.15
Y_R 488.368	1.023960	44926.000000	0.003119	0.30
Y_R2 488.368	1.023600	88380.825957	0.003630	0.35

Sample Name: CCVL-5398386

Date: 10/29/2018 2:58:01 PM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.008516	ppm	0.000085	1.00	-55.621800	Y 377.433
Al (167.019 nm)	0.111502	ppm	0.003107	2.79	59.978400	Y_R 377.433
Al H (396.152 nm)	0.076690 u	ppm	0.003329	4.34	272.953026	Y_R 377.433
As (188.980 nm)	0.016130	ppm	0.000205	1.27	16.777200	Y 242.219
B (249.678 nm)	0.101096	ppm	0.000145	0.14	2491.370000	Y 242.219
Ba (493.408 nm)	0.010362	ppm	0.000222	2.15	1759.340000	Y_R 488.368
Be (234.861 nm)	0.001015	ppm	0.000029	2.83	234.364000	Y_R 488.368
Bi (223.061 nm)	0.102217	ppm	0.003130	3.06	255.259000	Y 377.433
Ca (315.887 nm)	0.216109	ppm	0.000791	0.37	101.812109	Y_R 377.433
Cd (214.439 nm)	0.005289	ppm	0.000015	0.29	300.617000	Y 377.433
Co (228.615 nm)	0.010940	ppm	0.000044	0.40	155.469000	Y 242.219
Cr (205.560 nm)	0.010067	ppm	0.000406	4.04	148.400000	Y 377.433
Cu (324.754 nm)	0.014335	ppm	0.000285	1.99	450.819000	Y 377.433
Fe (238.204 nm)	0.109320	ppm	0.001722	1.58	411.111716	Y_R 377.433
Fe H (259.940 nm)	0.026950 u	ppm	0.000453	1.68	201.649000	Y_R 377.433
K (766.491 nm)	3.169340	ppm	0.030916	0.98	2870.930000	Y_R2 488.368
Li (670.783 nm)	0.023784	ppm	0.000209	0.88	-612.255000	Y_R2 488.368
Mg (279.078 nm)	0.198655	ppm	0.000516	0.26	1126.170000	Y 377.433
Mn (257.610 nm)	0.010427	ppm	0.000046	0.44	2414.610000	Y 377.433
Mo (202.032 nm)	0.018923	ppm	0.000119	0.63	155.531000	Y 377.433
Na (589.592 nm)	1.066200	ppm	0.005246	0.49	7395.560000	Y_R2 488.368
Na H (589.593 nm)	1.341635 u	ppm	0.121481	9.05	8121.510143	Y_R 488.368
Ni (231.604 nm)	0.041995	ppm	0.000011	0.03	272.196000	Y 377.433
P (213.618 nm)	2.743460 o	ppm	0.004395	0.16	5671.590000	Y 242.219
Pb (220.353 nm)	0.008646	ppm	0.000051	0.59	27.936800	Y 242.219
S (181.972 nm)	0.113554	ppm	0.000325	0.29	86.388767	Y 377.433
Sb (206.834 nm)	0.020506	ppm	0.001390	6.78	34.190300	Y 377.433
Se (196.026 nm)	0.016029	ppm	0.000929	5.79	28.519000	Y 242.219
Si (288.158 nm)	0.466524	ppm	0.001683	0.36	4827.520000	Y 377.433
Sn (189.925 nm)	0.095884	ppm	0.000604	0.63	190.819000	Y 377.433
Sr (421.552 nm)	0.009794	ppm	0.000022	0.23	2164.262665	Y_R 488.368
Th (288.505 nm)	0.013521	ppm	0.000633	4.68	111.999000	Y 377.433
Ti (336.122 nm)	0.010725	ppm	0.000028	0.26	1211.940000	Y 377.433
Tl (190.794 nm)	0.017495	ppm	0.000250	1.43	30.116600	Y 377.433
U (409.013 nm)	0.062103	ppm	0.004126	6.64	100.748000	Y 377.433
V (292.401 nm)	0.009892	ppm	0.000019	0.19	367.605000	Y 377.433
Zn (206.200 nm)	0.021361	ppm	0.000310	1.45	105.470000	Y 377.433
Zr (343.823 nm)	0.015117	ppm	0.000098	0.65	1959.070000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.997768	18850.832492	0.002984	0.30
Y 377.433	0.995714	1010480.089972	0.004034	0.41
Y_R 377.433	1.018970	78299.400000	0.006350	0.62
Y_R 488.368	1.042710	45748.600000	0.002391	0.23
Y_R2 488.368	1.042626	90023.532161	0.003878	0.37

Sample Name: 280-115845-A-8-C

Date: 10/29/2018 3:01:24 PM Rack:Tube: 1:41

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000305 u	ppm	0.000319	> 100.00	-446.878000	Y 377.433
Al (167.019 nm)	0.005133	ppm	0.000943	18.38	3.720580	Y_R 377.433
Al H (396.152 nm)	-0.024232 u	ppm	0.000003	0.01	16.655218	Y_R 377.433
As (188.980 nm)	-0.000629 u	ppm	0.000791	> 100.00	-3.326620	Y 242.219
B (249.678 nm)	0.003144	ppm	0.000267	8.49	167.779000	Y 242.219
Ba (493.408 nm)	-0.000070 u	ppm	0.000010	14.02	565.239000	Y_R 488.368
Be (234.861 nm)	0.000058	ppm	0.000024	40.94	-42.805700	Y_R 488.368
Bi (223.061 nm)	0.003259	ppm	0.000631	19.37	15.288400	Y 377.433
Ca (315.887 nm)	0.013783	ppm	0.005781	41.94	-53.855009	Y_R 377.433
Cd (214.439 nm)	0.000073	ppm	0.000038	52.02	2.574070	Y 377.433
Co (228.615 nm)	0.000463	ppm	0.000012	2.68	-26.184300	Y 242.219
Cr (205.560 nm)	-0.000003 u	ppm	0.000129	> 100.00	1.636720	Y 377.433
Cu (324.754 nm)	-0.000620 u	ppm	0.000506	81.53	-344.687000	Y 377.433
Fe (238.204 nm)	0.009368	ppm	0.000220	2.35	50.425126	Y_R 377.433
Fe H (259.940 nm)	-0.068213 u	ppm	0.002246	3.29	27.899800	Y_R 377.433
K (766.491 nm)	0.040762	ppm	0.028361	69.58	-643.358000	Y_R2 488.368
Li (670.783 nm)	0.001506	ppm	0.000813	53.99	-1336.080000	Y_R2 488.368
Mg (279.078 nm)	0.001626	ppm	0.000051	3.12	43.344500	Y 377.433
Mn (257.610 nm)	0.000054	ppm	0.000031	56.80	73.709800	Y 377.433
Mo (202.032 nm)	0.000577	ppm	0.000096	16.63	2.409030	Y 377.433
Na (589.592 nm)	0.064641	ppm	0.014513	22.45	1028.870000	Y_R2 488.368
Na H (589.593 nm)	0.163368 u	ppm	0.013301	8.14	3785.451162	Y_R 488.368
Ni (231.604 nm)	0.000023 u	ppm	0.000105	> 100.00	-2.186450	Y 377.433
P (213.618 nm)	-0.002123 u	ppm	0.000636	29.96	22.536100	Y 242.219
Pb (220.353 nm)	-0.000827 u	ppm	0.000978	> 100.00	1.515820	Y 242.219
S (181.972 nm)	0.015652	ppm	0.001791	11.45	38.678619	Y 377.433
Sb (206.834 nm)	0.000561 u	ppm	0.001231	> 100.00	-18.684600	Y 377.433
Se (196.026 nm)	-0.001513 u	ppm	0.000989	65.37	12.042300	Y 242.219
Si (288.158 nm)	-0.017041 u	ppm	0.000820	4.81	878.459000	Y 377.433
Sn (189.925 nm)	-0.000184 u	ppm	0.001371	> 100.00	7.543970	Y 377.433
Sr (421.552 nm)	-0.000079 u	ppm	0.000150	> 100.00	129.303615	Y_R 488.368
Th (288.505 nm)	-0.001415 u	ppm	0.000603	42.58	74.023500	Y 377.433
Ti (336.122 nm)	0.000789	ppm	0.000049	6.19	-176.281000	Y 377.433
Tl (190.794 nm)	0.002077	ppm	0.001516	72.97	-2.743670	Y 377.433
U (409.013 nm)	-0.002461 u	ppm	0.001350	54.85	-185.105000	Y 377.433
V (292.401 nm)	-0.000110 u	ppm	0.000330	> 100.00	20.580800	Y 377.433
Zn (206.200 nm)	0.001756	ppm	0.000228	12.98	7.438090	Y 377.433
Zr (343.823 nm)	-0.000022 u	ppm	0.000011	49.53	10.622500	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.993693	18773.848192	0.001673	0.17
Y 377.433	0.992572	1007291.383878	0.001472	0.15
Y_R 377.433	1.008410	77488.100000	0.002501	0.25
Y_R 488.368	1.039910	45625.900000	0.014487	1.39
Y_R2 488.368	1.034872	89354.054371	0.004271	0.41

Sample Name: 280-115924-E-6-B

Date: 10/29/2018 3:04:47 PM Rack:Tube: 1:42

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000482	ppm	0.000097	20.06	-412.284000	Y 377.433
Al (167.019 nm)	0.014976	ppm	0.001949	13.01	8.927190	Y_R 377.433
Al H (396.152 nm)	0.017113 u	ppm	0.000009	0.05	169.642424	Y_R 377.433
As (188.980 nm)	0.004181	ppm	0.003200	76.53	2.443540	Y 242.219
B (249.678 nm)	0.056414	ppm	0.000129	0.23	1431.270000	Y 242.219
Ba (493.408 nm)	0.134912	ppm	0.000276	0.20	16039.500000	Y_R 488.368
Be (234.861 nm)	0.000083	ppm	0.000014	16.31	-35.987000	Y_R 488.368
Bi (223.061 nm)	-0.000110 u	ppm	0.001719	> 100.00	7.120810	Y 377.433
Ca (315.887 nm)	109.071168 o	ppm	0.370508	0.34	83851.960173	Y_R 377.433
Cd (214.439 nm)	0.000085	ppm	0.000036	41.74	3.272640	Y 377.433
Co (228.615 nm)	-0.000515 u	ppm	0.000106	20.60	-43.116500	Y 242.219
Cr (205.560 nm)	0.109907	ppm	0.000398	0.36	1604.200000	Y 377.433
Cu (324.754 nm)	0.001414	ppm	0.000256	18.08	-296.440000	Y 377.433
Fe (238.204 nm)	0.020635	ppm	0.000350	1.69	91.081708	Y_R 377.433
Fe H (259.940 nm)	-0.062888 u	ppm	0.002990	4.75	37.621500	Y_R 377.433
K (766.491 nm)	2.330940	ppm	0.050766	2.18	1929.170000	Y_R2 488.368
Li (670.783 nm)	0.007826	ppm	0.001022	13.06	-1130.750000	Y_R2 488.368
Mg (279.078 nm)	48.261800 o	ppm	0.095944	0.20	265528.000000	Y 377.433
Mn (257.610 nm)	0.036646	ppm	0.000081	0.22	8331.860000	Y 377.433
Mo (202.032 nm)	0.011150	ppm	0.000027	0.24	90.659000	Y 377.433
Na (589.592 nm)	10.526100	ppm	0.060354	0.57	67582.200000	Y_R2 488.368
Na H (589.593 nm)	11.193475	ppm	0.058422	0.52	44412.525553	Y_R 488.368
Ni (231.604 nm)	0.006286	ppm	0.000349	5.55	38.753800	Y 377.433
P (213.618 nm)	0.088094	ppm	0.003538	4.02	208.158000	Y 242.219
Pb (220.353 nm)	0.000751	ppm	0.000264	35.14	5.856970	Y 242.219
S (181.972 nm)	27.461113 o	ppm	0.001031	0.00	13407.041704	Y 377.433
Sb (206.834 nm)	-0.001612 u	ppm	0.000873	54.15	-21.191800	Y 377.433
Se (196.026 nm)	-0.001301 u	ppm	0.001066	81.90	12.268000	Y 242.219
Si (288.158 nm)	7.926290	ppm	0.002806	0.04	65748.200000	Y 377.433
Sn (189.925 nm)	0.001385	ppm	0.001751	> 100.00	10.538200	Y 377.433
Sr (421.552 nm)	0.247247	ppm	0.001183	0.48	51105.985158	Y_R 488.368
Th (288.505 nm)	-0.002548 u	ppm	0.002808	> 100.00	72.010100	Y 377.433
Ti (336.122 nm)	0.000503	ppm	0.000058	11.55	119.955000	Y 377.433
Tl (190.794 nm)	0.001124	ppm	0.000384	34.18	-4.804630	Y 377.433
U (409.013 nm)	-0.008760 u	ppm	0.000214	2.45	-233.524000	Y 377.433
V (292.401 nm)	0.000434	ppm	0.000063	14.52	14.824500	Y 377.433
Zn (206.200 nm)	0.002261	ppm	0.000026	1.14	9.961070	Y 377.433
Zr (343.823 nm)	0.000142	ppm	0.000093	65.44	31.720000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.969034	18307.967730	0.001862	0.19
Y 377.433	0.975703	990172.720445	0.001904	0.20
Y_R 377.433	1.002220	77012.500000	0.006409	0.64
Y_R 488.368	1.026640	45043.700000	0.009303	0.91
Y_R2 488.368	1.041901	89961.002477	0.010142	0.97

Sample Name: Bottle 115924-E-6-B

Date: 10/29/2018 3:08:09 PM Rack:Tube: 1:43

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000814	ppm	0.000087	10.64	-397.579000	Y 377.433
Al (167.019 nm)	0.003753	ppm	0.000744	19.83	2.991170	Y_R 377.433
Al H (396.152 nm)	0.001123 u	ppm	0.012799	> 100.00	126.391150	Y_R 377.433
As (188.980 nm)	0.005763	ppm	0.002906	50.42	4.341360	Y 242.219
B (249.678 nm)	0.052616	ppm	0.000025	0.05	1341.210000	Y 242.219
Ba (493.408 nm)	0.124455	ppm	0.001664	1.34	14841.200000	Y_R 488.368
Be (234.861 nm)	0.000178	ppm	0.000012	6.87	-8.843620	Y_R 488.368
Bi (223.061 nm)	0.001942	ppm	0.000448	23.04	12.094600	Y 377.433
Ca (315.887 nm)	102.868172 o	ppm	1.373633	1.34	79079.542089	Y_R 377.433
Cd (214.439 nm)	0.000042 u	ppm	0.000082	> 100.00	0.785007	Y 377.433
Co (228.615 nm)	-0.000075 u	ppm	0.000132	> 100.00	-35.496500	Y 242.219
Cr (205.560 nm)	0.102611	ppm	0.000422	0.41	1497.820000	Y 377.433
Cu (324.754 nm)	0.001285	ppm	0.000176	13.66	-300.656000	Y 377.433
Fe (238.204 nm)	0.009509	ppm	0.002039	21.44	50.932127	Y_R 377.433
Fe H (259.940 nm)	-0.070679 u	ppm	0.003652	5.17	23.397300	Y_R 377.433
K (766.491 nm)	2.142270	ppm	0.032463	1.52	1717.240000	Y_R2 488.368
Li (670.783 nm)	0.008172	ppm	0.000636	7.78	-1119.510000	Y_R2 488.368
Mg (279.078 nm)	45.947000 o	ppm	0.031648	0.07	252794.000000	Y 377.433
Mn (257.610 nm)	0.034805	ppm	0.000079	0.23	7916.380000	Y 377.433
Mo (202.032 nm)	0.009585	ppm	0.000259	2.70	77.597200	Y 377.433
Na (589.592 nm)	9.932010	ppm	0.025590	0.26	63797.100000	Y_R2 488.368
Na H (589.593 nm)	10.433103	ppm	0.032535	0.31	41610.673634	Y_R 488.368
Ni (231.604 nm)	0.005686	ppm	0.000684	12.02	34.831200	Y 377.433
P (213.618 nm)	0.086299	ppm	0.000273	0.32	204.466000	Y 242.219
Pb (220.353 nm)	-0.000076 u	ppm	0.001967	> 100.00	3.560020	Y 242.219
S (181.972 nm)	27.453972 o	ppm	0.000315	0.00	13403.559306	Y 377.433
Sb (206.834 nm)	-0.003093 u	ppm	0.002669	86.31	-25.327200	Y 377.433
Se (196.026 nm)	-0.003271 u	ppm	0.000157	4.81	10.417500	Y 242.219
Si (288.158 nm)	7.820240	ppm	0.012873	0.16	64882.100000	Y 377.433
Sn (189.925 nm)	0.001588	ppm	0.001523	95.89	10.925700	Y 377.433
Sr (421.552 nm)	0.229277	ppm	0.002072	0.90	47402.171435	Y_R 488.368
Th (288.505 nm)	0.002447	ppm	0.001776	72.56	84.272000	Y 377.433
Ti (336.122 nm)	0.001224	ppm	0.000044	3.61	201.138000	Y 377.433
Tl (190.794 nm)	0.000856	ppm	0.000081	9.44	-5.372900	Y 377.433
U (409.013 nm)	-0.002521 u	ppm	0.002560	> 100.00	-204.627000	Y 377.433
V (292.401 nm)	0.000344	ppm	0.000092	26.78	13.126700	Y 377.433
Zn (206.200 nm)	0.000726	ppm	0.000303	41.70	2.286780	Y 377.433
Zr (343.823 nm)	-0.000015 u	ppm	0.000054	> 100.00	11.498700	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.990297	18709.690712	0.002021	0.20
Y 377.433	0.999526	1014348.191370	0.001683	0.17
Y_R 377.433	1.046310	80400.200000	0.011799	1.13
Y_R 488.368	1.074680	47151.300000	0.015841	1.47
Y_R2 488.368	1.074358	92763.377712	0.008024	0.75

Sample Name: MB 280-434510/1-A

Date: 10/29/2018 3:11:33 PM Rack:Tube: 1:44

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000241 u	ppm	0.000200	83.08	-444.048000	Y 377.433
Al (167.019 nm)	0.004723	ppm	0.001696	35.90	3.513810	Y_R 377.433
Al H (396.152 nm)	-0.025257 u	ppm	0.002914	11.54	14.074181	Y_R 377.433
As (188.980 nm)	0.000784	ppm	0.001074	> 100.00	-1.632050	Y 242.219
B (249.678 nm)	0.000803	ppm	0.000130	16.23	112.228000	Y 242.219
Ba (493.408 nm)	-0.000067 u	ppm	0.000031	46.06	565.702000	Y_R 488.368
Be (234.861 nm)	0.000056	ppm	0.000014	24.49	-42.954500	Y_R 488.368
Bi (223.061 nm)	0.002370	ppm	0.001418	59.86	13.133900	Y 377.433
Ca (315.887 nm)	0.024472	ppm	0.000655	2.68	-45.631371	Y_R 377.433
Cd (214.439 nm)	0.000061	ppm	0.000031	50.17	1.891200	Y 377.433
Co (228.615 nm)	-0.000115 u	ppm	0.000137	> 100.00	-36.190300	Y 242.219
Cr (205.560 nm)	-0.000025 u	ppm	0.000164	> 100.00	1.307410	Y 377.433
Cu (324.754 nm)	-0.000570 u	ppm	0.000085	14.99	-342.695000	Y 377.433
Fe (238.204 nm)	0.025165	ppm	0.001065	4.23	107.431104	Y_R 377.433
Fe H (259.940 nm)	-0.056724 u	ppm	0.001560	2.75	48.877200	Y_R 377.433
K (766.491 nm)	0.092705	ppm	0.011200	12.08	-585.010000	Y_R2 488.368
Li (670.783 nm)	0.003875	ppm	0.001191	30.74	-1259.090000	Y_R2 488.368
Mg (279.078 nm)	0.006197	ppm	0.001186	19.14	68.455900	Y 377.433
Mn (257.610 nm)	0.001090	ppm	0.000023	2.07	307.349000	Y 377.433
Mo (202.032 nm)	0.000623	ppm	0.000112	17.92	2.796410	Y 377.433
Na (589.592 nm)	0.056683	ppm	0.007406	13.07	978.491000	Y_R2 488.368
Na H (589.593 nm)	0.096159 u	ppm	0.010284	10.69	3538.701073	Y_R 488.368
Ni (231.604 nm)	-0.000854 u	ppm	0.000424	49.66	-7.923810	Y 377.433
P (213.618 nm)	-0.002040 u	ppm	0.001517	74.38	22.707600	Y 242.219
Pb (220.353 nm)	0.000358 u	ppm	0.000927	> 100.00	4.821990	Y 242.219
S (181.972 nm)	0.020345	ppm	0.004809	23.64	40.967122	Y 377.433
Sb (206.834 nm)	0.000598 u	ppm	0.002776	> 100.00	-18.579500	Y 377.433
Se (196.026 nm)	-0.002138 u	ppm	0.001980	92.59	11.452900	Y 242.219
Si (288.158 nm)	-0.014311 u	ppm	0.000755	5.28	900.750000	Y 377.433
Sn (189.925 nm)	0.006075	ppm	0.000110	1.81	19.485900	Y 377.433
Sr (421.552 nm)	-0.000003 u	ppm	0.000132	> 100.00	144.944130	Y_R 488.368
Th (288.505 nm)	-0.001133 u	ppm	0.000318	28.04	74.746500	Y 377.433
Ti (336.122 nm)	0.000902	ppm	0.000031	3.41	-160.542000	Y 377.433
Tl (190.794 nm)	-0.000033 u	ppm	0.001053	> 100.00	-7.249260	Y 377.433
U (409.013 nm)	-0.004721 u	ppm	0.001597	33.83	-195.145000	Y 377.433
V (292.401 nm)	-0.000236 u	ppm	0.000058	24.62	15.837500	Y 377.433
Zn (206.200 nm)	0.002767	ppm	0.000169	6.12	12.493400	Y 377.433
Zr (343.823 nm)	0.000031 u	ppm	0.000065	> 100.00	17.395900	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.993200	18764.546332	0.002023	0.20
Y 377.433	0.996782	1011564.216262	0.003034	0.30
Y_R 377.433	1.016600	78117.500000	0.001502	0.15
Y_R 488.368	1.039680	45615.800000	0.001547	0.15
Y_R2 488.368	1.056199	91195.508630	0.003956	0.37

Sample Name: LCS 280-434510/2-A

Date: 10/29/2018 3:14:56 PM Rack:Tube: 1:45

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.051698	ppm	0.000108	0.21	1833.750000	Y 377.433
Al (167.019 nm)	2.296600	ppm	0.025931	1.13	1215.000000	Y_R 377.433
Al H (396.152 nm)	2.083245	ppm	0.004713	0.23	5442.930643	Y_R 377.433
As (188.980 nm)	1.019500	ppm	0.011722	1.15	1220.490000	Y 242.219
B (249.678 nm)	1.060690	ppm	0.000981	0.09	25270.800000	Y 242.219
Ba (493.408 nm)	2.036680 o	ppm	0.011067	0.54	233689.000000	Y_R 488.368
Be (234.861 nm)	0.047826	ppm	0.000027	0.06	13650.200000	Y_R 488.368
Bi (223.061 nm)	2.029880	ppm	0.004739	0.23	4929.650000	Y 377.433
Ca (315.887 nm)	53.376436 o	ppm	0.163370	0.31	41001.988281	Y_R 377.433
Cd (214.439 nm)	0.101877	ppm	0.000007	0.01	5818.780000	Y 377.433
Co (228.615 nm)	0.505372	ppm	0.001862	0.37	8747.400000	Y 242.219
Cr (205.560 nm)	0.208920	ppm	0.000180	0.09	3045.360000	Y 377.433
Cu (324.754 nm)	0.249794	ppm	0.000126	0.05	13028.400000	Y 377.433
Fe (238.204 nm)	1.118224	ppm	0.000653	0.06	4051.861246	Y_R 377.433
Fe H (259.940 nm)	1.032950 u	ppm	0.002331	0.23	2038.430000	Y_R 377.433
K (766.491 nm)	51.199500	ppm	0.027373	0.05	56822.600000	Y_R2 488.368
Li (670.783 nm)	1.007470	ppm	0.001517	0.15	31347.200000	Y_R2 488.368
Mg (279.078 nm)	49.391200 o	ppm	0.082836	0.17	271687.000000	Y 377.433
Mn (257.610 nm)	0.511586	ppm	0.001545	0.30	115518.000000	Y 377.433
Mo (202.032 nm)	1.048080	ppm	0.003461	0.33	8745.240000	Y 377.433
Na (589.592 nm)	49.279900 o	ppm	0.064160	0.13	316834.000000	Y_R2 488.368
Na H (589.593 nm)	50.306635	ppm	0.114639	0.23	189812.375506	Y_R 488.368
Ni (231.604 nm)	0.494787	ppm	0.003818	0.77	3234.370000	Y 377.433
P (213.618 nm)	10.081700 o	ppm	0.025139	0.25	20770.000000	Y 242.219
Pb (220.353 nm)	0.509186	ppm	0.000842	0.17	1424.930000	Y 242.219
S (181.972 nm)	2.063518	ppm	0.002128	0.10	1037.326677	Y 377.433
Sb (206.834 nm)	0.526377	ppm	0.001940	0.37	1366.810000	Y 377.433
Se (196.026 nm)	2.072260	ppm	0.003502	0.17	1961.140000	Y 242.219
Si (288.158 nm)	10.232700	ppm	0.038289	0.37	84583.400000	Y 377.433
Sn (189.925 nm)	2.029210	ppm	0.007601	0.37	3879.120000	Y 377.433
Sr (421.552 nm)	0.981080	ppm	0.004011	0.41	202356.680102	Y_R 488.368
Th (288.505 nm)	1.035780	ppm	0.004401	0.42	2693.700000	Y 377.433
Ti (336.122 nm)	1.042050	ppm	0.001510	0.14	145408.000000	Y 377.433
Tl (190.794 nm)	2.080760	ppm	0.007455	0.36	4429.300000	Y 377.433
U (409.013 nm)	2.148220	ppm	0.007830	0.36	9324.530000	Y 377.433
V (292.401 nm)	0.523910	ppm	0.001553	0.30	18345.800000	Y 377.433
Zn (206.200 nm)	0.504732	ppm	0.000732	0.15	2522.610000	Y 377.433
Zr (343.823 nm)	0.518749	ppm	0.001389	0.27	66774.800000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.967981	18288.072657	0.002598	0.27
Y 377.433	0.972846	987272.804365	0.001415	0.15
Y_R 377.433	1.023480	78645.800000	0.001521	0.15
Y_R 488.368	1.061760	46584.600000	0.002112	0.20
Y_R2 488.368	1.022854	88316.380914	0.011640	1.14

Sample Name: 280-115842-A-1-A

Date: 10/29/2018 3:18:19 PM Rack:Tube: 1:46

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001280	ppm	0.000030	2.31	-377.140000	Y 377.433
Al (167.019 nm)	0.012626	ppm	0.000335	2.66	8.398850	Y_R 377.433
Al H (396.152 nm)	0.024648 u	ppm	0.000606	2.46	654.252174	Y_R 377.433
As (188.980 nm)	0.006616	ppm	0.002176	32.89	5.354500	Y 242.219
B (249.678 nm)	3.710760 o	ppm	0.004490	0.12	88107.700000	Y 242.219
Ba (493.408 nm)	0.029028	ppm	0.000404	1.39	4165.930000	Y_R 488.368
Be (234.861 nm)	0.000108	ppm	0.000005	5.10	5.055970	Y_R 488.368
Bi (223.061 nm)	0.002886	ppm	0.002199	76.18	14.562100	Y 377.433
Ca (315.887 nm)	1173.228374 o	ppm	2.631620	0.22	902585.855260	Y_R 377.433
Cd (214.439 nm)	0.000162	ppm	0.000119	73.57	8.693450	Y 377.433
Co (228.615 nm)	0.000829	ppm	0.000179	21.62	-19.862200	Y 242.219
Cr (205.560 nm)	0.003065	ppm	0.000014	0.47	46.063200	Y 377.433
Cu (324.754 nm)	-0.006179 u	ppm	0.000405	6.56	-1322.950000	Y 377.433
Fe (238.204 nm)	1.148572	ppm	0.002598	0.23	4161.376750	Y_R 377.433
Fe H (259.940 nm)	1.051940 u	ppm	0.003477	0.33	2073.100000	Y_R 377.433
K (766.491 nm)	15.440400	ppm	0.012210	0.08	16654.800000	Y_R2 488.368
Li (670.783 nm)	0.712794	ppm	0.002888	0.41	21773.300000	Y_R2 488.368
Mg (279.078 nm)	366.544000 o	ppm	0.833980	0.23	2016430.000000	Y 377.433
Mn (257.610 nm)	0.372474	ppm	0.000193	0.05	84122.900000	Y 377.433
Mo (202.032 nm)	0.005229	ppm	0.000076	1.45	41.237700	Y 377.433
Na (589.592 nm)	1825.590000 o	ppm	4.587730	0.25	11568800.000000	Y_R2 488.368
Na H (589.593 nm)	1760.949658	ppm	25.480555	1.45	6468967.160742	Y_R 488.368
Ni (231.604 nm)	0.028429	ppm	0.000708	2.49	183.545000	Y 377.433
P (213.618 nm)	0.028387	ppm	0.002203	7.76	85.309700	Y 242.219
Pb (220.353 nm)	-0.001155 u	ppm	0.001030	89.19	0.553472	Y 242.219
S (181.972 nm)	744.511502 bo	ppm	0.940431	0.13	362672.489655	Y 377.433
Sb (206.834 nm)	-0.005452 u	ppm	0.000704	12.91	-34.800600	Y 377.433
Se (196.026 nm)	0.001947	ppm	0.001242	63.78	15.370600	Y 242.219
Si (288.158 nm)	13.885800 o	ppm	0.156471	1.13	114417.000000	Y 377.433
Sn (189.925 nm)	0.001974	ppm	0.000812	41.14	11.661900	Y 377.433
Sr (421.552 nm)	25.770055 bo	ppm	0.052627	0.20	5311628.571962	Y_R 488.368
Th (288.505 nm)	-0.001624 u	ppm	0.002979	> 100.00	80.562200	Y 377.433
Ti (336.122 nm)	-0.001484 u	ppm	0.000025	1.71	3121.330000	Y 377.433
Tl (190.794 nm)	0.004965	ppm	0.002617	52.71	3.383030	Y 377.433
U (409.013 nm)	-0.049776 u	ppm	0.003103	6.23	-613.947000	Y 377.433
V (292.401 nm)	0.002148	ppm	0.000193	8.99	102.066000	Y 377.433
Zn (206.200 nm)	0.004508	ppm	0.000175	3.89	21.199300	Y 377.433
Zr (343.823 nm)	-0.000097 u	ppm	0.000053	54.36	4.161800	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.800749	15128.555201	0.005191	0.65
Y 377.433	0.825592	837835.374753	0.006809	0.82
Y_R 377.433	0.963573	74042.700000	0.004498	0.47
Y_R 488.368	0.988019	43349.200000	0.011568	1.17
Y_R2 488.368	0.976031	84273.583748	0.006334	0.65

Sample Name: 280-115842-A-1-Asd@5

Date: 10/29/2018 3:21:42 PM Rack:Tube: 1:47

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000368	ppm	0.000042	11.41	-417.420000	Y 377.433
Al (167.019 nm)	0.004454	ppm	0.000308	6.92	3.496600	Y_R 377.433
Al H (396.152 nm)	0.018629 u	ppm	0.002682	14.40	225.877570	Y_R 377.433
As (188.980 nm)	0.000945	ppm	0.000283	29.95	-1.440650	Y 242.219
B (249.678 nm)	0.753872	ppm	0.051869	6.88	17974.100000	Y 242.219
Ba (493.408 nm)	0.004713	ppm	0.000072	1.53	1165.850000	Y_R 488.368
Be (234.861 nm)	0.000105	ppm	0.000012	11.85	-22.913500	Y_R 488.368
Bi (223.061 nm)	0.000342	ppm	0.000433	> 100.00	8.248940	Y 377.433
Ca (315.887 nm)	230.512355 o	ppm	4.560962	1.98	177285.538390	Y_R 377.433
Cd (214.439 nm)	0.000041	ppm	0.000003	8.00	0.905765	Y 377.433
Co (228.615 nm)	-0.000062 u	ppm	0.000071	> 100.00	-35.285600	Y 242.219
Cr (205.560 nm)	0.000489	ppm	0.000077	15.66	8.758040	Y 377.433
Cu (324.754 nm)	-0.002831 u	ppm	0.000252	8.89	-593.003000	Y 377.433
Fe (238.204 nm)	0.223476	ppm	0.003286	1.47	823.057316	Y_R 377.433
Fe H (259.940 nm)	0.132186 u	ppm	0.007437	5.63	393.792000	Y_R 377.433
K (766.491 nm)	2.532210	ppm	0.070804	2.80	2155.250000	Y_R2 488.368
Li (670.783 nm)	0.121213	ppm	0.000720	0.59	2553.160000	Y_R2 488.368
Mg (279.078 nm)	80.540900 o	ppm	5.440500	6.75	443098.000000	Y 377.433
Mn (257.610 nm)	0.081490	ppm	0.005234	6.42	18452.500000	Y 377.433
Mo (202.032 nm)	0.000981	ppm	0.000511	52.15	5.776930	Y 377.433
Na (589.592 nm)	409.359000 o	ppm	2.033980	0.50	2594610.000000	Y_R2 488.368
Na H (589.593 nm)	442.597699	ppm	5.023512	1.14	1628295.066814	Y_R 488.368
Ni (231.604 nm)	0.005040	ppm	0.000602	11.95	30.615100	Y 377.433
P (213.618 nm)	0.003313	ppm	0.000895	27.00	33.721400	Y 242.219
Pb (220.353 nm)	-0.000213 u	ppm	0.001529	> 100.00	3.222780	Y 242.219
S (181.972 nm)	161.681642 bo	ppm	10.516601	6.50	78783.986833	Y 377.433
Sb (206.834 nm)	-0.003678 u	ppm	0.001893	51.48	-29.948600	Y 377.433
Se (196.026 nm)	-0.003516 u	ppm	0.000138	3.92	10.183700	Y 242.219
Si (288.158 nm)	2.902530	ppm	0.205364	7.08	24721.300000	Y 377.433
Sn (189.925 nm)	-0.000899 u	ppm	0.000683	76.02	6.181500	Y 377.433
Sr (421.552 nm)	4.821486 o	ppm	0.092702	1.92	993905.214701	Y_R 488.368
Th (288.505 nm)	0.006324	ppm	0.005958	94.23	94.711800	Y 377.433
Ti (336.122 nm)	0.000592	ppm	0.000404	68.27	506.783000	Y 377.433
Tl (190.794 nm)	0.003045	ppm	0.001308	42.96	-0.684308	Y 377.433
U (409.013 nm)	-0.020772 u	ppm	0.006350	30.57	-309.449000	Y 377.433
V (292.401 nm)	0.000190	ppm	0.000234	> 100.00	33.055900	Y 377.433
Zn (206.200 nm)	0.000982	ppm	0.000193	19.66	3.564340	Y 377.433
Zr (343.823 nm)	-0.000146 u	ppm	0.000057	39.07	-4.763250	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.983186	18575.349346	0.008105	0.82
Y 377.433	0.991883	1006592.538233	0.008076	0.81
Y_R 377.433	1.064710	81814.200000	0.003091	0.29
Y_R 488.368	1.101240	48316.700000	0.011721	1.06
Y_R2 488.368	1.073270	92669.477203	0.005676	0.53

Sample Name: 280-115842-A-1-B MS

Date: 10/29/2018 3:25:06 PM Rack:Tube: 1:48

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.059710	ppm	0.000267	0.45	2189.010000	Y 377.433
Al (167.019 nm)	2.035060	ppm	0.014217	0.70	1077.500000	Y_R 377.433
Al H (396.152 nm)	2.225817	ppm	0.003895	0.17	6310.649475	Y_R 377.433
As (188.980 nm)	1.111870	ppm	0.014692	1.32	1331.290000	Y 242.219
B (249.678 nm)	4.866060 o	ppm	0.005536	0.11	115529.000000	Y 242.219
Ba (493.408 nm)	2.116170 o	ppm	0.014810	0.70	243055.000000	Y_R 488.368
Be (234.861 nm)	0.047671	ppm	0.000044	0.09	13639.300000	Y_R 488.368
Bi (223.061 nm)	2.140610	ppm	0.001828	0.09	5198.320000	Y 377.433
Ca (315.887 nm)	1218.005574 o	ppm	4.901155	0.40	937036.277253	Y_R 377.433
Cd (214.439 nm)	0.092898	ppm	0.000221	0.24	5306.890000	Y 377.433
Co (228.615 nm)	0.495255	ppm	0.003712	0.75	8571.710000	Y 242.219
Cr (205.560 nm)	0.201674	ppm	0.000895	0.44	2939.470000	Y 377.433
Cu (324.754 nm)	0.270568	ppm	0.000175	0.06	13456.400000	Y 377.433
Fe (238.204 nm)	2.182002	ppm	0.009830	0.45	7890.628780	Y_R 377.433
Fe H (259.940 nm)	2.106300 u	ppm	0.001939	0.09	3998.170000	Y_R 377.433
K (766.491 nm)	74.064900	ppm	0.098009	0.13	82507.100000	Y_R2 488.368
Li (670.783 nm)	1.868150	ppm	0.001842	0.10	59310.300000	Y_R2 488.368
Mg (279.078 nm)	413.471000 o	ppm	0.796622	0.19	2274530.000000	Y 377.433
Mn (257.610 nm)	0.870226	ppm	0.000935	0.11	196458.000000	Y 377.433
Mo (202.032 nm)	1.019260	ppm	0.002262	0.22	8504.750000	Y 377.433
Na (589.592 nm)	1813.950000 o	ppm	5.857580	0.32	11499100.000000	Y_R2 488.368
Na H (589.593 nm)	1727.951493	ppm	6.303847	0.36	6349766.488841	Y_R 488.368
Ni (231.604 nm)	0.494171	ppm	0.000589	0.12	3230.120000	Y 377.433
P (213.618 nm)	10.942900 o	ppm	0.035714	0.33	22541.900000	Y 242.219
Pb (220.353 nm)	0.480086	ppm	0.005082	1.06	1343.730000	Y 242.219
S (181.972 nm)	751.320914 bo	ppm	0.179273	0.02	365990.381658	Y 377.433
Sb (206.834 nm)	0.552546	ppm	0.002087	0.38	1435.670000	Y 377.433
Se (196.026 nm)	2.235430 o	ppm	0.001594	0.07	2114.540000	Y 242.219
Si (288.158 nm)	24.672200 o	ppm	0.050901	0.21	202505.000000	Y 377.433
Sn (189.925 nm)	1.906060	ppm	0.016410	0.86	3644.180000	Y 377.433
Sr (421.552 nm)	26.882779 bo	ppm	0.229488	0.85	5540972.647316	Y_R 488.368
Th (288.505 nm)	1.041600	ppm	0.005171	0.50	2714.240000	Y 377.433
Ti (336.122 nm)	1.039320	ppm	0.001837	0.18	148616.000000	Y 377.433
Tl (190.794 nm)	1.828060	ppm	0.008561	0.47	3889.970000	Y 377.433
U (409.013 nm)	2.127530	ppm	0.007118	0.33	9015.560000	Y 377.433
V (292.401 nm)	0.527582	ppm	0.000132	0.03	18479.500000	Y 377.433
Zn (206.200 nm)	0.461192	ppm	0.002779	0.60	2304.880000	Y 377.433
Zr (343.823 nm)	0.517071	ppm	0.000306	0.06	66561.900000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.844956	15963.758766	0.001571	0.19
Y 377.433	0.869714	882611.614814	0.000500	0.06
Y_R 377.433	1.001850	76984.200000	0.001291	0.13
Y_R 488.368	1.035250	45421.300000	0.003736	0.36
Y_R2 488.368	1.021654	88212.789944	0.000260	0.03

Sample Name: 280-115842-A-1-C MSD

Date: 10/29/2018 3:28:28 PM Rack:Tube: 1:49

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.059334	ppm	0.000387	0.65	2172.350000	Y 377.433
Al (167.019 nm)	2.029000	ppm	0.011346	0.56	1074.280000	Y_R 377.433
Al H (396.152 nm)	2.211320	ppm	0.003169	0.14	6264.824140	Y_R 377.433
As (188.980 nm)	1.117720	ppm	0.000584	0.05	1338.320000	Y 242.219
B (249.678 nm)	4.795270 o	ppm	0.006067	0.13	113850.000000	Y 242.219
Ba (493.408 nm)	2.100840 o	ppm	0.008987	0.43	241295.000000	Y_R 488.368
Be (234.861 nm)	0.048251	ppm	0.000810	1.68	13805.600000	Y_R 488.368
Bi (223.061 nm)	2.129890	ppm	0.001844	0.09	5172.350000	Y 377.433
Ca (315.887 nm)	1197.908279 o	ppm	2.573097	0.21	921573.959381	Y_R 377.433
Cd (214.439 nm)	0.092991	ppm	0.000490	0.53	5312.200000	Y 377.433
Co (228.615 nm)	0.491649	ppm	0.001820	0.37	8508.990000	Y 242.219
Cr (205.560 nm)	0.200841	ppm	0.000087	0.04	2927.340000	Y 377.433
Cu (324.754 nm)	0.265897	ppm	0.000384	0.14	13221.000000	Y 377.433
Fe (238.204 nm)	2.156449	ppm	0.009694	0.45	7798.418369	Y_R 377.433
Fe H (259.940 nm)	2.087290 u	ppm	0.013136	0.63	3963.460000	Y_R 377.433
K (766.491 nm)	73.555000	ppm	0.139169	0.19	81934.200000	Y_R2 488.368
Li (670.783 nm)	1.836330	ppm	0.005440	0.30	58276.300000	Y_R2 488.368
Mg (279.078 nm)	414.077000 o	ppm	0.641832	0.16	2277870.000000	Y 377.433
Mn (257.610 nm)	0.865229	ppm	0.000068	0.01	195330.000000	Y 377.433
Mo (202.032 nm)	1.013700	ppm	0.001913	0.19	8458.330000	Y 377.433
Na (589.592 nm)	1805.030000 o	ppm	1.193270	0.07	11442600.000000	Y_R2 488.368
Na H (589.593 nm)	1731.137117	ppm	0.693342	0.04	6361448.210506	Y_R 488.368
Ni (231.604 nm)	0.493473	ppm	0.002395	0.49	3225.560000	Y 377.433
P (213.618 nm)	10.830600 o	ppm	0.018738	0.17	22311.000000	Y 242.219
Pb (220.353 nm)	0.475723	ppm	0.001945	0.41	1331.500000	Y 242.219
S (181.972 nm)	747.898311 bo	ppm	1.889897	0.25	364323.270784	Y 377.433
Sb (206.834 nm)	0.549382	ppm	0.000330	0.06	1427.410000	Y 377.433
Se (196.026 nm)	2.221650 o	ppm	0.005610	0.25	2101.590000	Y 242.219
Si (288.158 nm)	24.362300 o	ppm	0.003298	0.01	199974.000000	Y 377.433
Sn (189.925 nm)	1.896220	ppm	0.003648	0.19	3625.420000	Y 377.433
Sr (421.552 nm)	26.734218 bo	ppm	0.124585	0.47	5510352.785266	Y_R 488.368
Th (288.505 nm)	1.032830	ppm	0.001637	0.16	2691.900000	Y 377.433
Ti (336.122 nm)	1.030050	ppm	0.000266	0.03	147259.000000	Y 377.433
Tl (190.794 nm)	1.825770	ppm	0.003730	0.20	3885.130000	Y 377.433
U (409.013 nm)	2.110920	ppm	0.008500	0.40	8945.890000	Y 377.433
V (292.401 nm)	0.524397	ppm	0.000234	0.04	18369.100000	Y 377.433
Zn (206.200 nm)	0.461314	ppm	0.005316	1.15	2305.490000	Y 377.433
Zr (343.823 nm)	0.512085	ppm	0.000403	0.08	65920.100000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.848536	16031.396646	0.003740	0.44
Y 377.433	0.869039	881926.035154	0.004704	0.54
Y_R 377.433	0.991425	76182.900000	0.008680	0.88
Y_R 488.368	1.016780	44611.300000	0.009924	0.98
Y_R2 488.368	0.993973	85822.705026	0.001812	0.18

Sample Name: 280-115842-A-2-A

Date: 10/29/2018 3:31:51 PM Rack:Tube: 1:50

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000678	ppm	0.000233	34.39	-403.789000	Y 377.433
Al (167.019 nm)	0.249413	ppm	0.000707	0.28	132.919000	Y_R 377.433
Al H (396.152 nm)	0.235199 u	ppm	0.005611	2.39	740.493421	Y_R 377.433
As (188.980 nm)	0.004162	ppm	0.000634	15.23	2.419130	Y 242.219
B (249.678 nm)	1.304900 o	ppm	0.000924	0.07	31044.100000	Y 242.219
Ba (493.408 nm)	0.023448	ppm	0.000324	1.38	3293.240000	Y_R 488.368
Be (234.861 nm)	0.000086	ppm	0.000009	10.86	-28.067000	Y_R 488.368
Bi (223.061 nm)	-0.000585 u	ppm	0.001937	> 100.00	6.003830	Y 377.433
Ca (315.887 nm)	156.597201 o	ppm	0.388253	0.25	120417.209589	Y_R 377.433
Cd (214.439 nm)	0.000069	ppm	0.000017	23.93	2.554060	Y 377.433
Co (228.615 nm)	0.001494	ppm	0.000168	11.23	-8.272850	Y 242.219
Cr (205.560 nm)	0.001015	ppm	0.000081	7.96	16.421700	Y 377.433
Cu (324.754 nm)	-0.000862 u	ppm	0.000079	9.16	-448.154000	Y 377.433
Fe (238.204 nm)	0.240180	ppm	0.002552	1.06	883.338230	Y_R 377.433
Fe H (259.940 nm)	0.150445 u	ppm	0.003103	2.06	427.130000	Y_R 377.433
K (766.491 nm)	3.521880	ppm	0.000323	0.01	3266.940000	Y_R2 488.368
Li (670.783 nm)	0.178381	ppm	0.000573	0.32	4410.520000	Y_R2 488.368
Mg (279.078 nm)	47.605700 o	ppm	0.107429	0.23	261918.000000	Y 377.433
Mn (257.610 nm)	0.246746	ppm	0.000557	0.23	55748.100000	Y 377.433
Mo (202.032 nm)	0.004434	ppm	0.000383	8.64	34.598200	Y 377.433
Na (589.592 nm)	239.530000 o	ppm	0.151100	0.06	1518490.000000	Y_R2 488.368
Na H (589.593 nm)	247.461565	ppm	1.340286	0.54	911823.201051	Y_R 488.368
Ni (231.604 nm)	0.001308	ppm	0.000219	16.76	6.224600	Y 377.433
P (213.618 nm)	0.012522	ppm	0.000429	3.43	52.668200	Y 242.219
Pb (220.353 nm)	-0.000163 u	ppm	0.000890	> 100.00	3.277370	Y 242.219
S (181.972 nm)	193.294573 bo	ppm	0.242905	0.13	94182.555541	Y 377.433
Sb (206.834 nm)	-0.001737 u	ppm	0.000472	27.20	-24.831300	Y 377.433
Se (196.026 nm)	-0.000052 u	ppm	0.004394	> 100.00	13.564400	Y 242.219
Si (288.158 nm)	13.062200 o	ppm	0.086025	0.66	107691.000000	Y 377.433
Sn (189.925 nm)	-0.000290 u	ppm	0.001543	> 100.00	7.342620	Y 377.433
Sr (421.552 nm)	3.517891 o	ppm	0.024847	0.71	725220.384372	Y_R 488.368
Th (288.505 nm)	-0.000123 u	ppm	0.005197	> 100.00	82.018000	Y 377.433
Ti (336.122 nm)	0.003071	ppm	0.000058	1.90	625.305000	Y 377.433
Tl (190.794 nm)	0.005865	ppm	0.001028	17.53	5.320690	Y 377.433
U (409.013 nm)	-0.005709 u	ppm	0.001396	24.45	-228.686000	Y 377.433
V (292.401 nm)	0.001457	ppm	0.000074	5.07	75.800800	Y 377.433
Zn (206.200 nm)	0.004646	ppm	0.000384	8.26	21.889200	Y 377.433
Zr (343.823 nm)	0.000206	ppm	0.000020	9.62	40.598300	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.034630	19547.267900	0.003792	0.37
Y 377.433	1.038667	1054070.252614	0.002967	0.29
Y_R 377.433	1.061120	81538.000000	0.014885	1.40
Y_R 488.368	1.086220	47657.800000	0.024840	2.29
Y_R2 488.368	1.090193	94130.674486	0.001153	0.11

Sample Name: CCVH-5380945

Date: 10/29/2018 3:35:14 PM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.002513 u	ppm	0.000287	11.41	-783.589000	Y 377.433
Al (167.019 nm)	50.766800 o	ppm	0.299635	0.59	26854.300000	Y_R 377.433
Al H (396.152 nm)	49.964529	ppm	0.209811	0.42	126205.416859	Y_R 377.433
As (188.980 nm)	0.000941	ppm	0.001312	> 100.00	-1.885050	Y 242.219
B (249.678 nm)	0.002945	ppm	0.000154	5.24	88.362600	Y 242.219
Ba (493.408 nm)	-0.000251 u	ppm	0.000105	41.90	592.722000	Y_R 488.368
Be (234.861 nm)	-0.000169 u	ppm	0.000004	2.19	1466.040000	Y_R 488.368
Bi (223.061 nm)	1.017650	ppm	0.000044	0.00	2483.290000	Y 377.433
Ca (315.887 nm)	0.003970	ppm	0.001370	34.52	-61.404717	Y_R 377.433
Cd (214.439 nm)	-0.000345 u	ppm	0.000053	15.46	26.727100	Y 377.433
Co (228.615 nm)	0.003318	ppm	0.000333	10.03	23.239800	Y 242.219
Cr (205.560 nm)	-0.000388 u	ppm	0.000069	17.76	-17.774400	Y 377.433
Cu (324.754 nm)	-0.007687 u	ppm	0.000219	2.85	-414.790000	Y 377.433
Fe (238.204 nm)	52.780336 o	ppm	0.180195	0.34	190480.624286	Y_R 377.433
Fe H (259.940 nm)	52.917500	ppm	0.203538	0.38	96770.300000	Y_R 377.433
K (766.491 nm)	0.163045	ppm	0.035151	21.56	-505.999000	Y_R2 488.368
Li (670.783 nm)	0.008776	ppm	0.000314	3.58	-1099.850000	Y_R2 488.368
Mg (279.078 nm)	-0.018173 u	ppm	0.000638	3.51	-410.958000	Y 377.433
Mn (257.610 nm)	0.001429	ppm	0.000016	1.10	383.866000	Y 377.433
Mo (202.032 nm)	0.000158	ppm	0.000052	32.62	-1.085750	Y 377.433
Na (589.592 nm)	231.107000 o	ppm	0.647800	0.28	1465070.000000	Y_R2 488.368
Na H (589.593 nm)	233.065377	ppm	0.130083	0.06	858940.532065	Y_R 488.368
Ni (231.604 nm)	0.003979	ppm	0.000232	5.83	25.731300	Y 377.433
P (213.618 nm)	-0.005721 u	ppm	0.000731	12.77	15.133600	Y 242.219
Pb (220.353 nm)	-0.002768 u	ppm	0.000434	15.66	13.159200	Y 242.219
S (181.972 nm)	5.285868	ppm	0.023385	0.44	2605.726757	Y 377.433
Sb (206.834 nm)	-0.006015 u	ppm	0.002823	46.94	-81.148900	Y 377.433
Se (196.026 nm)	-0.002138 u	ppm	0.002025	94.73	2.524160	Y 242.219
Si (288.158 nm)	-0.003313 u	ppm	0.000380	11.46	990.568000	Y 377.433
Sn (189.925 nm)	0.001906	ppm	0.001869	98.03	11.532600	Y 377.433
Sr (421.552 nm)	0.000405	ppm	0.000036	8.87	229.153388	Y_R 488.368
Th (288.505 nm)	5.071010	ppm	0.008610	0.17	12756.200000	Y 377.433
Ti (336.122 nm)	0.002054	ppm	0.000045	2.21	0.604532	Y 377.433
Tl (190.794 nm)	-0.002773 u	ppm	0.000800	28.84	-14.433300	Y 377.433
U (409.013 nm)	10.417900	ppm	0.006124	0.06	46170.000000	Y 377.433
V (292.401 nm)	0.002322	ppm	0.000097	4.16	-61.461900	Y 377.433
Zn (206.200 nm)	0.001251	ppm	0.000282	22.52	4.911310	Y 377.433
Zr (343.823 nm)	-0.004862 u	ppm	0.000033	0.67	-463.449000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.093861	20666.325141	0.001507	0.14
Y 377.433	1.085889	1101991.939856	0.002831	0.26
Y_R 377.433	1.139770	87581.700000	0.000799	0.07
Y_R 488.368	1.189160	52174.300000	0.002995	0.25
Y_R2 488.368	1.164377	100535.973277	0.004328	0.37

Sample Name: CCV-5391053

Date: 10/29/2018 3:38:37 PM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.490852	ppm	0.000386	0.08	21328.700000	Y 377.433
Al (167.019 nm)	0.569032 Q	ppm	0.000424	0.07	303.302000 Q	Y_R 377.433
Al H (396.152 nm)	0.494434 u	ppm	0.001043	0.21	1368.319285	Y_R 377.433
As (188.980 nm)	1.014320	ppm	0.000821	0.08	1214.270000	Y 242.219
B (249.678 nm)	0.500579	ppm	0.000193	0.04	11983.300000	Y 242.219
Ba (493.408 nm)	0.496827	ppm	0.001210	0.24	57449.000000	Y_R 488.368
Be (234.861 nm)	0.462290	ppm	0.000595	0.13	132743.000000	Y_R 488.368
Bi (223.061 nm)	-0.001296 u	ppm	0.000555	42.79	4.658120	Y 377.433
Ca (315.887 nm)	5.250172	ppm	0.000685	0.01	3975.155602	Y_R 377.433
Cd (214.439 nm)	0.504671	ppm	0.001799	0.36	28826.700000	Y 377.433
Co (228.615 nm)	0.507299	ppm	0.002654	0.52	8762.920000	Y 242.219
Cr (205.560 nm)	0.510659	ppm	0.001904	0.37	7442.070000	Y 377.433
Cu (324.754 nm)	0.494825	ppm	0.001753	0.35	26070.800000	Y 377.433
Fe (238.204 nm)	2.660227	ppm	0.007112	0.27	9616.360530	Y_R 377.433
Fe H (259.940 nm)	2.604910 u	ppm	0.002997	0.12	4908.540000	Y_R 377.433
K (766.491 nm)	49.143100	ppm	0.164765	0.34	54512.600000	Y_R2 488.368
Li (670.783 nm)	0.983737	ppm	0.002585	0.26	30576.100000	Y_R2 488.368
Mg (279.078 nm)	19.468300	ppm	0.024088	0.12	107127.000000	Y 377.433
Mn (257.610 nm)	0.504295	ppm	0.001065	0.21	113873.000000	Y 377.433
Mo (202.032 nm)	0.506868	ppm	0.000723	0.14	4228.120000	Y 377.433
Na (589.592 nm)	4.822320	ppm	0.000375	0.01	32139.500000	Y_R2 488.368
Na H (589.593 nm)	5.994206 u	ppm	0.068613	1.14	25661.931677	Y_R 488.368
Ni (231.604 nm)	0.509215	ppm	0.001329	0.26	3327.570000	Y 377.433
P (213.618 nm)	0.972188	ppm	0.002407	0.25	2027.190000	Y 242.219
Pb (220.353 nm)	1.006150	ppm	0.001877	0.19	2808.800000	Y 242.219
S (181.972 nm)	0.050907	ppm	0.002932	5.76	56.997397	Y 377.433
Sb (206.834 nm)	1.015370	ppm	0.002750	0.27	2677.400000	Y 377.433
Se (196.026 nm)	1.009290	ppm	0.001801	0.18	961.876000	Y 242.219
Si (288.158 nm)	4.947970	ppm	0.040558	0.82	41425.600000	Y 377.433
Sn (189.925 nm)	0.996812	ppm	0.002105	0.21	1909.570000	Y 377.433
Sr (421.552 nm)	0.480138	ppm	0.002107	0.44	99107.276210	Y_R 488.368
Th (288.505 nm)	-0.000571 u	ppm	0.002168	> 100.00	91.994700	Y 377.433
Ti (336.122 nm)	0.508581	ppm	0.000567	0.11	70757.000000	Y 377.433
Tl (190.794 nm)	1.026390	ppm	0.000846	0.08	2182.200000	Y 377.433
U (409.013 nm)	0.000616 u	ppm	0.002741	> 100.00	-207.930000	Y 377.433
V (292.401 nm)	0.502699	ppm	0.000579	0.12	17562.500000	Y 377.433
Zn (206.200 nm)	0.502606	ppm	0.000219	0.04	2511.980000	Y 377.433
Zr (343.823 nm)	0.505806	ppm	0.000169	0.03	65113.500000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.101263	20806.176697	0.000112	0.01
Y 377.433	1.098856	1115151.425417	0.000885	0.08
Y_R 377.433	1.150980	88443.200000	0.002593	0.23
Y_R 488.368	1.192150	52305.400000	0.000567	0.05
Y_R2 488.368	1.168907	100927.081158	0.001384	0.12

Sample Name: CCB

Date: 10/29/2018 3:42:00 PM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000637 u	ppm	0.000010	1.62	-461.655000	Y 377.433
Al (167.019 nm)	0.000066 u	ppm	0.002458	> 100.00	1.037970	Y_R 377.433
Al H (396.152 nm)	-0.028048 u	ppm	0.002034	7.25	7.015084	Y_R 377.433
As (188.980 nm)	0.002057	ppm	0.000328	15.95	-0.104467	Y 242.219
B (249.678 nm)	0.002477	ppm	0.000241	9.75	151.980000	Y 242.219
Ba (493.408 nm)	-0.000374 u	ppm	0.000012	3.18	530.502000	Y_R 488.368
Be (234.861 nm)	0.000043	ppm	0.000001	2.30	-47.440800	Y_R 488.368
Bi (223.061 nm)	0.001199	ppm	0.001054	87.91	10.290400	Y 377.433
Ca (315.887 nm)	0.005154 u	ppm	0.007591	> 100.00	-60.494290	Y_R 377.433
Cd (214.439 nm)	0.000046	ppm	0.000065	> 100.00	1.019220	Y 377.433
Co (228.615 nm)	0.000355	ppm	0.000184	51.91	-28.068700	Y 242.219
Cr (205.560 nm)	-0.000025 u	ppm	0.000031	> 100.00	1.325650	Y 377.433
Cu (324.754 nm)	-0.000360 u	ppm	0.000077	21.27	-331.527000	Y 377.433
Fe (238.204 nm)	0.000676 u	ppm	0.002145	> 100.00	19.056927	Y_R 377.433
Fe H (259.940 nm)	-0.078314 u	ppm	0.002675	3.42	9.457570	Y_R 377.433
K (766.491 nm)	0.075944	ppm	0.059565	78.43	-603.838000	Y_R2 488.368
Li (670.783 nm)	0.007353	ppm	0.000683	9.28	-1146.110000	Y_R2 488.368
Mg (279.078 nm)	0.001671	ppm	0.000173	10.35	43.567300	Y 377.433
Mn (257.610 nm)	-0.000017 u	ppm	0.000013	78.50	57.690500	Y 377.433
Mo (202.032 nm)	0.000542	ppm	0.000002	0.41	2.116650	Y 377.433
Na (589.592 nm)	0.048625	ppm	0.017100	35.17	926.683000	Y_R2 488.368
Na H (589.593 nm)	0.786967 u	ppm	0.030333	3.85	6074.805291	Y_R 488.368
Ni (231.604 nm)	0.000352	ppm	0.000017	4.79	-0.038661	Y 377.433
P (213.618 nm)	-0.001189 u	ppm	0.001325	> 100.00	24.458900	Y 242.219
Pb (220.353 nm)	-0.000145 u	ppm	0.000529	> 100.00	3.422870	Y 242.219
S (181.972 nm)	0.032179	ppm	0.004538	14.10	46.728631	Y 377.433
Sb (206.834 nm)	0.001674	ppm	0.001117	66.68	-15.736100	Y 377.433
Se (196.026 nm)	-0.001049 u	ppm	0.000357	34.02	12.480100	Y 242.219
Si (288.158 nm)	-0.024809 u	ppm	0.001989	8.02	815.023000	Y 377.433
Sn (189.925 nm)	-0.000626 u	ppm	0.000845	> 100.00	6.702040	Y 377.433
Sr (421.552 nm)	-0.000266 u	ppm	0.000053	19.96	90.849858	Y_R 488.368
Th (288.505 nm)	-0.000712 u	ppm	0.001886	> 100.00	75.788800	Y 377.433
Ti (336.122 nm)	0.000561	ppm	0.000009	1.69	-208.141000	Y 377.433
Tl (190.794 nm)	0.001779 u	ppm	0.002665	> 100.00	-3.378450	Y 377.433
U (409.013 nm)	0.003150	ppm	0.000436	13.83	-160.180000	Y 377.433
V (292.401 nm)	-0.000077 u	ppm	0.000176	> 100.00	21.377100	Y 377.433
Zn (206.200 nm)	0.000303	ppm	0.000191	63.16	0.168611	Y 377.433
Zr (343.823 nm)	0.000058	ppm	0.000066	> 100.00	20.817500	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.099625	20775.225083	0.001426	0.13
Y 377.433	1.098707	1115000.567964	0.001021	0.09
Y_R 377.433	1.129070	86760.200000	0.002857	0.25
Y_R 488.368	1.166110	51162.700000	0.001455	0.12
Y_R2 488.368	1.156825	99883.861890	0.002854	0.25

Sample Name: CCVL-5398386

Date: 10/29/2018 3:45:24 PM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.008325	ppm	0.000324	3.89	-63.970900	Y 377.433
Al (167.019 nm)	0.116604	ppm	0.005202	4.46	62.672500	Y_R 377.433
Al H (396.152 nm)	0.080112 u	ppm	0.002686	3.35	281.610154	Y_R 377.433
As (188.980 nm)	0.013919	ppm	0.001468	10.54	14.124500	Y 242.219
B (249.678 nm)	0.100084	ppm	0.000193	0.19	2467.370000	Y 242.219
Ba (493.408 nm)	0.009229	ppm	0.000035	0.38	1629.700000	Y_R 488.368
Be (234.861 nm)	0.000975	ppm	0.000004	0.39	222.726000	Y_R 488.368
Bi (223.061 nm)	0.104191	ppm	0.000344	0.33	260.046000	Y 377.433
Ca (315.887 nm)	0.217982	ppm	0.003029	1.39	103.252782	Y_R 377.433
Cd (214.439 nm)	0.005202	ppm	0.000063	1.21	295.619000	Y 377.433
Co (228.615 nm)	0.010732	ppm	0.000438	4.08	151.861000	Y 242.219
Cr (205.560 nm)	0.010117	ppm	0.000046	0.45	149.133000	Y 377.433
Cu (324.754 nm)	0.014652	ppm	0.000318	2.17	468.151000	Y 377.433
Fe (238.204 nm)	0.108349	ppm	0.001318	1.22	407.609873	Y_R 377.433
Fe H (259.940 nm)	0.025543 u	ppm	0.000305	1.19	199.081000	Y_R 377.433
K (766.491 nm)	3.197620	ppm	0.025414	0.79	2902.700000	Y_R2 488.368
Li (670.783 nm)	0.028904 Q	ppm	0.001069	3.70	-445.915000 Q	Y_R2 488.368
Mg (279.078 nm)	0.196484	ppm	0.000150	0.08	1114.280000	Y 377.433
Mn (257.610 nm)	0.010350	ppm	0.000030	0.29	2397.260000	Y 377.433
Mo (202.032 nm)	0.019160	ppm	0.000069	0.36	157.509000	Y 377.433
Na (589.592 nm)	1.035700	ppm	0.008465	0.82	7200.210000	Y_R2 488.368
Na H (589.593 nm)	1.496628 u	ppm	0.065903	4.40	8689.589572	Y_R 488.368
Ni (231.604 nm)	0.041318	ppm	0.000402	0.97	267.770000	Y 377.433
P (213.618 nm)	2.729910 o	ppm	0.003064	0.11	5643.700000	Y 242.219
Pb (220.353 nm)	0.008312	ppm	0.000693	8.34	26.999000	Y 242.219
S (181.972 nm)	0.125137	ppm	0.000519	0.42	92.030413	Y 377.433
Sb (206.834 nm)	0.021228	ppm	0.000092	0.44	36.108800	Y 377.433
Se (196.026 nm)	0.014955	ppm	0.000496	3.32	27.509900	Y 242.219
Si (288.158 nm)	0.460579	ppm	0.001550	0.34	4778.970000	Y 377.433
Sn (189.925 nm)	0.096804	ppm	0.001624	1.68	192.573000	Y 377.433
Sr (421.552 nm)	0.009437	ppm	0.000274	2.90	2090.751718	Y_R 488.368
Th (288.505 nm)	0.014206	ppm	0.003445	24.25	113.638000	Y 377.433
Ti (336.122 nm)	0.010730	ppm	0.000019	0.17	1212.590000	Y 377.433
Tl (190.794 nm)	0.016309	ppm	0.000137	0.84	27.584200	Y 377.433
U (409.013 nm)	0.059490	ppm	0.009467	15.91	89.142700	Y 377.433
V (292.401 nm)	0.009637	ppm	0.000228	2.36	358.846000	Y 377.433
Zn (206.200 nm)	0.021645	ppm	0.000143	0.66	106.892000	Y 377.433
Zr (343.823 nm)	0.015004	ppm	0.000026	0.17	1944.560000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.108263	20938.422383	0.003862	0.35
Y 377.433	1.106142	1122545.495020	0.003651	0.33
Y_R 377.433	1.156630	88877.400000	0.012379	1.07
Y_R 488.368	1.210590	53114.600000	0.026340	2.18
Y_R2 488.368	1.178775	101779.105712	0.001912	0.16

Sample Name: 280-115842-A-3-A

Date: 10/29/2018 3:48:48 PM Rack:Tube: 1:51

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000334	ppm	0.000210	62.98	-419.025000	Y 377.433
Al (167.019 nm)	0.009297	ppm	0.000188	2.02	6.009680	Y_R 377.433
Al H (396.152 nm)	0.036743 u	ppm	0.001927	5.24	356.555601	Y_R 377.433
As (188.980 nm)	0.001280	ppm	0.000640	50.01	-1.037610	Y 242.219
B (249.678 nm)	2.497350 o	ppm	0.001746	0.07	59328.000000	Y 242.219
Ba (493.408 nm)	0.020691	ppm	0.000220	1.06	3039.030000	Y_R 488.368
Be (234.861 nm)	0.000129	ppm	0.000008	6.36	-18.193700	Y_R 488.368
Bi (223.061 nm)	-0.000573 u	ppm	0.001388	> 100.00	6.018320	Y 377.433
Ca (315.887 nm)	424.993911 o	ppm	2.348845	0.55	326914.410291	Y_R 377.433
Cd (214.439 nm)	0.000069	ppm	0.000023	33.78	2.466150	Y 377.433
Co (228.615 nm)	0.000042 u	ppm	0.000067	> 100.00	-33.484400	Y 242.219
Cr (205.560 nm)	0.000003 u	ppm	0.000089	> 100.00	1.684730	Y 377.433
Cu (324.754 nm)	-0.002992 u	ppm	0.000044	1.47	-716.130000	Y 377.433
Fe (238.204 nm)	0.150717	ppm	0.002133	1.42	560.499372	Y_R 377.433
Fe H (259.940 nm)	0.053221 u	ppm	0.000202	0.38	249.616000	Y_R 377.433
K (766.491 nm)	11.129000	ppm	0.086534	0.78	11811.900000	Y_R2 488.368
Li (670.783 nm)	0.434907	ppm	0.005157	1.19	12744.900000	Y_R2 488.368
Mg (279.078 nm)	150.040000 o	ppm	0.441906	0.29	825419.000000	Y 377.433
Mn (257.610 nm)	0.034479	ppm	0.000030	0.09	7842.700000	Y 377.433
Mo (202.032 nm)	0.001718	ppm	0.000557	32.43	11.930400	Y 377.433
Na (589.592 nm)	238.336000 o	ppm	0.362313	0.15	1510920.000000	Y_R2 488.368
Na H (589.593 nm)	242.570079	ppm	0.006366	0.00	893860.503223	Y_R 488.368
Ni (231.604 nm)	0.005504	ppm	0.000750	13.63	33.645100	Y 377.433
P (213.618 nm)	0.046472	ppm	0.002822	6.07	122.521000	Y 242.219
Pb (220.353 nm)	-0.000367 u	ppm	0.001151	> 100.00	2.755810	Y 242.219
S (181.972 nm)	483.703461 bo	ppm	0.214636	0.04	235635.966913	Y 377.433
Sb (206.834 nm)	-0.004543 u	ppm	0.000491	10.81	-32.235000	Y 377.433
Se (196.026 nm)	0.000698 u	ppm	0.002516	> 100.00	14.122800	Y 242.219
Si (288.158 nm)	12.985800 o	ppm	0.072059	0.55	107067.000000	Y 377.433
Sn (189.925 nm)	0.001947	ppm	0.000808	41.48	11.610300	Y 377.433
Sr (421.552 nm)	7.303735 o	ppm	0.001403	0.02	1505523.141313	Y_R 488.368
Th (288.505 nm)	0.004579	ppm	0.002592	56.61	89.543700	Y 377.433
Ti (336.122 nm)	-0.000611 u	ppm	0.000144	23.55	936.108000	Y 377.433
Tl (190.794 nm)	0.002906	ppm	0.003615	> 100.00	-0.980209	Y 377.433
U (409.013 nm)	-0.009166 u	ppm	0.004780	52.15	-294.225000	Y 377.433
V (292.401 nm)	0.001469	ppm	0.000149	10.13	77.842300	Y 377.433
Zn (206.200 nm)	0.003978	ppm	0.000589	14.81	18.545400	Y 377.433
Zr (343.823 nm)	-0.000069 u	ppm	0.000065	94.28	4.935980	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.996793	18832.419871	0.003217	0.32
Y 377.433	1.007392	1022331.272775	0.002692	0.27
Y_R 377.433	1.133190	87076.200000	0.024025	2.12
Y_R 488.368	1.176760	51630.300000	0.023915	2.03
Y_R2 488.368	1.169347	100965.046201	0.019528	1.67

Sample Name: 280-115842-A-4-A

Date: 10/29/2018 3:52:11 PM Rack:Tube: 1:52

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000592	ppm	0.000226	38.14	-408.557000	Y 377.433
Al (167.019 nm)	0.240973	ppm	0.003276	1.36	131.498000	Y_R 377.433
Al H (396.152 nm)	0.280877 u	ppm	0.010679	3.80	1059.359185	Y_R 377.433
As (188.980 nm)	0.016363	ppm	0.001104	6.75	17.016100	Y 242.219
B (249.678 nm)	4.532630 o	ppm	0.009064	0.20	107596.000000	Y 242.219
Ba (493.408 nm)	0.018700	ppm	0.000270	1.44	2860.580000	Y_R 488.368
Be (234.861 nm)	0.000355	ppm	0.000023	6.43	191.789000	Y_R 488.368
Bi (223.061 nm)	0.001785	ppm	0.001142	63.95	12.505200	Y 377.433
Ca (315.887 nm)	620.472610 o	ppm	7.468112	1.20	477310.456872	Y_R 377.433
Cd (214.439 nm)	0.000128	ppm	0.000116	90.56	10.307800	Y 377.433
Co (228.615 nm)	-0.000177 u	ppm	0.000063	35.84	-36.900500	Y 242.219
Cr (205.560 nm)	0.000747	ppm	0.000098	13.17	11.235200	Y 377.433
Cu (324.754 nm)	-0.001691 u	ppm	0.000142	8.42	-761.485000	Y 377.433
Fe (238.204 nm)	5.048682	ppm	0.046823	0.93	18235.377165	Y_R 377.433
Fe H (259.940 nm)	5.002580	ppm	0.041623	0.83	9286.260000	Y_R 377.433
K (766.491 nm)	24.813200	ppm	0.006783	0.03	27183.200000	Y_R2 488.368
Li (670.783 nm)	1.197820	ppm	0.000720	0.06	37531.600000	Y_R2 488.368
Mg (279.078 nm)	235.504000 o	ppm	0.751548	0.32	1295560.000000	Y 377.433
Mn (257.610 nm)	0.520486	ppm	0.001085	0.21	117527.000000	Y 377.433
Mo (202.032 nm)	0.009886	ppm	0.000311	3.15	80.102500	Y 377.433
Na (589.592 nm)	1161.350000 o	ppm	0.548173	0.05	7359730.000000	Y_R2 488.368
Na H (589.593 nm)	1161.593380	ppm	17.215120	1.48	4268274.637523	Y_R 488.368
Ni (231.604 nm)	0.001028	ppm	0.000475	46.26	4.581070	Y 377.433
P (213.618 nm)	0.139685	ppm	0.000564	0.40	314.307000	Y 242.219
Pb (220.353 nm)	-0.000870 u	ppm	0.000438	50.34	1.756440	Y 242.219
S (181.972 nm)	887.813248 bo	ppm	1.221169	0.14	432472.996056	Y 377.433
Sb (206.834 nm)	-0.001858 u	ppm	0.001749	94.13	-26.421500	Y 377.433
Se (196.026 nm)	-0.002518 u	ppm	0.001421	56.43	10.579300	Y 242.219
Si (288.158 nm)	15.459900 o	ppm	0.119638	0.77	127272.000000	Y 377.433
Sn (189.925 nm)	0.000858	ppm	0.000084	9.85	9.532610	Y 377.433
Sr (421.552 nm)	12.598460 bo	ppm	0.106964	0.85	2596822.476856	Y_R 488.368
Th (288.505 nm)	-0.000178 u	ppm	0.002065	> 100.00	87.707200	Y 377.433
Ti (336.122 nm)	0.011729	ppm	0.000146	1.24	3263.610000	Y 377.433
Tl (190.794 nm)	0.003868	ppm	0.001818	47.00	0.883217	Y 377.433
U (409.013 nm)	0.055241	ppm	0.004308	7.80	-40.443800	Y 377.433
V (292.401 nm)	0.003575	ppm	0.000058	1.62	149.017000	Y 377.433
Zn (206.200 nm)	0.098443	ppm	0.000205	0.21	490.930000	Y 377.433
Zr (343.823 nm)	0.002075	ppm	0.000046	2.22	294.729000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.946546	17883.111910	0.001449	0.15
Y 377.433	0.968337	982696.837445	0.001543	0.16
Y_R 377.433	1.055380	81097.100000	0.017012	1.61
Y_R 488.368	1.093080	47958.500000	0.022496	2.06
Y_R2 488.368	1.077579	93041.537730	0.009802	0.91

Sample Name: 280-115842-A-5-A

Date: 10/29/2018 3:55:33 PM Rack:Tube: 1:53

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000228	ppm	0.000164	71.82	-424.201000	Y 377.433
Al (167.019 nm)	0.011120	ppm	0.002309	20.76	6.895680	Y_R 377.433
Al H (396.152 nm)	0.046378 u	ppm	0.011876	25.61	444.330085	Y_R 377.433
As (188.980 nm)	0.001109 u	ppm	0.001953	> 100.00	-1.241900	Y 242.219
B (249.678 nm)	4.690180 o	ppm	0.000033	0.00	111340.000000	Y 242.219
Ba (493.408 nm)	0.009383	ppm	0.000309	3.30	1777.820000	Y_R 488.368
Be (234.861 nm)	0.000137	ppm	0.000029	20.88	-19.736600	Y_R 488.368
Bi (223.061 nm)	0.001469	ppm	0.001296	88.25	10.949000	Y 377.433
Ca (315.887 nm)	568.576461 o	ppm	4.246652	0.75	437382.956991	Y_R 377.433
Cd (214.439 nm)	0.000101	ppm	0.000066	65.47	4.178300	Y 377.433
Co (228.615 nm)	-0.000696 u	ppm	0.000181	25.98	-46.249600	Y 242.219
Cr (205.560 nm)	0.000271	ppm	0.000153	56.63	5.619490	Y 377.433
Cu (324.754 nm)	-0.004390 u	ppm	0.000130	2.95	-877.004000	Y 377.433
Fe (238.204 nm)	0.029348	ppm	0.001201	4.09	122.525164	Y_R 377.433
Fe H (259.940 nm)	-0.056167 u	ppm	0.003033	5.40	49.893100	Y_R 377.433
K (766.491 nm)	17.434900	ppm	0.072130	0.41	18895.300000	Y_R2 488.368
Li (670.783 nm)	0.816832	ppm	0.003037	0.37	25153.400000	Y_R2 488.368
Mg (279.078 nm)	227.771000 o	ppm	1.993260	0.88	1253030.000000	Y 377.433
Mn (257.610 nm)	0.010611	ppm	0.000082	0.78	2456.180000	Y 377.433
Mo (202.032 nm)	0.004555	ppm	0.000202	4.44	35.612700	Y 377.433
Na (589.592 nm)	708.155000 o	ppm	0.090169	0.01	4487980.000000	Y_R2 488.368
Na H (589.593 nm)	732.583142	ppm	13.907737	1.90	2693051.361916	Y_R 488.368
Ni (231.604 nm)	0.001757	ppm	0.000121	6.87	9.147020	Y 377.433
P (213.618 nm)	0.056083	ppm	0.000056	0.10	142.295000	Y 242.219
Pb (220.353 nm)	0.000261 u	ppm	0.000705	> 100.00	4.491120	Y 242.219
S (181.972 nm)	929.118924 bo	ppm	6.323361	0.68	452591.226513	Y 377.433
Sb (206.834 nm)	-0.005117 u	ppm	0.000607	11.86	-33.760400	Y 377.433
Se (196.026 nm)	-0.004230 u	ppm	0.000595	14.08	9.496650	Y 242.219
Si (288.158 nm)	12.786500 o	ppm	0.140398	1.10	105440.000000	Y 377.433
Sn (189.925 nm)	0.001110 u	ppm	0.002379	> 100.00	10.012600	Y 377.433
Sr (421.552 nm)	11.484647 bo	ppm	0.198333	1.73	2367253.636863	Y_R 488.368
Th (288.505 nm)	0.004593	ppm	0.000375	8.16	89.342000	Y 377.433
Ti (336.122 nm)	-0.000765 u	ppm	0.000142	18.55	1359.350000	Y 377.433
Tl (190.794 nm)	0.003218	ppm	0.001049	32.60	-0.319382	Y 377.433
U (409.013 nm)	0.013481	ppm	0.003576	26.53	-220.707000	Y 377.433
V (292.401 nm)	0.002888	ppm	0.000299	10.36	126.786000	Y 377.433
Zn (206.200 nm)	0.003621	ppm	0.000384	10.59	16.763000	Y 377.433
Zr (343.823 nm)	-0.000209 u	ppm	0.000042	20.16	-13.445100	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.931881	17606.031737	0.000572	0.06
Y 377.433	0.937801	951708.509750	0.004110	0.44
Y_R 377.433	1.056880	81212.300000	0.005271	0.50
Y_R 488.368	1.088520	47758.600000	0.027352	2.51
Y_R2 488.368	1.052925	90912.863910	0.009451	0.90

Sample Name: 280-115842-A-6-A

Date: 10/29/2018 3:58:56 PM Rack:Tube: 1:54

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000404	ppm	0.000081	20.03	-416.633000	Y 377.433
Al (167.019 nm)	0.182458	ppm	0.006555	3.59	97.503300	Y_R 377.433
Al H (396.152 nm)	0.197630 u	ppm	0.014076	7.12	728.473702	Y_R 377.433
As (188.980 nm)	0.003357	ppm	0.001370	40.79	1.454100	Y 242.219
B (249.678 nm)	1.692780 o	ppm	0.008247	0.49	40244.300000	Y 242.219
Ba (493.408 nm)	0.035654	ppm	0.000715	2.00	4733.490000	Y_R 488.368
Be (234.861 nm)	0.000158	ppm	0.000007	4.39	-9.539310	Y_R 488.368
Bi (223.061 nm)	0.000216 u	ppm	0.001751	> 100.00	7.934390	Y 377.433
Ca (315.887 nm)	345.763728 o	ppm	0.195044	0.06	265956.840997	Y_R 377.433
Cd (214.439 nm)	0.000010 u	ppm	0.000061	> 100.00	-0.890867	Y 377.433
Co (228.615 nm)	0.000311	ppm	0.000196	63.01	-28.783200	Y 242.219
Cr (205.560 nm)	0.000384	ppm	0.000047	12.36	7.231220	Y 377.433
Cu (324.754 nm)	-0.001631 u	ppm	0.000348	21.36	-599.483000	Y 377.433
Fe (238.204 nm)	0.171401	ppm	0.001215	0.71	635.139611	Y_R 377.433
Fe H (259.940 nm)	0.081230 u	ppm	0.002066	2.54	300.755000	Y_R 377.433
K (766.491 nm)	3.632500	ppm	0.052108	1.43	3391.190000	Y_R2 488.368
Li (670.783 nm)	0.222349	ppm	0.000116	0.05	5839.010000	Y_R2 488.368
Mg (279.078 nm)	109.225000 o	ppm	0.706045	0.65	600893.000000	Y 377.433
Mn (257.610 nm)	0.063800	ppm	0.000121	0.19	14460.200000	Y 377.433
Mo (202.032 nm)	0.004703	ppm	0.000132	2.81	36.849300	Y 377.433
Na (589.592 nm)	584.318000 o	ppm	6.417950	1.10	3703320.000000	Y_R2 488.368
Na H (589.593 nm)	593.390158	ppm	7.202875	1.21	2181994.853137	Y_R 488.368
Ni (231.604 nm)	0.001835	ppm	0.000368	20.07	9.659690	Y 377.433
P (213.618 nm)	0.031189	ppm	0.000249	0.80	91.076200	Y 242.219
Pb (220.353 nm)	-0.001517 u	ppm	0.000616	40.60	-0.487319	Y 242.219
S (181.972 nm)	429.391874 bo	ppm	0.935934	0.22	209181.659016	Y 377.433
Sb (206.834 nm)	-0.003005 u	ppm	0.001159	38.57	-28.211900	Y 377.433
Se (196.026 nm)	0.000311 u	ppm	0.003389	> 100.00	13.778800	Y 242.219
Si (288.158 nm)	12.297600 o	ppm	0.016316	0.13	101447.000000	Y 377.433
Sn (189.925 nm)	-0.001221 u	ppm	0.000235	19.24	5.566320	Y 377.433
Sr (421.552 nm)	9.007431 o	ppm	0.119368	1.33	1856673.055006	Y_R 488.368
Th (288.505 nm)	0.002995	ppm	0.002073	69.21	86.458500	Y 377.433
Ti (336.122 nm)	0.001197	ppm	0.000031	2.58	946.218000	Y 377.433
Tl (190.794 nm)	0.002635	ppm	0.001677	63.65	-1.568750	Y 377.433
U (409.013 nm)	0.003240	ppm	0.000844	26.07	-224.361000	Y 377.433
V (292.401 nm)	0.004603	ppm	0.000106	2.29	186.667000	Y 377.433
Zn (206.200 nm)	0.003419	ppm	0.000709	20.75	15.751200	Y 377.433
Zr (343.823 nm)	0.000077 u	ppm	0.000130	> 100.00	23.847500	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.001620	18923.609015	0.005799	0.58
Y 377.433	1.014920	1029971.100310	0.009863	0.97
Y_R 377.433	1.105860	84975.900000	0.001352	0.12
Y_R 488.368	1.151040	50501.900000	0.017891	1.55
Y_R2 488.368	1.060625	91577.642850	0.012553	1.18

Sample Name: 280-115842-A-7-A

Date: 10/29/2018 4:02:19 PM Rack:Tube: 1:55

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000155	ppm	0.000172	> 100.00	-426.958000	Y 377.433
Al (167.019 nm)	0.082971	ppm	0.000750	0.90	44.898100	Y_R 377.433
Al H (396.152 nm)	0.110306 u	ppm	0.005650	5.12	505.890129	Y_R 377.433
As (188.980 nm)	0.000899	ppm	0.000621	69.01	-1.494330	Y 242.219
B (249.678 nm)	1.723840 o	ppm	0.000357	0.02	40981.000000	Y 242.219
Ba (493.408 nm)	0.023968	ppm	0.000209	0.87	3394.980000	Y_R 488.368
Be (234.861 nm)	0.000126	ppm	0.000012	9.46	-20.712500	Y_R 488.368
Bi (223.061 nm)	-0.000640 u	ppm	0.000263	41.08	5.846470	Y 377.433
Ca (315.887 nm)	341.227801 o	ppm	0.502283	0.15	262467.020956	Y_R 377.433
Cd (214.439 nm)	0.000060	ppm	0.000033	55.03	1.912380	Y 377.433
Co (228.615 nm)	-0.000776 u	ppm	0.000157	20.28	-47.595500	Y 242.219
Cr (205.560 nm)	0.001832	ppm	0.000082	4.47	28.368800	Y 377.433
Cu (324.754 nm)	-0.003227 u	ppm	0.000263	8.14	-680.138000	Y 377.433
Fe (238.204 nm)	0.098575	ppm	0.001185	1.20	372.337159	Y_R 377.433
Fe H (259.940 nm)	0.007017 u	ppm	0.001009	14.38	165.256000	Y_R 377.433
K (766.491 nm)	7.715640	ppm	0.077391	1.00	7977.730000	Y_R2 488.368
Li (670.783 nm)	0.386343	ppm	0.003150	0.82	11167.100000	Y_R2 488.368
Mg (279.078 nm)	131.050000 o	ppm	1.023760	0.78	720953.000000	Y 377.433
Mn (257.610 nm)	0.027751	ppm	0.000122	0.44	6324.380000	Y 377.433
Mo (202.032 nm)	0.001557	ppm	0.000349	22.43	10.587200	Y 377.433
Na (589.592 nm)	319.968000 o	ppm	1.571160	0.49	2028200.000000	Y_R2 488.368
Na H (589.593 nm)	324.131152	ppm	0.107525	0.03	1193334.765035	Y_R 488.368
Ni (231.604 nm)	0.002096	ppm	0.000408	19.47	11.370200	Y 377.433
P (213.618 nm)	0.010735	ppm	0.001767	16.46	48.992400	Y 242.219
Pb (220.353 nm)	-0.000411 u	ppm	0.001336	> 100.00	2.611450	Y 242.219
S (181.972 nm)	367.845626 bo	ppm	0.210494	0.06	179203.306001	Y 377.433
Sb (206.834 nm)	-0.003618 u	ppm	0.001991	55.02	-29.740100	Y 377.433
Se (196.026 nm)	-0.000770 u	ppm	0.006839	> 100.00	12.748500	Y 242.219
Si (288.158 nm)	14.536900 o	ppm	0.111560	0.77	119734.000000	Y 377.433
Sn (189.925 nm)	0.000446	ppm	0.000584	> 100.00	8.746510	Y 377.433
Sr (421.552 nm)	7.990434 o	ppm	0.004803	0.06	1647059.263522	Y_R 488.368
Th (288.505 nm)	0.002513	ppm	0.003196	> 100.00	84.377900	Y 377.433
Ti (336.122 nm)	0.000916	ppm	0.000057	6.22	893.472000	Y 377.433
Tl (190.794 nm)	0.002371	ppm	0.002685	> 100.00	-2.127500	Y 377.433
U (409.013 nm)	-0.009698 u	ppm	0.005919	61.03	-281.121000	Y 377.433
V (292.401 nm)	0.001309	ppm	0.000131	9.99	71.704700	Y 377.433
Zn (206.200 nm)	0.002352	ppm	0.000322	13.69	10.418900	Y 377.433
Zr (343.823 nm)	-0.000015 u	ppm	0.000041	> 100.00	11.704100	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.969642	18319.464835	0.006830	0.70
Y 377.433	0.967148	981490.556914	0.009327	0.96
Y_R 377.433	0.998718	76743.300000	0.002771	0.28
Y_R 488.368	1.037160	45505.000000	0.001985	0.19
Y_R2 488.368	1.026954	88670.405395	0.009119	0.89

Sample Name: 280-115842-A-8-A

Date: 10/29/2018 4:05:41 PM Rack:Tube: 1:56

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000559	ppm	0.000306	54.69	-409.428000	Y 377.433
Al (167.019 nm)	0.021752	ppm	0.001778	8.17	12.509400	Y_R 377.433
Al H (396.152 nm)	0.058819 u	ppm	0.013342	22.68	468.331129	Y_R 377.433
As (188.980 nm)	0.000549 u	ppm	0.000891	> 100.00	-1.914030	Y 242.219
B (249.678 nm)	6.085760 o	ppm	0.009214	0.15	144442.000000	Y 242.219
Ba (493.408 nm)	0.100257	ppm	0.000411	0.41	12174.900000	Y_R 488.368
Be (234.861 nm)	0.000133	ppm	0.000004	2.79	-21.089300	Y_R 488.368
Bi (223.061 nm)	-0.001025 u	ppm	0.000911	88.92	4.902680	Y 377.433
Ca (315.887 nm)	552.702117 o	ppm	4.207992	0.76	425169.664784	Y_R 377.433
Cd (214.439 nm)	0.000236	ppm	0.000093	39.38	11.879100	Y 377.433
Co (228.615 nm)	0.000643	ppm	0.000040	6.25	-23.056200	Y 242.219
Cr (205.560 nm)	0.000470	ppm	0.000073	15.52	8.535050	Y 377.433
Cu (324.754 nm)	-0.002431 u	ppm	0.000595	24.48	-761.132000	Y 377.433
Fe (238.204 nm)	0.024224	ppm	0.003052	12.60	104.035996	Y_R 377.433
Fe H (259.940 nm)	-0.063241 u	ppm	0.002294	3.63	36.978000	Y_R 377.433
K (766.491 nm)	57.394200	ppm	0.081454	0.14	63781.000000	Y_R2 488.368
Li (670.783 nm)	1.159840	ppm	0.000207	0.02	36297.400000	Y_R2 488.368
Mg (279.078 nm)	306.657000 o	ppm	0.344981	0.11	1686990.000000	Y 377.433
Mn (257.610 nm)	0.107745	ppm	0.000081	0.07	24377.900000	Y 377.433
Mo (202.032 nm)	0.002914	ppm	0.000376	12.89	21.917500	Y 377.433
Na (589.592 nm)	670.586000 o	ppm	2.118450	0.32	4250100.000000	Y_R2 488.368
Na H (589.593 nm)	696.458209	ppm	7.346580	1.05	2560495.173821	Y_R 488.368
Ni (231.604 nm)	0.002659	ppm	0.000752	28.30	15.046000	Y 377.433
P (213.618 nm)	0.013116	ppm	0.001842	14.04	53.890400	Y 242.219
Pb (220.353 nm)	-0.000240 u	ppm	0.000612	> 100.00	3.091040	Y 242.219
S (181.972 nm)	890.085467 bo	ppm	1.235863	0.14	433578.824880	Y 377.433
Sb (206.834 nm)	-0.007184 u	ppm	0.000740	10.30	-39.216300	Y 377.433
Se (196.026 nm)	-0.006514 u	ppm	0.003264	50.10	7.424840	Y 242.219
Si (288.158 nm)	11.001800 o	ppm	0.218767	1.99	90864.800000	Y 377.433
Sn (189.925 nm)	0.000258 u	ppm	0.002340	> 100.00	8.387880	Y 377.433
Sr (421.552 nm)	11.023337 o	ppm	0.034233	0.31	2272172.795866	Y_R 488.368
Th (288.505 nm)	0.004255 u	ppm	0.006116	> 100.00	90.328400	Y 377.433
Ti (336.122 nm)	-0.000434 u	ppm	0.000010	2.31	1354.330000	Y 377.433
Tl (190.794 nm)	0.004644	ppm	0.000401	8.62	2.729080	Y 377.433
U (409.013 nm)	-0.017418 u	ppm	0.001846	10.60	-354.938000	Y 377.433
V (292.401 nm)	0.002527	ppm	0.000029	1.16	114.819000	Y 377.433
Zn (206.200 nm)	0.004429	ppm	0.000377	8.51	20.801800	Y 377.433
Zr (343.823 nm)	0.000014 u	ppm	0.000066	> 100.00	15.275900	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.910307	17198.430972	0.001629	0.18
Y 377.433	0.915055	928625.128368	0.000222	0.02
Y_R 377.433	1.056150	81156.600000	0.034023	3.22
Y_R 488.368	1.096910	48126.600000	0.037718	3.44
Y_R2 488.368	1.138684	98317.517934	0.020509	1.80

Sample Name: 280-115842-A-9-A

Date: 10/29/2018 4:09:05 PM Rack:Tube: 1:57

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000471	ppm	0.000187	39.70	-413.181000	Y 377.433
Al (167.019 nm)	0.013487	ppm	0.000689	5.11	8.146580	Y_R 377.433
Al H (396.152 nm)	0.048339 u	ppm	0.007267	15.03	456.111489	Y_R 377.433
As (188.980 nm)	-0.001638 u	ppm	0.001341	81.88	-4.537110	Y 242.219
B (249.678 nm)	5.204470 o	ppm	0.023296	0.45	123539.000000	Y 242.219
Ba (493.408 nm)	0.014176	ppm	0.000454	3.20	2330.130000	Y_R 488.368
Be (234.861 nm)	0.000114	ppm	0.000014	12.47	-26.158100	Y_R 488.368
Bi (223.061 nm)	0.000444	ppm	0.000302	68.19	8.463680	Y 377.433
Ca (315.887 nm)	584.826204 o	ppm	2.763866	0.47	449885.071708	Y_R 377.433
Cd (214.439 nm)	0.000149	ppm	0.000041	27.69	6.917480	Y 377.433
Co (228.615 nm)	-0.000699 u	ppm	0.000292	41.72	-46.299400	Y 242.219
Cr (205.560 nm)	0.000237	ppm	0.000117	49.32	5.125590	Y 377.433
Cu (324.754 nm)	-0.001942 u	ppm	0.000063	3.22	-755.450000	Y 377.433
Fe (238.204 nm)	0.029885	ppm	0.000032	0.11	124.463842	Y_R 377.433
Fe H (259.940 nm)	-0.060794 u	ppm	0.000468	0.77	41.445000	Y_R 377.433
K (766.491 nm)	29.268500	ppm	0.003522	0.01	32187.700000	Y_R2 488.368
Li (670.783 nm)	0.988804	ppm	0.002951	0.30	30740.700000	Y_R2 488.368
Mg (279.078 nm)	296.461000 o	ppm	0.236209	0.08	1630900.000000	Y 377.433
Mn (257.610 nm)	0.004422	ppm	0.000009	0.20	1059.330000	Y 377.433
Mo (202.032 nm)	0.001091	ppm	0.000242	22.17	6.701830	Y 377.433
Na (589.592 nm)	480.586000 o	ppm	0.291438	0.06	3045960.000000	Y_R2 488.368
Na H (589.593 nm)	493.061114	ppm	5.212333	1.06	1813593.145927	Y_R 488.368
Ni (231.604 nm)	0.001670	ppm	0.000344	20.63	8.579930	Y 377.433
P (213.618 nm)	0.004075	ppm	0.000719	17.63	35.288700	Y 242.219
Pb (220.353 nm)	0.000239	ppm	0.000022	9.21	4.434570	Y 242.219
S (181.972 nm)	945.140893 bo	ppm	0.767078	0.08	460395.278073	Y 377.433
Sb (206.834 nm)	-0.003769 u	ppm	0.002907	77.13	-30.165300	Y 377.433
Se (196.026 nm)	0.001782	ppm	0.000738	41.40	15.141600	Y 242.219
Si (288.158 nm)	14.483600 o	ppm	0.139975	0.97	119299.000000	Y 377.433
Sn (189.925 nm)	0.000558 u	ppm	0.001409	> 100.00	8.959670	Y 377.433
Sr (421.552 nm)	11.697132 bo	ppm	0.174299	1.49	2411049.224381	Y_R 488.368
Th (288.505 nm)	0.004012	ppm	0.001869	46.57	87.685700	Y 377.433
Ti (336.122 nm)	-0.000770 u	ppm	0.000057	7.46	1408.600000	Y 377.433
Tl (190.794 nm)	0.003510	ppm	0.001818	51.81	0.312638	Y 377.433
U (409.013 nm)	-0.022917 u	ppm	0.000078	0.34	-385.500000	Y 377.433
V (292.401 nm)	0.002270	ppm	0.000102	4.50	105.549000	Y 377.433
Zn (206.200 nm)	0.007105	ppm	0.000927	13.05	34.184000	Y 377.433
Zr (343.823 nm)	-0.000131 u	ppm	0.000107	81.85	-3.357210	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.961895	18173.094653	0.008772	0.91
Y 377.433	0.970635	985028.754254	0.012663	1.30
Y_R 377.433	1.027870	78983.000000	0.003448	0.34
Y_R 488.368	1.074620	47148.600000	0.011246	1.05
Y_R2 488.368	1.095897	94623.175815	0.004424	0.40

Sample Name: 280-115842-A-10-A

Date: 10/29/2018 4:12:29 PM Rack:Tube: 1:58

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000279	ppm	0.000035	12.41	-421.623000	Y 377.433
Al (167.019 nm)	0.205035	ppm	0.000665	0.32	109.883000	Y_R 377.433
Al H (396.152 nm)	0.245129 u	ppm	0.009994	4.08	933.473181	Y_R 377.433
As (188.980 nm)	0.005219	ppm	0.001831	35.09	3.680900	Y 242.219
B (249.678 nm)	2.791990 o	ppm	0.003961	0.14	66315.700000	Y 242.219
Ba (493.408 nm)	0.012148	ppm	0.000277	2.28	2088.540000	Y_R 488.368
Be (234.861 nm)	0.000148	ppm	0.000002	1.28	9.051890	Y_R 488.368
Bi (223.061 nm)	0.000529	ppm	0.000721	> 100.00	8.805950	Y 377.433
Ca (315.887 nm)	540.493369 o	ppm	0.399100	0.07	415776.582311	Y_R 377.433
Cd (214.439 nm)	0.000111	ppm	0.000049	44.47	5.515220	Y 377.433
Co (228.615 nm)	0.000594	ppm	0.000233	39.29	-23.857100	Y 242.219
Cr (205.560 nm)	0.000193	ppm	0.000046	23.56	4.272720	Y 377.433
Cu (324.754 nm)	-0.003753 u	ppm	0.000008	0.21	-825.339000	Y 377.433
Fe (238.204 nm)	0.886134	ppm	0.000641	0.07	3214.335673	Y_R 377.433
Fe H (259.940 nm)	0.794964 u	ppm	0.003915	0.49	1603.910000	Y_R 377.433
K (766.491 nm)	11.734800	ppm	0.030029	0.26	12492.400000	Y_R2 488.368
Li (670.783 nm)	0.443340	ppm	0.000167	0.04	13018.900000	Y_R2 488.368
Mg (279.078 nm)	173.871000 o	ppm	0.340818	0.20	956516.000000	Y 377.433
Mn (257.610 nm)	0.078308	ppm	0.000039	0.05	17734.200000	Y 377.433
Mo (202.032 nm)	0.001165	ppm	0.000480	41.19	7.315180	Y 377.433
Na (589.592 nm)	277.402000 o	ppm	0.810266	0.29	1758450.000000	Y_R2 488.368
Na H (589.593 nm)	284.385950	ppm	4.307517	1.51	1047389.687439	Y_R 488.368
Ni (231.604 nm)	0.002067	ppm	0.000502	24.27	11.211600	Y 377.433
P (213.618 nm)	0.019583	ppm	0.002050	10.47	67.195600	Y 242.219
Pb (220.353 nm)	0.000258	ppm	0.000252	97.74	4.494640	Y 242.219
S (181.972 nm)	671.070868 bo	ppm	0.425047	0.06	326899.971652	Y 377.433
Sb (206.834 nm)	-0.004251 u	ppm	0.002203	51.82	-31.649500	Y 377.433
Se (196.026 nm)	-0.001280 u	ppm	0.000189	14.78	12.166600	Y 242.219
Si (288.158 nm)	12.493300 o	ppm	0.029862	0.24	103045.000000	Y 377.433
Sn (189.925 nm)	0.002002	ppm	0.000585	29.23	11.715800	Y 377.433
Sr (421.552 nm)	9.565778 o	ppm	0.125231	1.31	1971754.299740	Y_R 488.368
Th (288.505 nm)	0.001343	ppm	0.001822	> 100.00	82.457800	Y 377.433
Ti (336.122 nm)	0.001584	ppm	0.000130	8.22	1600.820000	Y 377.433
Tl (190.794 nm)	0.003833	ppm	0.000955	24.92	0.973571	Y 377.433
U (409.013 nm)	-0.011033 u	ppm	0.002601	23.57	-323.627000	Y 377.433
V (292.401 nm)	0.001731	ppm	0.000441	25.46	86.565600	Y 377.433
Zn (206.200 nm)	0.004636	ppm	0.000897	19.35	21.836600	Y 377.433
Zr (343.823 nm)	0.000041	ppm	0.000049	> 100.00	21.232800	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.985849	18625.649223	0.000087	0.01
Y 377.433	0.991832	1006540.292802	0.000543	0.05
Y_R 377.433	1.065760	81894.700000	0.000418	0.04
Y_R 488.368	1.109890	48696.200000	0.008511	0.77
Y_R2 488.368	1.140909	98509.600621	0.009111	0.80

Sample Name: 280-115842-A-11-A

Date: 10/29/2018 4:15:52 PM Rack:Tube: 1:59

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000512	ppm	0.000063	12.37	-410.984000	Y 377.433
Al (167.019 nm)	0.108719	ppm	0.002520	2.32	58.619700	Y_R 377.433
Al H (396.152 nm)	0.133138 u	ppm	0.013168	9.89	665.558513	Y_R 377.433
As (188.980 nm)	0.004881	ppm	0.001704	34.91	3.280790	Y 242.219
B (249.678 nm)	3.499510 o	ppm	0.011466	0.33	83098.400000	Y 242.219
Ba (493.408 nm)	0.014764	ppm	0.000671	4.54	2395.150000	Y_R 488.368
Be (234.861 nm)	0.000118	ppm	0.000001	1.21	-17.317300	Y_R 488.368
Bi (223.061 nm)	-0.001642 u	ppm	0.000300	18.28	3.447210	Y 377.433
Ca (315.887 nm)	574.151187 o	ppm	1.511784	0.26	441672.001022	Y_R 377.433
Cd (214.439 nm)	0.000051	ppm	0.000069	> 100.00	1.562810	Y 377.433
Co (228.615 nm)	0.004277	ppm	0.000232	5.42	39.848500	Y 242.219
Cr (205.560 nm)	0.000087 u	ppm	0.000160	> 100.00	2.871220	Y 377.433
Cu (324.754 nm)	-0.002684 u	ppm	0.000218	8.13	-787.625000	Y 377.433
Fe (238.204 nm)	0.285517	ppm	0.000242	0.08	1046.938922	Y_R 377.433
Fe H (259.940 nm)	0.191075 u	ppm	0.000295	0.15	501.313000	Y_R 377.433
K (766.491 nm)	16.914600	ppm	0.009280	0.05	18310.800000	Y_R2 488.368
Li (670.783 nm)	0.862296	ppm	0.004213	0.49	26630.500000	Y_R2 488.368
Mg (279.078 nm)	258.806000 o	ppm	1.173260	0.45	1423750.000000	Y 377.433
Mn (257.610 nm)	0.446700	ppm	0.000202	0.05	100875.000000	Y 377.433
Mo (202.032 nm)	0.001903	ppm	0.000283	14.86	13.478100	Y 377.433
Na (589.592 nm)	570.473000 o	ppm	0.089885	0.02	3615550.000000	Y_R2 488.368
Na H (589.593 nm)	596.481876	ppm	9.295137	1.56	2193327.576856	Y_R 488.368
Ni (231.604 nm)	0.008478	ppm	0.000834	9.84	53.097200	Y 377.433
P (213.618 nm)	0.012584	ppm	0.001310	10.41	52.796600	Y 242.219
Pb (220.353 nm)	0.001434	ppm	0.000468	32.63	7.726690	Y 242.219
S (181.972 nm)	929.721288 bo	ppm	2.119843	0.23	452885.619995	Y 377.433
Sb (206.834 nm)	-0.001151 u	ppm	0.000771	67.00	-23.269200	Y 377.433
Se (196.026 nm)	-0.003405 u	ppm	0.000605	17.78	10.555100	Y 242.219
Si (288.158 nm)	12.632000 o	ppm	0.022435	0.18	104177.000000	Y 377.433
Sn (189.925 nm)	-0.000117 u	ppm	0.000380	> 100.00	7.672130	Y 377.433
Sr (421.552 nm)	11.900577 bo	ppm	0.220358	1.85	2452981.344100	Y_R 488.368
Th (288.505 nm)	0.001632	ppm	0.002070	> 100.00	89.913600	Y 377.433
Ti (336.122 nm)	0.000486	ppm	0.000028	5.67	1551.070000	Y 377.433
Tl (190.794 nm)	0.004677	ppm	0.000495	10.57	2.806020	Y 377.433
U (409.013 nm)	-0.019787 u	ppm	0.002049	10.35	-369.341000	Y 377.433
V (292.401 nm)	0.001461	ppm	0.000123	8.40	77.852000	Y 377.433
Zn (206.200 nm)	0.004375	ppm	0.000495	11.32	20.532900	Y 377.433
Zr (343.823 nm)	-0.000101 u	ppm	0.000030	29.62	1.185760	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.997625	18848.139268	0.000296	0.03
Y 377.433	1.018666	1033772.791240	0.003226	0.32
Y_R 377.433	1.129560	86797.800000	0.007192	0.64
Y_R 488.368	1.166000	51158.100000	0.028084	2.41
Y_R2 488.368	1.165330	100618.260224	0.012329	1.06

Sample Name: 280-115842-A-12-A

Date: 10/29/2018 4:19:15 PM Rack:Tube: 1:60

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000308	ppm	0.000003	0.94	-420.533000	Y 377.433
Al (167.019 nm)	0.005464	ppm	0.001501	27.48	3.906800	Y_R 377.433
Al H (396.152 nm)	0.040859 u	ppm	0.005962	14.59	437.465955	Y_R 377.433
As (188.980 nm)	0.002651 u	ppm	0.003834	> 100.00	0.607181	Y 242.219
B (249.678 nm)	3.893030 o	ppm	0.011488	0.30	92432.700000	Y 242.219
Ba (493.408 nm)	0.013524	ppm	0.000055	0.41	2255.560000	Y_R 488.368
Be (234.861 nm)	0.000130	ppm	0.000001	0.39	-21.812400	Y_R 488.368
Bi (223.061 nm)	0.000175 u	ppm	0.000934	> 100.00	7.812170	Y 377.433
Ca (315.887 nm)	585.371862 o	ppm	2.785384	0.48	450304.886828	Y_R 377.433
Cd (214.439 nm)	0.000076	ppm	0.000064	84.25	2.775210	Y 377.433
Co (228.615 nm)	-0.000566 u	ppm	0.000301	53.16	-44.011200	Y 242.219
Cr (205.560 nm)	0.000295	ppm	0.000013	4.52	5.976590	Y 377.433
Cu (324.754 nm)	-0.004065 u	ppm	0.000118	2.89	-869.846000	Y 377.433
Fe (238.204 nm)	0.027943	ppm	0.001885	6.75	117.453778	Y_R 377.433
Fe H (259.940 nm)	-0.058586 u	ppm	0.005392	9.20	45.475900	Y_R 377.433
K (766.491 nm)	20.751300	ppm	0.023019	0.11	22620.500000	Y_R2 488.368
Li (670.783 nm)	0.783400	ppm	0.002502	0.32	24067.300000	Y_R2 488.368
Mg (279.078 nm)	250.784000 o	ppm	1.023800	0.41	1379620.000000	Y 377.433
Mn (257.610 nm)	0.026557	ppm	0.000063	0.24	6054.940000	Y 377.433
Mo (202.032 nm)	0.001569	ppm	0.000002	0.14	10.687000	Y 377.433
Na (589.592 nm)	424.332000 o	ppm	0.436871	0.10	2689500.000000	Y_R2 488.368
Na H (589.593 nm)	438.387417	ppm	3.923780	0.90	1612844.700513	Y_R 488.368
Ni (231.604 nm)	0.000049 u	ppm	0.000198	> 100.00	-2.017300	Y 377.433
P (213.618 nm)	0.014295	ppm	0.000023	0.16	56.315700	Y 242.219
Pb (220.353 nm)	-0.000743 u	ppm	0.002707	> 100.00	1.699240	Y 242.219
S (181.972 nm)	847.904171 bo	ppm	0.051953	0.01	413032.752526	Y 377.433
Sb (206.834 nm)	-0.004106 u	ppm	0.001492	36.35	-31.058400	Y 377.433
Se (196.026 nm)	0.023089	ppm	0.005456	23.63	35.179100	Y 242.219
Si (288.158 nm)	14.845100 o	ppm	0.072736	0.49	122251.000000	Y 377.433
Sn (189.925 nm)	0.000857	ppm	0.000836	97.50	9.531770	Y 377.433
Sr (421.552 nm)	11.416828 bo	ppm	0.086303	0.76	2353275.430208	Y_R 488.368
Th (288.505 nm)	0.004343	ppm	0.002964	68.23	88.972700	Y 377.433
Ti (336.122 nm)	-0.001120 u	ppm	0.000108	9.65	1361.070000	Y 377.433
Tl (190.794 nm)	0.003843	ppm	0.000828	21.54	1.024310	Y 377.433
U (409.013 nm)	-0.017875 u	ppm	0.005519	30.88	-363.166000	Y 377.433
V (292.401 nm)	0.002317	ppm	0.000058	2.52	106.690000	Y 377.433
Zn (206.200 nm)	0.001954	ppm	0.000273	13.95	8.426030	Y 377.433
Zr (343.823 nm)	-0.000167 u	ppm	0.000082	49.07	-8.022510	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.957948	18098.515257	0.008491	0.89
Y 377.433	0.971129	985530.205911	0.010871	1.12
Y_R 377.433	1.057030	81223.700000	0.000272	0.03
Y_R 488.368	1.092700	47942.200000	0.005102	0.47
Y_R2 488.368	1.073900	92723.828460	0.013183	1.23

Sample Name: CCVH-5380945

Date: 10/29/2018 4:22:39 PM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.002315 u	ppm	0.000232	10.03	-773.128000	Y 377.433
Al (167.019 nm)	52.088700 o	ppm	0.228513	0.44	27552.700000	Y_R 377.433
Al H (396.152 nm)	50.150394	ppm	0.151282	0.30	126674.643313	Y_R 377.433
As (188.980 nm)	0.001927	ppm	0.000721	37.39	-0.702701	Y 242.219
B (249.678 nm)	0.004709	ppm	0.000334	7.09	130.083000	Y 242.219
Ba (493.408 nm)	0.000572	ppm	0.000156	27.31	686.932000	Y_R 488.368
Be (234.861 nm)	-0.000066 u	ppm	0.000029	44.71	1497.960000	Y_R 488.368
Bi (223.061 nm)	1.025790	ppm	0.001999	0.19	2503.040000	Y 377.433
Ca (315.887 nm)	0.004201	ppm	0.004101	97.62	-61.226566	Y_R 377.433
Cd (214.439 nm)	-0.000274 u	ppm	0.000165	60.33	30.840400	Y 377.433
Co (228.615 nm)	0.002933	ppm	0.000083	2.84	16.578600	Y 242.219
Cr (205.560 nm)	-0.000277 u	ppm	0.000119	42.93	-16.171800	Y 377.433
Cu (324.754 nm)	-0.008004 u	ppm	0.000459	5.74	-419.191000	Y 377.433
Fe (238.204 nm)	52.712574 o	ppm	0.035496	0.07	190236.099389	Y_R 377.433
Fe H (259.940 nm)	52.844300	ppm	0.222730	0.42	96636.700000	Y_R 377.433
K (766.491 nm)	-0.022722 u	ppm	0.004939	21.74	-714.668000	Y_R2 488.368
Li (670.783 nm)	0.001229	ppm	0.000046	3.75	-1345.080000	Y_R2 488.368
Mg (279.078 nm)	-0.016122 u	ppm	0.004161	25.81	-397.876000	Y 377.433
Mn (257.610 nm)	0.001475	ppm	0.000008	0.53	394.443000	Y 377.433
Mo (202.032 nm)	0.000227 u	ppm	0.000515	> 100.00	-0.508474	Y 377.433
Na (589.592 nm)	231.466000 o	ppm	0.110044	0.05	1467340.000000	Y_R2 488.368
Na H (589.593 nm)	234.373543	ppm	3.447622	1.47	863743.559394	Y_R 488.368
Ni (231.604 nm)	0.004076	ppm	0.000165	4.04	26.370900	Y 377.433
P (213.618 nm)	-0.005751 u	ppm	0.002055	35.73	15.071600	Y 242.219
Pb (220.353 nm)	-0.002579 u	ppm	0.001100	42.66	13.410300	Y 242.219
S (181.972 nm)	5.336041	ppm	0.019370	0.36	2630.165712	Y 377.433
Sb (206.834 nm)	-0.006534 u	ppm	0.001021	15.63	-82.326900	Y 377.433
Se (196.026 nm)	-0.004233 u	ppm	0.000777	18.36	0.545964	Y 242.219
Si (288.158 nm)	0.000176 u	ppm	0.000371	> 100.00	1019.060000	Y 377.433
Sn (189.925 nm)	0.000258 u	ppm	0.000575	> 100.00	8.388040	Y 377.433
Sr (421.552 nm)	0.000515	ppm	0.000084	16.22	251.855161	Y_R 488.368
Th (288.505 nm)	5.084450	ppm	0.013921	0.27	12787.800000	Y 377.433
Ti (336.122 nm)	0.001831	ppm	0.000171	9.36	-30.621800	Y 377.433
Tl (190.794 nm)	-0.003964 u	ppm	0.000398	10.03	-16.981100	Y 377.433
U (409.013 nm)	10.332700	ppm	0.000318	0.00	45791.400000	Y 377.433
V (292.401 nm)	0.002170	ppm	0.000182	8.40	-59.671400	Y 377.433
Zn (206.200 nm)	0.001216	ppm	0.000361	29.70	4.736850	Y 377.433
Zr (343.823 nm)	-0.004913 u	ppm	0.000095	1.93	-469.837000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.016497	19204.679174	0.002087	0.21
Y 377.433	0.994650	1009400.634434	0.002957	0.30
Y_R 377.433	1.025050	78766.600000	0.007172	0.70
Y_R 488.368	1.073300	47090.800000	0.005293	0.49
Y_R2 488.368	1.022831	88314.394929	0.001059	0.10

Sample Name: CCV-5391053

Date: 10/29/2018 4:26:03 PM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.493602	ppm	0.000528	0.11	21450.500000	Y 377.433
Al (167.019 nm)	0.579339 Q	ppm	0.003677	0.63	308.750000 Q	Y_R 377.433
Al H (396.152 nm)	0.499657 u	ppm	0.000618	0.12	1381.833509	Y_R 377.433
As (188.980 nm)	1.016160	ppm	0.005585	0.55	1216.470000	Y 242.219
B (249.678 nm)	0.500664	ppm	0.000422	0.08	11985.600000	Y 242.219
Ba (493.408 nm)	0.495343	ppm	0.001568	0.32	57279.300000	Y_R 488.368
Be (234.861 nm)	0.466540	ppm	0.000900	0.19	133963.000000	Y_R 488.368
Bi (223.061 nm)	0.000059 u	ppm	0.000704	> 100.00	7.945990	Y 377.433
Ca (315.887 nm)	5.252562	ppm	0.039901	0.76	3976.997829	Y_R 377.433
Cd (214.439 nm)	0.511481	ppm	0.000288	0.06	29215.700000	Y 377.433
Co (228.615 nm)	0.511057	ppm	0.001429	0.28	8828.080000	Y 242.219
Cr (205.560 nm)	0.514953	ppm	0.003068	0.60	7504.630000	Y 377.433
Cu (324.754 nm)	0.494985	ppm	0.002154	0.44	26079.600000	Y 377.433
Fe (238.204 nm)	2.657065	ppm	0.014586	0.55	9604.949469	Y_R 377.433
Fe H (259.940 nm)	2.604010 u	ppm	0.014332	0.55	4906.900000	Y_R 377.433
K (766.491 nm)	49.075300	ppm	0.145616	0.30	54436.500000	Y_R2 488.368
Li (670.783 nm)	0.982735	ppm	0.000995	0.10	30543.500000	Y_R2 488.368
Mg (279.078 nm)	19.630700	ppm	0.007855	0.04	108021.000000	Y 377.433
Mn (257.610 nm)	0.507672	ppm	0.000395	0.08	114635.000000	Y 377.433
Mo (202.032 nm)	0.510358	ppm	0.000655	0.13	4257.240000	Y 377.433
Na (589.592 nm)	4.813500	ppm	0.017510	0.36	32081.800000	Y_R2 488.368
Na H (589.593 nm)	5.505913 u	ppm	0.009628	0.17	23868.171598	Y_R 488.368
Ni (231.604 nm)	0.513189	ppm	0.000779	0.15	3353.560000	Y 377.433
P (213.618 nm)	0.906551	ppm	0.000391	0.04	1892.140000	Y 242.219
Pb (220.353 nm)	1.008340	ppm	0.002423	0.24	2814.890000	Y 242.219
S (181.972 nm)	0.104410	ppm	0.010278	9.84	83.066989	Y 377.433
Sb (206.834 nm)	1.018570	ppm	0.001588	0.16	2685.980000	Y 377.433
Se (196.026 nm)	1.011800	ppm	0.006327	0.63	964.232000	Y 242.219
Si (288.158 nm)	4.973150	ppm	0.003985	0.08	41631.100000	Y 377.433
Sn (189.925 nm)	1.007290	ppm	0.003790	0.38	1929.550000	Y 377.433
Sr (421.552 nm)	0.479566	ppm	0.001074	0.22	98989.289913	Y_R 488.368
Th (288.505 nm)	-0.002077 u	ppm	0.000104	5.03	88.375000	Y 377.433
Ti (336.122 nm)	0.510707	ppm	0.000629	0.12	71053.900000	Y 377.433
Tl (190.794 nm)	1.033000	ppm	0.000495	0.05	2196.320000	Y 377.433
U (409.013 nm)	-0.001493 u	ppm	0.000827	55.34	-217.528000	Y 377.433
V (292.401 nm)	0.505337	ppm	0.000136	0.03	17654.200000	Y 377.433
Zn (206.200 nm)	0.507178	ppm	0.001253	0.25	2534.840000	Y 377.433
Zr (343.823 nm)	0.507911	ppm	0.000591	0.12	65384.500000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.054067	19914.502404	0.002164	0.21
Y 377.433	1.045789	1061297.712106	0.002554	0.24
Y_R 377.433	1.094510	84103.900000	0.002309	0.21
Y_R 488.368	1.132500	49688.300000	0.000625	0.06
Y_R2 488.368	1.101962	95146.800678	0.003461	0.31

Sample Name: CCB

Date: 10/29/2018 4:29:25 PM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000503 u	ppm	0.000631	> 100.00	-455.661000	Y 377.433
Al (167.019 nm)	0.002896	ppm	0.001594	55.04	2.533140	Y_R 377.433
Al H (396.152 nm)	-0.026345 u	ppm	0.002480	9.41	11.336283	Y_R 377.433
As (188.980 nm)	0.001380 u	ppm	0.002660	> 100.00	-0.916544	Y 242.219
B (249.678 nm)	0.003561	ppm	0.000210	5.90	177.688000	Y 242.219
Ba (493.408 nm)	-0.000244 u	ppm	0.000006	2.52	545.382000	Y_R 488.368
Be (234.861 nm)	0.000039	ppm	0.000003	8.07	-48.544700	Y_R 488.368
Bi (223.061 nm)	0.001205	ppm	0.001693	> 100.00	10.306700	Y 377.433
Ca (315.887 nm)	-0.002220 u	ppm	0.001858	83.70	-66.167241	Y_R 377.433
Cd (214.439 nm)	0.000071	ppm	0.000005	6.66	2.457130	Y 377.433
Co (228.615 nm)	0.000176 u	ppm	0.000264	> 100.00	-31.160200	Y 242.219
Cr (205.560 nm)	-0.000082 u	ppm	0.000025	29.98	0.485101	Y 377.433
Cu (324.754 nm)	-0.000614 u	ppm	0.000036	5.93	-343.419000	Y 377.433
Fe (238.204 nm)	0.000746 u	ppm	0.001223	> 100.00	19.310739	Y_R 377.433
Fe H (259.940 nm)	-0.078816 u	ppm	0.001763	2.24	8.540090	Y_R 377.433
K (766.491 nm)	0.026384	ppm	0.004653	17.64	-659.509000	Y_R2 488.368
Li (670.783 nm)	0.005113	ppm	0.001201	23.49	-1218.890000	Y_R2 488.368
Mg (279.078 nm)	0.002519	ppm	0.000848	33.65	48.315300	Y 377.433
Mn (257.610 nm)	-0.000005 u	ppm	0.000009	> 100.00	60.373100	Y 377.433
Mo (202.032 nm)	0.000639	ppm	0.000012	1.89	2.923090	Y 377.433
Na (589.592 nm)	0.050370	ppm	0.013584	26.97	938.101000	Y_R2 488.368
Na H (589.593 nm)	0.448346 u	ppm	0.002388	0.53	4831.654004	Y_R 488.368
Ni (231.604 nm)	0.000085	ppm	0.000041	48.71	-1.784770	Y 377.433
P (213.618 nm)	-0.001063 u	ppm	0.003002	> 100.00	24.718100	Y 242.219
Pb (220.353 nm)	-0.001425 u	ppm	0.001297	91.05	-0.158933	Y 242.219
S (181.972 nm)	0.079922 Z	ppm	0.002240	2.80	69.983762 Z	Y 377.433
Sb (206.834 nm)	0.000226 u	ppm	0.000576	> 100.00	-19.565400	Y 377.433
Se (196.026 nm)	-0.002070 u	ppm	0.003050	> 100.00	11.520200	Y 242.219
Si (288.158 nm)	-0.022068 u	ppm	0.000156	0.71	837.404000	Y 377.433
Sn (189.925 nm)	-0.000126 u	ppm	0.000871	> 100.00	7.655850	Y 377.433
Sr (421.552 nm)	-0.000118 u	ppm	0.000093	79.19	121.426575	Y_R 488.368
Th (288.505 nm)	-0.000741 u	ppm	0.004915	> 100.00	75.668200	Y 377.433
Ti (336.122 nm)	0.000347	ppm	0.000022	6.30	-238.091000	Y 377.433
Tl (190.794 nm)	0.000655	ppm	0.000551	84.19	-5.780320	Y 377.433
U (409.013 nm)	-0.000239 u	ppm	0.001926	> 100.00	-175.250000	Y 377.433
V (292.401 nm)	0.000153	ppm	0.000002	1.57	30.271100	Y 377.433
Zn (206.200 nm)	0.000249	ppm	0.000291	> 100.00	-0.100321	Y 377.433
Zr (343.823 nm)	0.000085	ppm	0.000032	37.59	24.283200	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.032157	19500.557502	0.011584	1.12
Y 377.433	1.024282	1039471.779245	0.013725	1.34
Y_R 377.433	1.051630	80808.900000	0.005281	0.50
Y_R 488.368	1.084080	47563.600000	0.013596	1.25
Y_R2 488.368	1.078934	93158.503394	0.007161	0.66

Sample Name: CCVL-5398386

Date: 10/29/2018 4:32:49 PM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.008460	ppm	0.000131	1.55	-58.131100	Y 377.433
Al (167.019 nm)	0.111806	ppm	0.000623	0.56	60.138300	Y_R 377.433
Al H (396.152 nm)	0.080708 u	ppm	0.002862	3.55	283.149120	Y_R 377.433
As (188.980 nm)	0.013725	ppm	0.002668	19.44	13.892300	Y 242.219
B (249.678 nm)	0.101078	ppm	0.000173	0.17	2490.950000	Y 242.219
Ba (493.408 nm)	0.009842	ppm	0.000422	4.29	1699.890000	Y_R 488.368
Be (234.861 nm)	0.001001	ppm	0.000022	2.17	230.215000	Y_R 488.368
Bi (223.061 nm)	0.103381	ppm	0.002474	2.39	258.082000	Y 377.433
Ca (315.887 nm)	0.217363	ppm	0.004455	2.05	102.776378	Y_R 377.433
Cd (214.439 nm)	0.005231	ppm	0.000090	1.71	297.275000	Y 377.433
Co (228.615 nm)	0.010917	ppm	0.000364	3.33	155.073000	Y 242.219
Cr (205.560 nm)	0.010405	ppm	0.000070	0.67	153.324000	Y 377.433
Cu (324.754 nm)	0.014893	ppm	0.000330	2.22	479.564000	Y 377.433
Fe (238.204 nm)	0.108664	ppm	0.000301	0.28	408.747111	Y_R 377.433
Fe H (259.940 nm)	0.028732 u	ppm	0.001158	4.03	204.904000	Y_R 377.433
K (766.491 nm)	3.157140	ppm	0.007215	0.23	2857.230000	Y_R2 488.368
Li (670.783 nm)	0.028210 Q	ppm	0.000880	3.12	-468.460000 Q	Y_R2 488.368
Mg (279.078 nm)	0.197706	ppm	0.001578	0.80	1120.870000	Y 377.433
Mn (257.610 nm)	0.010477	ppm	0.000079	0.76	2425.960000	Y 377.433
Mo (202.032 nm)	0.019423	ppm	0.000305	1.57	159.703000	Y 377.433
Na (589.592 nm)	1.024900	ppm	0.004344	0.42	7133.630000	Y_R2 488.368
Na H (589.593 nm)	1.295588 u	ppm	0.079532	6.14	7952.342379	Y_R 488.368
Ni (231.604 nm)	0.042671	ppm	0.000019	0.04	276.610000	Y 377.433
P (213.618 nm)	2.754450 o	ppm	0.000581	0.02	5694.200000	Y 242.219
Pb (220.353 nm)	0.008996	ppm	0.000628	6.98	28.918100	Y 242.219
S (181.972 nm)	0.158711 Q	ppm	0.000920	0.58	108.384369 Q	Y 377.433
Sb (206.834 nm)	0.019629	ppm	0.000247	1.26	31.871500	Y 377.433
Se (196.026 nm)	0.018528	ppm	0.001213	6.55	30.867400	Y 242.219
Si (288.158 nm)	0.467100	ppm	0.000474	0.10	4832.230000	Y 377.433
Sn (189.925 nm)	0.098122	ppm	0.001421	1.45	195.088000	Y 377.433
Sr (421.552 nm)	0.009753	ppm	0.000331	3.40	2155.862188	Y_R 488.368
Th (288.505 nm)	0.015145	ppm	0.007622	50.33	116.058000	Y 377.433
Ti (336.122 nm)	0.011097	ppm	0.000538	4.85	1263.960000	Y 377.433
Tl (190.794 nm)	0.015554	ppm	0.001018	6.54	25.969800	Y 377.433
U (409.013 nm)	0.061279	ppm	0.000549	0.90	97.080500	Y 377.433
V (292.401 nm)	0.009843	ppm	0.000013	0.14	365.242000	Y 377.433
Zn (206.200 nm)	0.021767	ppm	0.000073	0.34	107.502000	Y 377.433
Zr (343.823 nm)	0.015137	ppm	0.000020	0.13	1961.740000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.064077	20103.609298	0.011577	1.09
Y 377.433	1.057018	1072692.848875	0.012572	1.19
Y_R 377.433	1.117440	85865.800000	0.008761	0.78
Y_R 488.368	1.138370	49946.000000	0.029661	2.61
Y_R2 488.368	1.154878	99715.726165	0.002168	0.19

Sample Name: 280-115842-A-13-A

Date: 10/29/2018 4:36:12 PM Rack:Tube: 1:61

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000187	ppm	0.000006	3.06	-425.794000	Y 377.433
Al (167.019 nm)	0.024541	ppm	0.005163	21.04	14.008600	Y_R 377.433
Al H (396.152 nm)	0.029225 u	ppm	0.001864	6.38	220.904833	Y_R 377.433
As (188.980 nm)	0.000774 u	ppm	0.001615	> 100.00	-1.643960	Y 242.219
B (249.678 nm)	0.220014	ppm	0.000080	0.04	5311.690000	Y 242.219
Ba (493.408 nm)	0.097280	ppm	0.000577	0.59	11743.800000	Y_R 488.368
Be (234.861 nm)	0.000092	ppm	0.000012	13.53	-31.567600	Y_R 488.368
Bi (223.061 nm)	0.001266	ppm	0.000410	32.36	10.464300	Y 377.433
Ca (315.887 nm)	158.257048 o	ppm	0.556854	0.35	121694.251466	Y_R 377.433
Cd (214.439 nm)	0.000012 u	ppm	0.000054	> 100.00	-0.886644	Y 377.433
Co (228.615 nm)	-0.000081 u	ppm	0.000071	87.08	-35.597600	Y 242.219
Cr (205.560 nm)	0.000008 u	ppm	0.000360	> 100.00	1.776190	Y 377.433
Cu (324.754 nm)	0.000049 u	ppm	0.000216	> 100.00	-401.905000	Y 377.433
Fe (238.204 nm)	0.065734	ppm	0.000521	0.79	253.828971	Y_R 377.433
Fe H (259.940 nm)	-0.018697 u	ppm	0.001423	7.61	118.307000	Y_R 377.433
K (766.491 nm)	1.278320	ppm	0.036192	2.83	746.780000	Y_R2 488.368
Li (670.783 nm)	0.042955	ppm	0.000625	1.46	10.586500	Y_R2 488.368
Mg (279.078 nm)	12.758500	ppm	0.013306	0.10	70220.100000	Y 377.433
Mn (257.610 nm)	0.004897	ppm	0.000025	0.51	1166.630000	Y 377.433
Mo (202.032 nm)	0.001088	ppm	0.000435	40.02	6.673600	Y 377.433
Na (589.592 nm)	51.561100 o	ppm	0.065552	0.13	327534.000000	Y_R2 488.368
Na H (589.593 nm)	52.204911	ppm	0.334516	0.64	194960.191935	Y_R 488.368
Ni (231.604 nm)	0.000224	ppm	0.000284	> 100.00	-0.870436	Y 377.433
P (213.618 nm)	0.010476	ppm	0.001631	15.57	48.458400	Y 242.219
Pb (220.353 nm)	-0.000083 u	ppm	0.000584	> 100.00	3.570400	Y 242.219
S (181.972 nm)	42.601833 o	ppm	0.076341	0.18	20781.791562	Y 377.433
Sb (206.834 nm)	-0.002008 u	ppm	0.000522	26.00	-25.505200	Y 377.433
Se (196.026 nm)	-0.001056 u	ppm	0.002945	> 100.00	12.466300	Y 242.219
Si (288.158 nm)	12.169900 o	ppm	0.096029	0.79	100404.000000	Y 377.433
Sn (189.925 nm)	0.001235	ppm	0.001060	85.82	10.252400	Y 377.433
Sr (421.552 nm)	1.127362 o	ppm	0.007152	0.63	232507.029484	Y_R 488.368
Th (288.505 nm)	-0.005517 u	ppm	0.000085	1.54	64.198000	Y 377.433
Ti (336.122 nm)	0.000792	ppm	0.000034	4.34	311.275000	Y 377.433
Tl (190.794 nm)	0.002557	ppm	0.001848	72.27	-1.724810	Y 377.433
U (409.013 nm)	-0.002458 u	ppm	0.000332	13.51	-214.645000	Y 377.433
V (292.401 nm)	0.003295	ppm	0.000156	4.73	140.129000	Y 377.433
Zn (206.200 nm)	0.004153	ppm	0.000268	6.44	19.423800	Y 377.433
Zr (343.823 nm)	-0.000071 u	ppm	0.000076	> 100.00	4.491300	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.042387	19693.824328	0.000555	0.05
Y 377.433	1.044836	1060330.523604	0.000473	0.05
Y_R 377.433	1.116190	85769.900000	0.002936	0.26
Y_R 488.368	1.157690	50793.300000	0.000007	0.00
Y_R2 488.368	1.136112	98095.444984	0.003918	0.34

Sample Name: 280-115842-A-14-A

Date: 10/29/2018 4:39:34 PM Rack:Tube: 1:62

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000907	ppm	0.000332	36.57	-395.265000	Y 377.433
Al (167.019 nm)	0.008973	ppm	0.002873	32.01	5.777740	Y_R 377.433
Al H (396.152 nm)	0.006511 u	ppm	0.004767	73.22	624.998696	Y_R 377.433
As (188.980 nm)	-0.000027 u	ppm	0.000679	> 100.00	-2.604960	Y 242.219
B (249.678 nm)	5.970650 o	ppm	0.021432	0.36	141712.000000	Y 242.219
Ba (493.408 nm)	0.019697	ppm	0.000151	0.77	3105.180000	Y_R 488.368
Be (234.861 nm)	0.000145	ppm	0.000023	15.85	-17.599400	Y_R 488.368
Bi (223.061 nm)	-0.000270 u	ppm	0.001393	> 100.00	6.736760	Y 377.433
Ca (315.887 nm)	1210.384352 o	ppm	5.904520	0.49	931172.664040	Y_R 377.433
Cd (214.439 nm)	0.000295	ppm	0.000110	37.27	15.283800	Y 377.433
Co (228.615 nm)	-0.000736 u	ppm	0.000071	9.61	-46.957100	Y 242.219
Cr (205.560 nm)	0.004912	ppm	0.000059	1.20	73.253900	Y 377.433
Cu (324.754 nm)	-0.003285 u	ppm	0.000102	3.09	-1198.980000	Y 377.433
Fe (238.204 nm)	0.054872	ppm	0.001472	2.68	214.630532	Y_R 377.433
Fe H (259.940 nm)	-0.036113 u	ppm	0.001711	4.74	86.508700	Y_R 377.433
K (766.491 nm)	19.382800	ppm	0.018094	0.09	21083.300000	Y_R2 488.368
Li (670.783 nm)	1.072370	ppm	0.002355	0.22	33455.800000	Y_R2 488.368
Mg (279.078 nm)	366.817000 o	ppm	3.203010	0.87	2017940.000000	Y 377.433
Mn (257.610 nm)	0.003320	ppm	0.000033	0.98	810.758000	Y 377.433
Mo (202.032 nm)	0.017684	ppm	0.000019	0.10	145.192000	Y 377.433
Na (589.592 nm)	1610.500000 o	ppm	9.797190	0.61	10205800.000000	Y_R2 488.368
Na H (589.593 nm)	1576.160999	ppm	0.300252	0.02	5790461.751480	Y_R 488.368
Ni (231.604 nm)	0.034570	ppm	0.001228	3.55	223.642000	Y 377.433
P (213.618 nm)	0.011280	ppm	0.001419	12.58	50.113100	Y 242.219
Pb (220.353 nm)	-0.000864 u	ppm	0.001700	> 100.00	1.417550	Y 242.219
S (181.972 nm)	756.437179 bo	ppm	1.482242	0.20	368480.474547	Y 377.433
Sb (206.834 nm)	-0.006703 u	ppm	0.000130	1.95	-38.047100	Y 377.433
Se (196.026 nm)	0.034472	ppm	0.002510	7.28	45.853700	Y 242.219
Si (288.158 nm)	20.886200 o	ppm	0.210620	1.01	171586.000000	Y 377.433
Sn (189.925 nm)	0.003503	ppm	0.000800	22.83	14.578200	Y 377.433
Sr (421.552 nm)	22.178727 bo	ppm	0.064984	0.29	4571417.423090	Y_R 488.368
Th (288.505 nm)	0.001414 u	ppm	0.002797	> 100.00	82.359200	Y 377.433
Ti (336.122 nm)	-0.001302 u	ppm	0.000122	9.37	3256.080000	Y 377.433
Tl (190.794 nm)	0.003462	ppm	0.002212	63.88	0.173904	Y 377.433
U (409.013 nm)	0.045243	ppm	0.013810	30.52	-199.288000	Y 377.433
V (292.401 nm)	0.002127	ppm	0.000518	24.34	95.108000	Y 377.433
Zn (206.200 nm)	0.003375	ppm	0.000538	15.96	15.530100	Y 377.433
Zr (343.823 nm)	-0.000480 u	ppm	0.000156	32.59	-48.256000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.882468	16672.478878	0.000724	0.08
Y 377.433	0.907913	921377.125034	0.003477	0.38
Y_R 377.433	1.050780	80743.700000	0.013823	1.32
Y_R 488.368	1.086230	47658.100000	0.006222	0.57
Y_R2 488.368	1.081249	93358.364193	0.017179	1.59

Sample Name: 280-115842-A-15-A

Date: 10/29/2018 4:42:57 PM Rack:Tube: 1:63

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000524	ppm	0.000177	33.74	-410.569000	Y 377.433
Al (167.019 nm)	0.062691	ppm	0.002262	3.61	34.403400	Y_R 377.433
Al H (396.152 nm)	0.073666 u	ppm	0.005579	7.57	386.132656	Y_R 377.433
As (188.980 nm)	0.002585	ppm	0.000542	20.98	0.524597	Y 242.219
B (249.678 nm)	2.372160 o	ppm	0.002429	0.10	56358.200000	Y 242.219
Ba (493.408 nm)	0.014853	ppm	0.000315	2.12	2337.730000	Y_R 488.368
Be (234.861 nm)	0.000093	ppm	0.000025	26.41	-19.847400	Y_R 488.368
Bi (223.061 nm)	-0.001152 u	ppm	0.001282	> 100.00	4.659190	Y 377.433
Ca (315.887 nm)	279.178779 o	ppm	1.814571	0.65	214728.174416	Y_R 377.433
Cd (214.439 nm)	0.000053 u	ppm	0.000102	> 100.00	1.823660	Y 377.433
Co (228.615 nm)	0.000827	ppm	0.000201	24.30	-19.864100	Y 242.219
Cr (205.560 nm)	0.000128	ppm	0.000040	31.02	3.435870	Y 377.433
Cu (324.754 nm)	-0.001579 u	ppm	0.000265	16.79	-556.716000	Y 377.433
Fe (238.204 nm)	0.444269	ppm	0.001093	0.25	1619.814560	Y_R 377.433
Fe H (259.940 nm)	0.352812 u	ppm	0.003250	0.92	796.616000	Y_R 377.433
K (766.491 nm)	8.613550	ppm	0.065728	0.76	8986.350000	Y_R2 488.368
Li (670.783 nm)	0.355876	ppm	0.000291	0.08	10177.200000	Y_R2 488.368
Mg (279.078 nm)	99.735400 o	ppm	0.225055	0.23	548689.000000	Y 377.433
Mn (257.610 nm)	0.058555	ppm	0.000021	0.04	13276.300000	Y 377.433
Mo (202.032 nm)	0.002217	ppm	0.000457	20.61	16.095900	Y 377.433
Na (589.592 nm)	265.019000 o	ppm	1.365520	0.52	1679990.000000	Y_R2 488.368
Na H (589.593 nm)	271.900793	ppm	0.913565	0.34	1001549.515165	Y_R 488.368
Ni (231.604 nm)	0.001895	ppm	0.000788	41.60	10.070800	Y 377.433
P (213.618 nm)	0.011009	ppm	0.001252	11.38	49.555000	Y 242.219
Pb (220.353 nm)	-0.000429 u	ppm	0.000189	44.08	2.606560	Y 242.219
S (181.972 nm)	337.380930 bo	ppm	0.517528	0.15	164364.471331	Y 377.433
Sb (206.834 nm)	-0.001673 u	ppm	0.001680	> 100.00	-24.718000	Y 377.433
Se (196.026 nm)	-0.004635 u	ppm	0.000782	16.88	9.075730	Y 242.219
Si (288.158 nm)	12.783600 o	ppm	0.122819	0.96	105415.000000	Y 377.433
Sn (189.925 nm)	0.001087 u	ppm	0.002014	> 100.00	9.970180	Y 377.433
Sr (421.552 nm)	5.523417 o	ppm	0.016364	0.30	1138580.636753	Y_R 488.368
Th (288.505 nm)	0.004235	ppm	0.002427	57.30	89.158000	Y 377.433
Ti (336.122 nm)	0.001191	ppm	0.000087	7.33	739.711000	Y 377.433
Tl (190.794 nm)	0.002914	ppm	0.000320	10.97	-0.973909	Y 377.433
U (409.013 nm)	-0.001552 u	ppm	0.003896	> 100.00	-232.912000	Y 377.433
V (292.401 nm)	0.000843	ppm	0.000129	15.35	55.108800	Y 377.433
Zn (206.200 nm)	0.004559	ppm	0.000023	0.50	21.455200	Y 377.433
Zr (343.823 nm)	-0.000133 u	ppm	0.000022	16.24	-2.506750	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.066134	20142.486744	0.005711	0.54
Y 377.433	1.085810	1101912.387318	0.006929	0.64
Y_R 377.433	1.155760	88810.500000	0.003657	0.32
Y_R 488.368	1.193090	52346.500000	0.011121	0.93
Y_R2 488.368	1.177201	101643.197381	0.000124	0.01

Sample Name: 280-115842-A-16-A

Date: 10/29/2018 4:46:21 PM Rack:Tube: 1:64

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000466 u	ppm	0.000032	6.84	-454.041000	Y 377.433
Al (167.019 nm)	0.003274	ppm	0.002453	74.92	2.739520	Y_R 377.433
Al H (396.152 nm)	-0.016699 u	ppm	0.001187	7.11	35.663209	Y_R 377.433
As (188.980 nm)	0.001534 u	ppm	0.004013	> 100.00	-0.731746	Y 242.219
B (249.678 nm)	0.003780	ppm	0.000247	6.53	182.876000	Y 242.219
Ba (493.408 nm)	-0.000718 u	ppm	0.000105	14.68	491.166000	Y_R 488.368
Be (234.861 nm)	0.000078	ppm	0.000014	18.57	-37.031400	Y_R 488.368
Bi (223.061 nm)	0.002202	ppm	0.001236	56.15	12.724000	Y 377.433
Ca (315.887 nm)	0.028908	ppm	0.008895	30.77	-42.218294	Y_R 377.433
Cd (214.439 nm)	0.000015 u	ppm	0.000024	> 100.00	-0.753571	Y 377.433
Co (228.615 nm)	0.000276	ppm	0.000127	45.80	-29.425800	Y 242.219
Cr (205.560 nm)	0.000078	ppm	0.000020	25.93	2.815230	Y 377.433
Cu (324.754 nm)	0.000091 u	ppm	0.000476	> 100.00	-307.546000	Y 377.433
Fe (238.204 nm)	0.011562	ppm	0.000779	6.74	58.341225	Y_R 377.433
Fe H (259.940 nm)	-0.069294 u	ppm	0.001966	2.84	25.925500	Y_R 377.433
K (766.491 nm)	0.123031	ppm	0.015923	12.94	-550.946000	Y_R2 488.368
Li (670.783 nm)	0.011104	ppm	0.000651	5.86	-1024.250000	Y_R2 488.368
Mg (279.078 nm)	0.004999	ppm	0.000287	5.75	61.929000	Y 377.433
Mn (257.610 nm)	0.000171	ppm	0.000011	6.57	100.053000	Y 377.433
Mo (202.032 nm)	0.000433	ppm	0.000071	16.46	1.209380	Y 377.433
Na (589.592 nm)	0.103007	ppm	0.019178	18.62	1271.000000	Y_R2 488.368
Na H (589.593 nm)	0.704126 u	ppm	0.025963	3.69	5770.500372	Y_R 488.368
Ni (231.604 nm)	0.000300 u	ppm	0.000457	> 100.00	-0.379400	Y 377.433
P (213.618 nm)	-0.003720 u	ppm	0.000233	6.26	19.251400	Y 242.219
Pb (220.353 nm)	0.000655 u	ppm	0.001258	> 100.00	5.643800	Y 242.219
S (181.972 nm)	0.091314	ppm	0.000227	0.25	75.533075	Y 377.433
Sb (206.834 nm)	-0.000183 u	ppm	0.001889	> 100.00	-20.645400	Y 377.433
Se (196.026 nm)	-0.005359 u	ppm	0.000902	16.82	8.428640	Y 242.219
Si (288.158 nm)	-0.018351 u	ppm	0.000549	2.99	867.761000	Y 377.433
Sn (189.925 nm)	-0.001856 u	ppm	0.000467	25.14	4.354350	Y 377.433
Sr (421.552 nm)	-0.000131 u	ppm	0.000009	6.81	118.582840	Y_R 488.368
Th (288.505 nm)	0.000148 u	ppm	0.001077	> 100.00	77.863000	Y 377.433
Ti (336.122 nm)	0.000836	ppm	0.000006	0.67	-169.727000	Y 377.433
Tl (190.794 nm)	0.000728	ppm	0.000209	28.71	-5.622090	Y 377.433
U (409.013 nm)	-0.000030 u	ppm	0.002082	> 100.00	-174.297000	Y 377.433
V (292.401 nm)	-0.000154 u	ppm	0.000104	67.54	18.720700	Y 377.433
Zn (206.200 nm)	0.001564	ppm	0.000289	18.49	6.474640	Y 377.433
Zr (343.823 nm)	-0.000086 u	ppm	0.000044	51.42	2.356340	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.109011	20952.548169	0.002126	0.19
Y 377.433	1.110370	1126836.261323	0.001212	0.11
Y_R 377.433	1.179350	90623.500000	0.005605	0.48
Y_R 488.368	1.225340	53761.400000	0.019409	1.58
Y_R2 488.368	1.204147	103969.771548	0.002671	0.22

Sample Name: 280-115845-A-5-A

Date: 10/29/2018 4:49:43 PM Rack:Tube: 1:65

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000124 u	ppm	0.000200	> 100.00	-428.549000	Y 377.433
Al (167.019 nm)	1.152300	ppm	0.010598	0.92	611.372000	Y_R 377.433
Al H (396.152 nm)	1.157461	ppm	0.000227	0.02	3277.636965	Y_R 377.433
As (188.980 nm)	0.005076	ppm	0.002159	42.53	3.495610	Y 242.219
B (249.678 nm)	2.535950 o	ppm	0.003150	0.12	60240.300000	Y 242.219
Ba (493.408 nm)	0.032902	ppm	0.000536	1.63	4486.840000	Y_R 488.368
Be (234.861 nm)	0.000208	ppm	0.000029	13.88	75.635200	Y_R 488.368
Bi (223.061 nm)	-0.001888 u	ppm	0.000607	32.14	3.205680	Y 377.433
Ca (315.887 nm)	633.742000 o	ppm	2.501274	0.39	487519.568299	Y_R 377.433
Cd (214.439 nm)	0.000095	ppm	0.000123	> 100.00	6.166210	Y 377.433
Co (228.615 nm)	0.003261	ppm	0.000171	5.23	22.945600	Y 242.219
Cr (205.560 nm)	0.003857	ppm	0.000010	0.26	57.240000	Y 377.433
Cu (324.754 nm)	-0.001533 u	ppm	0.000088	5.77	-761.748000	Y 377.433
Fe (238.204 nm)	2.540728	ppm	0.016713	0.66	9185.131635	Y_R 377.433
Fe H (259.940 nm)	2.487210 u	ppm	0.002084	0.08	4693.640000	Y_R 377.433
K (766.491 nm)	20.837800	ppm	0.166175	0.80	22717.700000	Y_R2 488.368
Li (670.783 nm)	0.778338	ppm	0.002815	0.36	23902.800000	Y_R2 488.368
Mg (279.078 nm)	102.734000 o	ppm	0.074755	0.07	565181.000000	Y 377.433
Mn (257.610 nm)	0.206500	ppm	0.000308	0.15	46665.300000	Y 377.433
Mo (202.032 nm)	0.005780	ppm	0.000435	7.53	45.833200	Y 377.433
Na (589.592 nm)	253.340000 o	ppm	1.269810	0.50	1606020.000000	Y_R2 488.368
Na H (589.593 nm)	260.167935	ppm	2.513731	0.97	958487.253195	Y_R 488.368
Ni (231.604 nm)	0.011942	ppm	0.000919	7.70	75.823100	Y 377.433
P (213.618 nm)	0.108010	ppm	0.001373	1.27	249.136000	Y 242.219
Pb (220.353 nm)	0.000380 u	ppm	0.001931	> 100.00	4.664440	Y 242.219
S (181.972 nm)	669.963309 bo	ppm	0.412995	0.06	326360.787278	Y 377.433
Sb (206.834 nm)	-0.002384 u	ppm	0.000476	19.94	-27.103200	Y 377.433
Se (196.026 nm)	0.002535	ppm	0.001323	52.17	15.563700	Y 242.219
Si (288.158 nm)	14.277200 o	ppm	0.060153	0.42	117613.000000	Y 377.433
Sn (189.925 nm)	0.001726	ppm	0.000592	34.29	11.187800	Y 377.433
Sr (421.552 nm)	7.884278 o	ppm	0.074385	0.94	1625179.330668	Y_R 488.368
Th (288.505 nm)	0.001292 u	ppm	0.002185	> 100.00	84.912000	Y 377.433
Ti (336.122 nm)	0.022262	ppm	0.000080	0.36	4775.460000	Y 377.433
Tl (190.794 nm)	0.001125	ppm	0.001442	> 100.00	-4.931100	Y 377.433
U (409.013 nm)	0.012939	ppm	0.000294	2.27	-233.222000	Y 377.433
V (292.401 nm)	0.004893	ppm	0.000250	5.12	196.329000	Y 377.433
Zn (206.200 nm)	0.016689	ppm	0.000607	3.63	82.108200	Y 377.433
Zr (343.823 nm)	0.002843	ppm	0.000125	4.41	386.454000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.025959	19383.452858	0.006133	0.60
Y 377.433	1.041896	1057346.846700	0.007752	0.74
Y_R 377.433	1.123090	86300.600000	0.041606	3.70
Y_R 488.368	1.158410	50825.000000	0.030124	2.60
Y_R2 488.368	1.113985	96184.968056	0.004695	0.42

Sample Name: 280-115845-A-6-A

Date: 10/29/2018 4:53:06 PM Rack:Tube: 1:66

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000633	ppm	0.000216	34.10	-409.413000	Y 377.433
Al (167.019 nm)	0.181566	ppm	0.000928	0.51	97.012500	Y_R 377.433
Al H (396.152 nm)	0.215769 u	ppm	0.008470	3.93	899.693643	Y_R 377.433
As (188.980 nm)	0.002032	ppm	0.000510	25.12	-0.135655	Y 242.219
B (249.678 nm)	5.727170 o	ppm	0.028393	0.50	135937.000000	Y 242.219
Ba (493.408 nm)	0.016600	ppm	0.000349	2.10	2618.090000	Y_R 488.368
Be (234.861 nm)	0.000169	ppm	0.000007	4.41	-7.994570	Y_R 488.368
Bi (223.061 nm)	0.000291 u	ppm	0.001048	> 100.00	8.112170	Y 377.433
Ca (315.887 nm)	631.425221 o	ppm	2.041609	0.32	485737.100512	Y_R 377.433
Cd (214.439 nm)	0.000308	ppm	0.000036	11.73	16.112900	Y 377.433
Co (228.615 nm)	0.000660	ppm	0.000310	47.02	-22.710700	Y 242.219
Cr (205.560 nm)	0.000384	ppm	0.000047	12.18	7.220390	Y 377.433
Cu (324.754 nm)	-0.001437 u	ppm	0.000122	8.46	-764.210000	Y 377.433
Fe (238.204 nm)	0.140689	ppm	0.000531	0.38	524.310295	Y_R 377.433
Fe H (259.940 nm)	0.047856 u	ppm	0.002843	5.94	239.820000	Y_R 377.433
K (766.491 nm)	33.713300	ppm	0.009603	0.03	37180.600000	Y_R2 488.368
Li (670.783 nm)	1.529750	ppm	0.012154	0.79	48315.900000	Y_R2 488.368
Mg (279.078 nm)	244.329000 o	ppm	0.902993	0.37	1344110.000000	Y 377.433
Mn (257.610 nm)	0.528925	ppm	0.000950	0.18	119431.000000	Y 377.433
Mo (202.032 nm)	0.013697	ppm	0.000412	3.01	111.917000	Y 377.433
Na (589.592 nm)	1277.730000 o	ppm	1.071400	0.08	8097180.000000	Y_R2 488.368
Na H (589.593 nm)	1254.057534	ppm	4.290971	0.34	4607777.360578	Y_R 488.368
Ni (231.604 nm)	0.006105	ppm	0.000130	2.13	37.579000	Y 377.433
P (213.618 nm)	0.024894	ppm	0.002607	10.47	78.124100	Y 242.219
Pb (220.353 nm)	-0.000319 u	ppm	0.000552	> 100.00	3.206620	Y 242.219
S (181.972 nm)	1123.179357 bo	ppm	3.421409	0.30	547116.383807	Y 377.433
Sb (206.834 nm)	-0.002862 u	ppm	0.002185	76.33	-28.318000	Y 377.433
Se (196.026 nm)	-0.001327 u	ppm	0.000184	13.86	12.597700	Y 242.219
Si (288.158 nm)	15.020700 o	ppm	0.092904	0.62	123685.000000	Y 377.433
Sn (189.925 nm)	0.001643	ppm	0.000775	47.18	11.030000	Y 377.433
Sr (421.552 nm)	14.562693 bo	ppm	0.287227	1.97	3001671.778749	Y_R 488.368
Th (288.505 nm)	0.004014	ppm	0.002368	58.99	100.598000	Y 377.433
Ti (336.122 nm)	0.002492	ppm	0.000052	2.07	2004.430000	Y 377.433
Tl (190.794 nm)	0.003855	ppm	0.000898	23.30	1.008800	Y 377.433
U (409.013 nm)	0.170435	ppm	0.008155	4.78	465.244000	Y 377.433
V (292.401 nm)	0.002388	ppm	0.000256	10.72	101.374000	Y 377.433
Zn (206.200 nm)	0.017378	ppm	0.000550	3.17	85.555400	Y 377.433
Zr (343.823 nm)	0.001205	ppm	0.000074	6.18	168.911000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.942836	17813.015786	0.013855	1.47
Y 377.433	0.962580	976854.993665	0.018224	1.89
Y_R 377.433	1.141710	87730.900000	0.023143	2.03
Y_R 488.368	1.179530	51751.700000	0.000596	0.05
Y_R2 488.368	1.169836	101007.243901	0.011219	0.96

Sample Name: 280-115845-A-8-A

Date: 10/29/2018 4:56:29 PM Rack:Tube: 1:67

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000234 u	ppm	0.000292	> 100.00	-443.729000	Y 377.433
Al (167.019 nm)	0.001359	ppm	0.001696	> 100.00	1.733670	Y_R 377.433
Al H (396.152 nm)	-0.024187 u	ppm	0.010948	45.26	16.739092	Y_R 377.433
As (188.980 nm)	0.001055 u	ppm	0.001943	> 100.00	-1.306860	Y 242.219
B (249.678 nm)	0.005018	ppm	0.000276	5.50	212.215000	Y 242.219
Ba (493.408 nm)	-0.000522 u	ppm	0.000253	48.37	513.552000	Y_R 488.368
Be (234.861 nm)	0.000065	ppm	0.000005	7.71	-40.449000	Y_R 488.368
Bi (223.061 nm)	0.003560	ppm	0.001822	51.18	16.019400	Y 377.433
Ca (315.887 nm)	0.035917	ppm	0.002434	6.78	-36.825623	Y_R 377.433
Cd (214.439 nm)	0.000093	ppm	0.000006	6.15	3.694800	Y 377.433
Co (228.615 nm)	0.000070 u	ppm	0.000119	> 100.00	-32.990100	Y 242.219
Cr (205.560 nm)	-0.000005 u	ppm	0.000049	> 100.00	1.603650	Y 377.433
Cu (324.754 nm)	-0.000356 u	ppm	0.000094	26.47	-331.219000	Y 377.433
Fe (238.204 nm)	0.021388	ppm	0.000924	4.32	93.799797	Y_R 377.433
Fe H (259.940 nm)	-0.060771 u	ppm	0.000961	1.58	41.487600	Y_R 377.433
K (766.491 nm)	0.116482	ppm	0.023034	19.77	-558.302000	Y_R2 488.368
Li (670.783 nm)	0.004212	ppm	0.000879	20.86	-1248.140000	Y_R2 488.368
Mg (279.078 nm)	0.008556	ppm	0.001924	22.49	81.450700	Y 377.433
Mn (257.610 nm)	0.000994	ppm	0.000002	0.19	285.834000	Y 377.433
Mo (202.032 nm)	0.000128	ppm	0.000161	> 100.00	-1.342100	Y 377.433
Na (589.592 nm)	0.198286	ppm	0.009110	4.59	1875.820000	Y_R2 488.368
Na H (589.593 nm)	1.170870 u	ppm	0.039115	3.34	7484.780608	Y_R 488.368
Ni (231.604 nm)	0.000422	ppm	0.000174	41.24	0.420829	Y 377.433
P (213.618 nm)	-0.000639 u	ppm	0.001749	> 100.00	25.589000	Y 242.219
Pb (220.353 nm)	0.000065 u	ppm	0.000198	> 100.00	4.007400	Y 242.219
S (181.972 nm)	0.160820	ppm	0.015073	9.37	109.389844	Y 377.433
Sb (206.834 nm)	0.000294 u	ppm	0.003660	> 100.00	-19.391800	Y 377.433
Se (196.026 nm)	-0.002551 u	ppm	0.001710	67.05	11.066000	Y 242.219
Si (288.158 nm)	-0.017582 u	ppm	0.000006	0.03	874.039000	Y 377.433
Sn (189.925 nm)	-0.000553 u	ppm	0.000482	87.03	6.840190	Y 377.433
Sr (421.552 nm)	0.000094 u	ppm	0.000168	> 100.00	165.123274	Y_R 488.368
Th (288.505 nm)	-0.002196 u	ppm	0.003154	> 100.00	72.119700	Y 377.433
Ti (336.122 nm)	0.000783	ppm	0.000066	8.47	-177.113000	Y 377.433
Tl (190.794 nm)	0.000308 u	ppm	0.001568	> 100.00	-6.519640	Y 377.433
U (409.013 nm)	-0.000389 u	ppm	0.003105	> 100.00	-175.905000	Y 377.433
V (292.401 nm)	0.000032 u	ppm	0.000137	> 100.00	25.345400	Y 377.433
Zn (206.200 nm)	0.005484	ppm	0.000049	0.89	26.080100	Y 377.433
Zr (343.823 nm)	-0.000062 u	ppm	0.000033	52.27	5.406290	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.074684	20304.007666	0.000743	0.07
Y 377.433	1.066054	1081862.775448	0.001180	0.11
Y_R 377.433	1.092870	83978.100000	0.002179	0.20
Y_R 488.368	1.126900	49442.400000	0.008976	0.80
Y_R2 488.368	1.103984	95321.381431	0.002377	0.22

Sample Name: 280-115846-A-1-A

Date: 10/29/2018 4:59:52 PM Rack:Tube: 1:68

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000397	ppm	0.000200	50.47	-416.580000	Y 377.433
Al (167.019 nm)	0.065070	ppm	0.000010	0.02	35.923200	Y_R 377.433
Al H (396.152 nm)	0.097261 u	ppm	0.002802	2.88	553.744892	Y_R 377.433
As (188.980 nm)	0.002195	ppm	0.001225	55.82	0.053670	Y 242.219
B (249.678 nm)	2.731470 o	ppm	0.008065	0.30	64880.300000	Y 242.219
Ba (493.408 nm)	0.017181	ppm	0.000301	1.75	2661.250000	Y_R 488.368
Be (234.861 nm)	0.000144	ppm	0.000024	16.82	7.157550	Y_R 488.368
Bi (223.061 nm)	0.000035 u	ppm	0.000835	> 100.00	7.602910	Y 377.433
Ca (315.887 nm)	526.547792 o	ppm	0.771538	0.15	405047.230943	Y_R 377.433
Cd (214.439 nm)	0.000084	ppm	0.000081	96.75	3.960700	Y 377.433
Co (228.615 nm)	-0.000261 u	ppm	0.000105	40.36	-38.687300	Y 242.219
Cr (205.560 nm)	0.000090	ppm	0.000007	7.88	2.776730	Y 377.433
Cu (324.754 nm)	-0.003000 u	ppm	0.000399	13.31	-778.917000	Y 377.433
Fe (238.204 nm)	0.860155	ppm	0.007187	0.84	3120.588548	Y_R 377.433
Fe H (259.940 nm)	0.768933 u	ppm	0.001212	0.16	1556.380000	Y_R 377.433
K (766.491 nm)	8.489940	ppm	0.031168	0.37	8847.500000	Y_R2 488.368
Li (670.783 nm)	0.488404	ppm	0.004578	0.94	14483.000000	Y_R2 488.368
Mg (279.078 nm)	239.890000 o	ppm	0.551970	0.23	1319700.000000	Y 377.433
Mn (257.610 nm)	0.120992	ppm	0.000294	0.24	27367.400000	Y 377.433
Mo (202.032 nm)	0.001266	ppm	0.000250	19.73	8.159180	Y 377.433
Na (589.592 nm)	824.672000 o	ppm	2.469060	0.30	5226330.000000	Y_R2 488.368
Na H (589.593 nm)	842.754246	ppm	3.805158	0.45	3097578.389780	Y_R 488.368
Ni (231.604 nm)	0.006062	ppm	0.000326	5.38	37.322000	Y 377.433
P (213.618 nm)	0.039525	ppm	0.000982	2.48	108.228000	Y 242.219
Pb (220.353 nm)	-0.000803 u	ppm	0.000549	68.32	1.615420	Y 242.219
S (181.972 nm)	718.330717 bo	ppm	0.003783	0.00	349919.645226	Y 377.433
Sb (206.834 nm)	-0.004942 u	ppm	0.002106	42.62	-33.496300	Y 377.433
Se (196.026 nm)	-0.003192 u	ppm	0.002898	90.79	10.404200	Y 242.219
Si (288.158 nm)	16.990800 o	ppm	0.083269	0.49	139774.000000	Y 377.433
Sn (189.925 nm)	0.002873	ppm	0.001840	64.06	13.376100	Y 377.433
Sr (421.552 nm)	13.110309 bo	ppm	0.054190	0.41	2702320.038741	Y_R 488.368
Th (288.505 nm)	0.003478	ppm	0.004373	> 100.00	88.723900	Y 377.433
Ti (336.122 nm)	0.000614	ppm	0.000093	15.21	1419.840000	Y 377.433
Tl (190.794 nm)	0.003349	ppm	0.001033	30.86	-0.056164	Y 377.433
U (409.013 nm)	0.019783	ppm	0.006969	35.23	-183.948000	Y 377.433
V (292.401 nm)	0.001607	ppm	0.000286	17.80	80.930200	Y 377.433
Zn (206.200 nm)	0.003762	ppm	0.000391	10.39	17.467000	Y 377.433
Zr (343.823 nm)	0.000046	ppm	0.000021	46.06	21.776500	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.952005	17986.239453	0.000087	0.01
Y 377.433	0.962882	977161.311108	0.002365	0.25
Y_R 377.433	1.096600	84265.000000	0.006170	0.56
Y_R 488.368	1.137120	49890.900000	0.001295	0.11
Y_R2 488.368	1.093311	94399.834847	0.005615	0.51

Sample Name: Bottle 115842-A-4-A

Date: 10/29/2018 5:03:14 PM Rack:Tube: 1:69

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000023 u	ppm	0.000110	> 100.00	-434.433000	Y 377.433
Al (167.019 nm)	-0.000130 u	ppm	0.001263	> 100.00	0.935716	Y_R 377.433
Al H (396.152 nm)	-0.032190 u	ppm	0.001057	3.28	-3.445837	Y_R 377.433
As (188.980 nm)	0.002519	ppm	0.000902	35.82	0.449214	Y 242.219
B (249.678 nm)	0.001473	ppm	0.000416	28.22	128.148000	Y 242.219
Ba (493.408 nm)	-0.001522 u	ppm	0.000259	17.03	399.076000	Y_R 488.368
Be (234.861 nm)	0.000181	ppm	0.000013	7.45	-7.655210	Y_R 488.368
Bi (223.061 nm)	0.003053	ppm	0.000309	10.12	14.786400	Y 377.433
Ca (315.887 nm)	0.059090	ppm	0.000651	1.10	-18.997046	Y_R 377.433
Cd (214.439 nm)	0.000115	ppm	0.000026	22.45	4.936390	Y 377.433
Co (228.615 nm)	0.000688	ppm	0.000067	9.67	-22.300800	Y 242.219
Cr (205.560 nm)	-0.000187 u	ppm	0.000071	37.69	-1.047260	Y 377.433
Cu (324.754 nm)	0.000524	ppm	0.000368	70.13	-285.376000	Y 377.433
Fe (238.204 nm)	0.002404	ppm	0.000152	6.33	25.292634	Y_R 377.433
Fe H (259.940 nm)	-0.075560 u	ppm	0.002530	3.35	14.484400	Y_R 377.433
K (766.491 nm)	0.220963	ppm	0.001322	0.60	-440.940000	Y_R2 488.368
Li (670.783 nm)	0.014450	ppm	0.001159	8.02	-915.522000	Y_R2 488.368
Mg (279.078 nm)	0.008452	ppm	0.001647	19.48	80.926300	Y 377.433
Mn (257.610 nm)	-0.000044 u	ppm	0.000011	25.25	51.493100	Y 377.433
Mo (202.032 nm)	0.000330	ppm	0.000153	46.18	0.351194	Y 377.433
Na (589.592 nm)	0.229639	ppm	0.009427	4.11	2071.590000	Y_R2 488.368
Na H (589.593 nm)	0.697091 u	ppm	0.024198	3.47	5743.777869	Y_R 488.368
Ni (231.604 nm)	0.000505	ppm	0.000257	50.88	0.961899	Y 377.433
P (213.618 nm)	-0.004813 u	ppm	0.002275	47.26	17.001600	Y 242.219
Pb (220.353 nm)	-0.000434 u	ppm	0.001042	> 100.00	2.615270	Y 242.219
S (181.972 nm)	0.071418	ppm	0.003193	4.47	65.841214	Y 377.433
Sb (206.834 nm)	-0.000165 u	ppm	0.001532	> 100.00	-20.612800	Y 377.433
Se (196.026 nm)	-0.005845 u	ppm	0.001488	25.45	7.973130	Y 242.219
Si (288.158 nm)	-0.029727 u	ppm	0.000182	0.61	774.856000	Y 377.433
Sn (189.925 nm)	-0.000864 u	ppm	0.000371	42.92	6.247440	Y 377.433
Sr (421.552 nm)	0.000747	ppm	0.000120	16.09	299.690887	Y_R 488.368
Th (288.505 nm)	0.000052 u	ppm	0.000655	> 100.00	77.624100	Y 377.433
Ti (336.122 nm)	0.001572	ppm	0.000059	3.73	-66.858900	Y 377.433
Tl (190.794 nm)	0.002177	ppm	0.000196	9.02	-2.528920	Y 377.433
U (409.013 nm)	0.005068	ppm	0.005067	99.98	-151.647000	Y 377.433
V (292.401 nm)	-0.000238 u	ppm	0.000263	> 100.00	15.522400	Y 377.433
Zn (206.200 nm)	0.000349	ppm	0.000187	53.75	0.398318	Y 377.433
Zr (343.823 nm)	-0.000211 u	ppm	0.000006	2.73	-13.721600	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.186489	22416.356737	0.004489	0.38
Y 377.433	1.203443	1221289.369271	0.007095	0.59
Y_R 377.433	1.322940	101657.000000	0.003103	0.23
Y_R 488.368	1.367100	59981.200000	0.016247	1.19
Y_R2 488.368	1.337955	115523.221879	0.013433	1.00

Sample Name: CCVH-5380945

Date: 10/29/2018 5:06:37 PM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.002308 u	ppm	0.000124	5.39	-774.475000	Y 377.433
Al (167.019 nm)	49.802900 o	ppm	0.106655	0.21	26344.900000	Y_R 377.433
Al H (396.152 nm)	49.722971	ppm	0.053048	0.11	125595.604937	Y_R 377.433
As (188.980 nm)	0.001012	ppm	0.000485	47.97	-1.797750	Y 242.219
B (249.678 nm)	0.000952	ppm	0.000372	39.08	41.503300	Y 242.219
Ba (493.408 nm)	-0.000604 u	ppm	0.000031	5.15	552.032000	Y_R 488.368
Be (234.861 nm)	-0.000303 u	ppm	0.000022	7.42	1418.930000	Y_R 488.368
Bi (223.061 nm)	1.018270	ppm	0.001756	0.17	2484.760000	Y 377.433
Ca (315.887 nm)	0.005157 u	ppm	0.008543	> 100.00	-60.491488	Y_R 377.433
Cd (214.439 nm)	-0.000278 u	ppm	0.000013	4.79	30.314400	Y 377.433
Co (228.615 nm)	0.003622	ppm	0.000065	1.80	28.496600	Y 242.219
Cr (205.560 nm)	-0.000045 u	ppm	0.000366	> 100.00	-12.694600	Y 377.433
Cu (324.754 nm)	-0.007163 u	ppm	0.000048	0.67	-383.727000	Y 377.433
Fe (238.204 nm)	52.345647 o	ppm	0.038498	0.07	188911.997366	Y_R 377.433
Fe H (259.940 nm)	52.570900	ppm	0.006457	0.01	96137.400000	Y_R 377.433
K (766.491 nm)	0.187316	ppm	0.039989	21.35	-478.736000	Y_R2 488.368
Li (670.783 nm)	0.011580	ppm	0.000322	2.78	-1008.760000	Y_R2 488.368
Mg (279.078 nm)	-0.020477 u	ppm	0.000172	0.84	-423.105000	Y 377.433
Mn (257.610 nm)	0.001401	ppm	0.000010	0.72	377.724000	Y 377.433
Mo (202.032 nm)	0.000155	ppm	0.000081	51.92	-1.109400	Y 377.433
Na (589.592 nm)	229.120000 o	ppm	0.080576	0.04	1452480.000000	Y_R2 488.368
Na H (589.593 nm)	236.109948	ppm	1.422812	0.60	870118.593369	Y_R 488.368
Ni (231.604 nm)	0.004169	ppm	0.000021	0.51	26.964100	Y 377.433
P (213.618 nm)	-0.006463 u	ppm	0.000226	3.50	13.607500	Y 242.219
Pb (220.353 nm)	-0.003579 u	ppm	0.002334	65.21	10.920400	Y 242.219
S (181.972 nm)	5.278882	ppm	0.012821	0.24	2602.324134	Y 377.433
Sb (206.834 nm)	-0.004250 u	ppm	0.001101	25.92	-76.377400	Y 377.433
Se (196.026 nm)	-0.003501 u	ppm	0.001327	37.91	1.294990	Y 242.219
Si (288.158 nm)	-0.004555 u	ppm	0.000377	8.27	980.428000	Y 377.433
Sn (189.925 nm)	0.001421	ppm	0.000644	45.33	10.606100	Y 377.433
Sr (421.552 nm)	0.000323	ppm	0.000052	16.02	212.142333	Y_R 488.368
Th (288.505 nm)	5.071780	ppm	0.005614	0.11	12758.100000	Y 377.433
Ti (336.122 nm)	0.002023	ppm	0.000002	0.11	-3.786230	Y 377.433
Tl (190.794 nm)	-0.004305 u	ppm	0.001286	29.86	-17.694300	Y 377.433
U (409.013 nm)	10.378100	ppm	0.046918	0.45	45992.800000	Y 377.433
V (292.401 nm)	0.002316	ppm	0.000226	9.75	-60.230200	Y 377.433
Zn (206.200 nm)	0.000935	ppm	0.000060	6.45	3.331810	Y 377.433
Zr (343.823 nm)	-0.004875 u	ppm	0.000024	0.50	-465.992000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.111070	20991.452310	0.002567	0.23
Y 377.433	1.110525	1126993.903737	0.000849	0.08
Y_R 377.433	1.197790	92040.000000	0.004075	0.34
Y_R 488.368	1.233500	54119.400000	0.004678	0.38
Y_R2 488.368	1.214574	104870.133119	0.007390	0.61

Sample Name: CCV-5391053

Date: 10/29/2018 5:10:00 PM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.490982	ppm	0.001332	0.27	21334.700000	Y 377.433
Al (167.019 nm)	0.561760 Q	ppm	0.002745	0.49	299.454000 Q	Y_R 377.433
Al H (396.152 nm)	0.493443 u	ppm	0.004726	0.96	1365.561895	Y_R 377.433
As (188.980 nm)	1.020170	ppm	0.002535	0.25	1221.280000	Y 242.219
B (249.678 nm)	0.504382	ppm	0.000136	0.03	12073.700000	Y 242.219
Ba (493.408 nm)	0.497492	ppm	0.002744	0.55	57524.700000	Y_R 488.368
Be (234.861 nm)	0.448406 Q	ppm	0.002766	0.62	128756.000000 Q	Y_R 488.368
Bi (223.061 nm)	-0.002524 u	ppm	0.001431	56.69	1.680930	Y 377.433
Ca (315.887 nm)	5.237837	ppm	0.035673	0.68	3965.660279	Y_R 377.433
Cd (214.439 nm)	0.494643	ppm	0.000748	0.15	28253.900000	Y 377.433
Co (228.615 nm)	0.507752	ppm	0.000195	0.04	8770.710000	Y 242.219
Cr (205.560 nm)	0.505783	ppm	0.004265	0.84	7371.090000	Y 377.433
Cu (324.754 nm)	0.497403	ppm	0.000111	0.02	26209.200000	Y 377.433
Fe (238.204 nm)	2.643037	ppm	0.018573	0.70	9554.326252	Y_R 377.433
Fe H (259.940 nm)	2.588320 u	ppm	0.016641	0.64	4878.260000	Y_R 377.433
K (766.491 nm)	48.799900	ppm	0.110554	0.23	54127.200000	Y_R2 488.368
Li (670.783 nm)	0.984847	ppm	0.000785	0.08	30612.100000	Y_R2 488.368
Mg (279.078 nm)	19.150500	ppm	0.049823	0.26	105379.000000	Y 377.433
Mn (257.610 nm)	0.500074	ppm	0.000742	0.15	112920.000000	Y 377.433
Mo (202.032 nm)	0.502710	ppm	0.000057	0.01	4193.410000	Y 377.433
Na (589.592 nm)	4.773010	ppm	0.036247	0.76	31828.300000	Y_R2 488.368
Na H (589.593 nm)	5.304279 u	ppm	0.052954	1.00	23129.294790	Y_R 488.368
Ni (231.604 nm)	0.501571	ppm	0.003137	0.63	3277.590000	Y 377.433
P (213.618 nm)	0.969904	ppm	0.003472	0.36	2022.490000	Y 242.219
Pb (220.353 nm)	0.999217	ppm	0.002910	0.29	2789.480000	Y 242.219
S (181.972 nm)	0.064598	ppm	0.002283	3.53	63.658215	Y 377.433
Sb (206.834 nm)	1.010780	ppm	0.002800	0.28	2665.140000	Y 377.433
Se (196.026 nm)	1.012750	ppm	0.001123	0.11	965.124000	Y 242.219
Si (288.158 nm)	4.935690	ppm	0.018623	0.38	41325.200000	Y 377.433
Sn (189.925 nm)	0.985359	ppm	0.001932	0.20	1887.720000	Y 377.433
Sr (421.552 nm)	0.483215	ppm	0.002295	0.48	99741.341624	Y_R 488.368
Th (288.505 nm)	0.000453 u	ppm	0.001300	> 100.00	94.713400	Y 377.433
Ti (336.122 nm)	0.506149	ppm	0.000432	0.09	70417.200000	Y 377.433
Tl (190.794 nm)	1.011950	ppm	0.001129	0.11	2151.410000	Y 377.433
U (409.013 nm)	0.002406	ppm	0.001619	67.30	-199.933000	Y 377.433
V (292.401 nm)	0.499458	ppm	0.000525	0.11	17450.300000	Y 377.433
Zn (206.200 nm)	0.491437	ppm	0.002672	0.54	2456.120000	Y 377.433
Zr (343.823 nm)	0.504491	ppm	0.000607	0.12	64944.200000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.116356	21091.331177	0.000024	0.00
Y 377.433	1.127094	1143808.025753	0.001307	0.12
Y_R 377.433	1.212730	93188.000000	0.007472	0.62
Y_R 488.368	1.251690	54917.800000	0.008302	0.66
Y_R2 488.368	1.228929	106109.563051	0.003095	0.25

Sample Name: CCB

Date: 10/29/2018 5:13:24 PM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000639 u	ppm	0.000184	28.72	-461.768000	Y 377.433
Al (167.019 nm)	-0.000079 u	ppm	0.000998	> 100.00	0.960921	Y_R 377.433
Al H (396.152 nm)	-0.024740 u	ppm	0.002008	8.12	15.330776	Y_R 377.433
As (188.980 nm)	-0.000599 u	ppm	0.001000	> 100.00	-3.290840	Y 242.219
B (249.678 nm)	0.001689	ppm	0.000088	5.23	133.275000	Y 242.219
Ba (493.408 nm)	-0.001151 u	ppm	0.000024	2.08	441.521000	Y_R 488.368
Be (234.861 nm)	0.000074	ppm	0.000001	0.90	-38.505800	Y_R 488.368
Bi (223.061 nm)	0.001821	ppm	0.000476	26.16	11.799700	Y 377.433
Ca (315.887 nm)	0.011922	ppm	0.004746	39.81	-55.287159	Y_R 377.433
Cd (214.439 nm)	0.000018	ppm	0.000023	> 100.00	-0.610111	Y 377.433
Co (228.615 nm)	0.000381	ppm	0.000104	27.35	-27.626800	Y 242.219
Cr (205.560 nm)	0.000086	ppm	0.000097	> 100.00	2.943270	Y 377.433
Cu (324.754 nm)	0.000143	ppm	0.000064	44.78	-305.749000	Y 377.433
Fe (238.204 nm)	0.000296 u	ppm	0.000434	> 100.00	17.687857	Y_R 377.433
Fe H (259.940 nm)	-0.079599 u	ppm	0.001617	2.03	7.110610	Y_R 377.433
K (766.491 nm)	0.162246	ppm	0.015996	9.86	-506.896000	Y_R2 488.368
Li (670.783 nm)	0.009045	ppm	0.001961	21.68	-1091.140000	Y_R2 488.368
Mg (279.078 nm)	0.000049 u	ppm	0.001948	> 100.00	34.615800	Y 377.433
Mn (257.610 nm)	-0.000014 u	ppm	0.000015	> 100.00	58.333300	Y 377.433
Mo (202.032 nm)	0.000128	ppm	0.000175	> 100.00	-1.335710	Y 377.433
Na (589.592 nm)	0.017233	ppm	0.003307	19.19	727.023000	Y_R2 488.368
Na H (589.593 nm)	0.188635 u	ppm	0.018604	9.86	3877.526692	Y_R 488.368
Ni (231.604 nm)	0.000121 u	ppm	0.000333	> 100.00	-1.550700	Y 377.433
P (213.618 nm)	-0.003165 u	ppm	0.000902	28.49	20.391800	Y 242.219
Pb (220.353 nm)	-0.000325 u	ppm	0.000605	> 100.00	2.927010	Y 242.219
S (181.972 nm)	0.055457 Z	ppm	0.007399	13.34	58.067213 Z	Y 377.433
Sb (206.834 nm)	0.003653	ppm	0.001118	30.60	-10.498700	Y 377.433
Se (196.026 nm)	0.000206 u	ppm	0.000525	> 100.00	13.659300	Y 242.219
Si (288.158 nm)	-0.024739 u	ppm	0.001002	4.05	815.591000	Y 377.433
Sn (189.925 nm)	-0.000726 u	ppm	0.000923	> 100.00	6.510660	Y 377.433
Sr (421.552 nm)	-0.000188 u	ppm	0.000009	4.96	106.846743	Y_R 488.368
Th (288.505 nm)	-0.001042 u	ppm	0.002461	> 100.00	75.002900	Y 377.433
Ti (336.122 nm)	0.000375	ppm	0.000103	27.36	-234.131000	Y 377.433
Tl (190.794 nm)	0.001085	ppm	0.000783	72.12	-4.858020	Y 377.433
U (409.013 nm)	0.001953	ppm	0.002113	> 100.00	-165.496000	Y 377.433
V (292.401 nm)	-0.000324 u	ppm	0.000107	32.93	12.208800	Y 377.433
Zn (206.200 nm)	0.000114	ppm	0.000075	65.96	-0.772898	Y 377.433
Zr (343.823 nm)	0.000042 u	ppm	0.000111	> 100.00	18.851800	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.118742	21136.401829	0.003832	0.34
Y 377.433	1.130460	1147224.272714	0.004360	0.39
Y_R 377.433	1.204430	92550.900000	0.003322	0.28
Y_R 488.368	1.237140	54279.200000	0.008097	0.65
Y_R2 488.368	1.214622	104874.237988	0.002137	0.18

Sample Name: CCVL-5398386

Date: 10/29/2018 5:16:47 PM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.008592	ppm	0.000146	1.69	-52.256400	Y 377.433
Al (167.019 nm)	0.116516	ppm	0.000703	0.60	62.625600	Y_R 377.433
Al H (396.152 nm)	0.075827 u	ppm	0.008160	10.76	270.814476	Y_R 377.433
As (188.980 nm)	0.014331	ppm	0.001063	7.42	14.619500	Y 242.219
B (249.678 nm)	0.100390	ppm	0.000261	0.26	2474.640000	Y 242.219
Ba (493.408 nm)	0.008943	ppm	0.000253	2.83	1597.000000	Y_R 488.368
Be (234.861 nm)	0.000976	ppm	0.000005	0.50	222.974000	Y_R 488.368
Bi (223.061 nm)	0.103011	ppm	0.000627	0.61	257.183000	Y 377.433
Ca (315.887 nm)	0.220715	ppm	0.005685	2.58	105.355713	Y_R 377.433
Cd (214.439 nm)	0.005155	ppm	0.000004	0.09	292.956000	Y 377.433
Co (228.615 nm)	0.011008	ppm	0.000016	0.15	156.632000	Y 242.219
Cr (205.560 nm)	0.010104	ppm	0.000214	2.12	148.937000	Y 377.433
Cu (324.754 nm)	0.015684	ppm	0.000132	0.84	522.335000	Y 377.433
Fe (238.204 nm)	0.107617	ppm	0.000427	0.40	404.966300	Y_R 377.433
Fe H (259.940 nm)	0.028615 u	ppm	0.001477	5.16	204.691000	Y_R 377.433
K (766.491 nm)	3.214080	ppm	0.009646	0.30	2921.180000	Y_R2 488.368
Li (670.783 nm)	0.032712 Q	ppm	0.001050	3.21	-322.202000 Q	Y_R2 488.368
Mg (279.078 nm)	0.191199	ppm	0.001875	0.98	1085.140000	Y 377.433
Mn (257.610 nm)	0.010280	ppm	0.000024	0.23	2381.530000	Y 377.433
Mo (202.032 nm)	0.019141	ppm	0.000251	1.31	157.349000	Y 377.433
Na (589.592 nm)	1.004570	ppm	0.013308	1.32	7001.960000	Y_R2 488.368
Na H (589.593 nm)	1.096691 u	ppm	0.036873	3.36	7220.650046	Y_R 488.368
Ni (231.604 nm)	0.041208	ppm	0.000829	2.01	267.053000	Y 377.433
P (213.618 nm)	2.733580 o	ppm	0.011257	0.41	5651.250000	Y 242.219
Pb (220.353 nm)	0.009107	ppm	0.001427	15.67	29.225100	Y 242.219
S (181.972 nm)	0.136559 Q	ppm	0.001556	1.14	97.593703 Q	Y 377.433
Sb (206.834 nm)	0.020622	ppm	0.001666	8.08	34.497600	Y 377.433
Se (196.026 nm)	0.014939	ppm	0.002840	19.01	27.495200	Y 242.219
Si (288.158 nm)	0.454695	ppm	0.005801	1.28	4730.920000	Y 377.433
Sn (189.925 nm)	0.096235	ppm	0.000476	0.49	191.489000	Y 377.433
Sr (421.552 nm)	0.009495	ppm	0.000001	0.01	2102.720940	Y_R 488.368
Th (288.505 nm)	0.015558	ppm	0.002204	14.17	117.021000	Y 377.433
Ti (336.122 nm)	0.010801	ppm	0.000019	0.17	1222.530000	Y 377.433
Tl (190.794 nm)	0.016461	ppm	0.000625	3.80	27.910000	Y 377.433
U (409.013 nm)	0.064853	ppm	0.002017	3.11	112.980000	Y 377.433
V (292.401 nm)	0.009885	ppm	0.000151	1.53	367.102000	Y 377.433
Zn (206.200 nm)	0.020517	ppm	0.000555	2.71	101.251000	Y 377.433
Zr (343.823 nm)	0.014998	ppm	0.000010	0.06	1943.790000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.141972	21575.296161	0.002865	0.25
Y 377.433	1.154408	1171527.436386	0.001640	0.14
Y_R 377.433	1.229860	94504.400000	0.011511	0.94
Y_R 488.368	1.274980	55939.600000	0.006274	0.49
Y_R2 488.368	1.252688	108161.014836	0.003955	0.32

Sample Name: MB 280-434891/1-A

Date: 10/29/2018 5:20:11 PM Rack:Tube: 1:70

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000156 u	ppm	0.000377	> 100.00	-440.245000	Y 377.433
Al (167.019 nm)	0.007103	ppm	0.000731	10.29	4.772320	Y_R 377.433
Al H (396.152 nm)	-0.019474 u	ppm	0.005398	27.72	28.720660	Y_R 377.433
As (188.980 nm)	0.001417	ppm	0.001213	85.57	-0.872170	Y 242.219
B (249.678 nm)	0.000612	ppm	0.000059	9.58	107.716000	Y 242.219
Ba (493.408 nm)	-0.000542 u	ppm	0.000007	1.37	511.359000	Y_R 488.368
Be (234.861 nm)	0.000092	ppm	0.000013	13.99	-32.435300	Y_R 488.368
Bi (223.061 nm)	-0.001589 u	ppm	0.000721	45.39	3.534780	Y 377.433
Ca (315.887 nm)	0.174259	ppm	0.003397	1.95	69.611128	Y_R 377.433
Cd (214.439 nm)	0.000025	ppm	0.000009	34.11	-0.134263	Y 377.433
Co (228.615 nm)	0.000380	ppm	0.000236	62.11	-27.635700	Y 242.219
Cr (205.560 nm)	0.000341	ppm	0.000106	31.02	6.645900	Y 377.433
Cu (324.754 nm)	-0.000134 u	ppm	0.000001	0.47	-319.862000	Y 377.433
Fe (238.204 nm)	0.027461	ppm	0.000002	0.01	115.716197	Y_R 377.433
Fe H (259.940 nm)	-0.053253 u	ppm	0.001384	2.60	55.214300	Y_R 377.433
K (766.491 nm)	0.220625	ppm	0.029200	13.24	-441.320000	Y_R2 488.368
Li (670.783 nm)	0.011923	ppm	0.000337	2.83	-997.631000	Y_R2 488.368
Mg (279.078 nm)	0.036987	ppm	0.000378	1.02	237.861000	Y 377.433
Mn (257.610 nm)	0.002937	ppm	0.000014	0.46	724.390000	Y 377.433
Mo (202.032 nm)	0.000448	ppm	0.000017	3.75	1.328690	Y 377.433
Na (589.592 nm)	0.071730	ppm	0.006787	9.46	1072.750000	Y_R2 488.368
Na H (589.593 nm)	0.101310 u	ppm	0.007477	7.38	3557.083073	Y_R 488.368
Ni (231.604 nm)	0.000818	ppm	0.000018	2.23	3.007970	Y 377.433
P (213.618 nm)	0.009608	ppm	0.000618	6.44	46.673400	Y 242.219
Pb (220.353 nm)	-0.000862 u	ppm	0.000169	19.63	1.415700	Y 242.219
S (181.972 nm)	0.035249	ppm	0.000919	2.61	48.230603	Y 377.433
Sb (206.834 nm)	0.000730	ppm	0.000695	95.29	-18.219500	Y 377.433
Se (196.026 nm)	-0.006859 u	ppm	0.000626	9.13	7.017880	Y 242.219
Si (288.158 nm)	-0.008664 u	ppm	0.000408	4.71	946.869000	Y 377.433
Sn (189.925 nm)	0.010420	ppm	0.000116	1.12	27.773700	Y 377.433
Sr (421.552 nm)	0.000178	ppm	0.000034	19.11	182.340066	Y_R 488.368
Th (288.505 nm)	-0.001498 u	ppm	0.001683	> 100.00	73.856300	Y 377.433
Ti (336.122 nm)	0.001347	ppm	0.000145	10.80	-97.975400	Y 377.433
Tl (190.794 nm)	0.000064 u	ppm	0.000141	> 100.00	-7.040880	Y 377.433
U (409.013 nm)	0.003805	ppm	0.005013	> 100.00	-157.270000	Y 377.433
V (292.401 nm)	-0.000487 u	ppm	0.000140	28.69	6.860040	Y 377.433
Zn (206.200 nm)	0.003239	ppm	0.000043	1.34	14.852100	Y 377.433
Zr (343.823 nm)	-0.000063 u	ppm	0.000059	93.06	5.337770	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.144282	21618.929835	0.001707	0.15
Y 377.433	1.157206	1174366.543382	0.000881	0.08
Y_R 377.433	1.237690	95106.100000	0.007906	0.64
Y_R 488.368	1.273720	55884.200000	0.006266	0.49
Y_R2 488.368	1.259008	108706.711229	0.007240	0.58

Sample Name: LCS 280-434891/2-A

Date: 10/29/2018 5:23:33 PM Rack:Tube: 1:71

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.050748	ppm	0.000436	0.86	1790.930000	Y 377.433
Al (167.019 nm)	2.204250	ppm	0.001790	0.08	1166.190000	Y_R 377.433
Al H (396.152 nm)	2.018321	ppm	0.017295	0.86	5276.244067	Y_R 377.433
As (188.980 nm)	1.012480	ppm	0.003874	0.38	1212.070000	Y 242.219
B (249.678 nm)	1.021870	ppm	0.001361	0.13	24349.800000	Y 242.219
Ba (493.408 nm)	2.001350 o	ppm	0.013398	0.67	229645.000000	Y_R 488.368
Be (234.861 nm)	0.045907	ppm	0.000140	0.31	13099.800000	Y_R 488.368
Bi (223.061 nm)	1.996710	ppm	0.001014	0.05	4849.220000	Y 377.433
Ca (315.887 nm)	52.119742 o	ppm	0.200597	0.38	40035.120405	Y_R 377.433
Cd (214.439 nm)	0.098772	ppm	0.000004	0.00	5641.410000	Y 377.433
Co (228.615 nm)	0.498351	ppm	0.003515	0.71	8625.320000	Y 242.219
Cr (205.560 nm)	0.202107	ppm	0.000006	0.00	2946.090000	Y 377.433
Cu (324.754 nm)	0.248812	ppm	0.000404	0.16	12974.500000	Y 377.433
Fe (238.204 nm)	1.090772	ppm	0.003914	0.36	3952.797018	Y_R 377.433
Fe H (259.940 nm)	1.014880 u	ppm	0.003327	0.33	2005.430000	Y_R 377.433
K (766.491 nm)	50.271400	ppm	0.187453	0.37	55780.000000	Y_R2 488.368
Li (670.783 nm)	1.000900	ppm	0.000767	0.08	31133.800000	Y_R2 488.368
Mg (279.078 nm)	47.988900 o	ppm	0.097181	0.20	263974.000000	Y 377.433
Mn (257.610 nm)	0.499092	ppm	0.000955	0.19	112699.000000	Y 377.433
Mo (202.032 nm)	1.018270	ppm	0.002204	0.22	8496.510000	Y 377.433
Na (589.592 nm)	48.290500 o	ppm	0.000045	0.00	310497.000000	Y_R2 488.368
Na H (589.593 nm)	49.187480	ppm	0.174224	0.35	185670.398473	Y_R 488.368
Ni (231.604 nm)	0.485261	ppm	0.000490	0.10	3172.060000	Y 377.433
P (213.618 nm)	10.044700 o	ppm	0.042280	0.42	20694.000000	Y 242.219
Pb (220.353 nm)	0.498518	ppm	0.001111	0.22	1395.250000	Y 242.219
S (181.972 nm)	2.093869	ppm	0.007920	0.38	1052.083442	Y 377.433
Sb (206.834 nm)	0.514884	ppm	0.000832	0.16	1336.420000	Y 377.433
Se (196.026 nm)	2.058420	ppm	0.003262	0.16	1948.120000	Y 242.219
Si (288.158 nm)	0.792568	ppm	0.001090	0.14	7490.180000	Y 377.433
Sn (189.925 nm)	1.966360	ppm	0.004040	0.21	3759.230000	Y 377.433
Sr (421.552 nm)	0.970358	ppm	0.006184	0.64	200146.766032	Y_R 488.368
Th (288.505 nm)	1.009020	ppm	0.005566	0.55	2626.720000	Y 377.433
Ti (336.122 nm)	1.023570	ppm	0.000945	0.09	142824.000000	Y 377.433
Tl (190.794 nm)	2.021240	ppm	0.000643	0.03	4302.370000	Y 377.433
U (409.013 nm)	2.116220	ppm	0.013249	0.63	9183.730000	Y 377.433
V (292.401 nm)	0.510594	ppm	0.001324	0.26	17879.800000	Y 377.433
Zn (206.200 nm)	0.487080	ppm	0.000906	0.19	2434.340000	Y 377.433
Zr (343.823 nm)	0.501702	ppm	0.001514	0.30	64580.900000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.100971	20800.660450	0.001539	0.14
Y 377.433	1.116039	1132589.861407	0.001702	0.15
Y_R 377.433	1.206460	92706.700000	0.002924	0.24
Y_R 488.368	1.242550	54516.500000	0.004030	0.32
Y_R2 488.368	1.221470	105465.516129	0.005313	0.43

Sample Name: 280-115961-A-1-A

Date: 10/29/2018 5:26:56 PM Rack:Tube: 1:72

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000015 u	ppm	0.000071	> 100.00	-439.716000	Y 377.433
Al (167.019 nm)	78.217000 o	ppm	0.097531	0.12	41397.900000	Y_R 377.433
Al H (396.152 nm)	95.641999	ppm	0.425219	0.44	241885.217464	Y_R 377.433
As (188.980 nm)	0.020800	ppm	0.000894	4.30	21.386400	Y 242.219
B (249.678 nm)	0.084556	ppm	0.000484	0.57	1932.450000	Y 242.219
Ba (493.408 nm)	0.575312	ppm	0.001572	0.27	66724.500000	Y_R 488.368
Be (234.861 nm)	0.003254	ppm	0.000227	6.97	4409.390000	Y_R 488.368
Bi (223.061 nm)	-0.009524 u	ppm	0.000006	0.07	2.943590	Y 377.433
Ca (315.887 nm)	855.567647 o	ppm	4.528493	0.53	658186.247942	Y_R 377.433
Cd (214.439 nm)	-0.000279 u	ppm	0.000053	18.92	90.655700	Y 377.433
Co (228.615 nm)	0.044878	ppm	0.000546	1.22	876.163000	Y 242.219
Cr (205.560 nm)	0.150741	ppm	0.000476	0.32	2168.550000	Y 377.433
Cu (324.754 nm)	0.134202	ppm	0.000132	0.10	6415.320000	Y 377.433
Fe (238.204 nm)	118.534173 o	ppm	0.270430	0.23	427761.023950	Y_R 377.433
Fe H (259.940 nm)	120.439000	ppm	0.461149	0.38	220053.000000	Y_R 377.433
K (766.491 nm)	16.449800	ppm	0.014392	0.09	17788.700000	Y_R2 488.368
Li (670.783 nm)	0.110435	ppm	0.000530	0.48	2202.970000	Y_R2 488.368
Mg (279.078 nm)	66.937600 o	ppm	0.054019	0.08	368076.000000	Y 377.433
Mn (257.610 nm)	1.815960 o	ppm	0.001429	0.08	409895.000000	Y 377.433
Mo (202.032 nm)	0.001235	ppm	0.000540	43.71	7.900060	Y 377.433
Na (589.592 nm)	1.749510	ppm	0.005223	0.30	12822.300000	Y_R2 488.368
Na H (589.593 nm)	2.005708 u	ppm	0.031898	1.59	11092.012468	Y_R 488.368
Ni (231.604 nm)	0.114364	ppm	0.000078	0.07	749.885000	Y 377.433
P (213.618 nm)	1.909480	ppm	0.009128	0.48	3955.660000	Y 242.219
Pb (220.353 nm)	0.278716	ppm	0.001133	0.41	761.308000	Y 242.219
S (181.972 nm)	1.755840	ppm	0.011909	0.68	890.423401	Y 377.433
Sb (206.834 nm)	-0.004853 u	ppm	0.000584	12.04	-62.708400	Y 377.433
Se (196.026 nm)	-0.003190 u	ppm	0.003794	> 100.00	-7.436720	Y 242.219
Si (288.158 nm)	3.356960	ppm	0.007712	0.23	28432.500000	Y 377.433
Sn (189.925 nm)	0.019985	ppm	0.001465	7.33	46.023100	Y 377.433
Sr (421.552 nm)	0.464915	ppm	0.002972	0.64	95969.682173	Y_R 488.368
Th (288.505 nm)	0.025935	ppm	0.001247	4.81	178.303000	Y 377.433
Ti (336.122 nm)	3.998040 o	ppm	0.001538	0.04	560703.000000	Y 377.433
Tl (190.794 nm)	0.002438	ppm	0.001509	61.91	-21.725500	Y 377.433
U (409.013 nm)	-0.043870 u	ppm	0.000060	0.14	-433.536000	Y 377.433
V (292.401 nm)	0.225881	ppm	0.000347	0.15	8020.480000	Y 377.433
Zn (206.200 nm)	0.264394	ppm	0.000475	0.18	1320.780000	Y 377.433
Zr (343.823 nm)	0.147299	ppm	0.000171	0.12	19304.500000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.073672	20284.904356	0.000109	0.01
Y 377.433	1.089065	1105215.646052	0.001359	0.12
Y_R 377.433	1.209540	92943.300000	0.007929	0.66
Y_R 488.368	1.240660	54433.600000	0.006379	0.51
Y_R2 488.368	1.223464	105637.702051	0.002290	0.19

Sample Name: 280-115961-A-1-Asd@5

Date: 10/29/2018 5:30:19 PM Rack:Tube: 1:73

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000046 u	ppm	0.000207	> 100.00	-432.754000	Y 377.433
Al (167.019 nm)	19.519200 o	ppm	0.055645	0.29	10328.300000	Y_R 377.433
Al H (396.152 nm)	18.758037	ppm	0.134588	0.72	47506.775496	Y_R 377.433
As (188.980 nm)	0.003020	ppm	0.002458	81.40	0.847521	Y 242.219
B (249.678 nm)	0.017545	ppm	0.000414	2.36	475.297000	Y 242.219
Ba (493.408 nm)	0.114852	ppm	0.000975	0.85	13781.300000	Y_R 488.368
Be (234.861 nm)	0.000950	ppm	0.000108	11.35	936.695000	Y_R 488.368
Bi (223.061 nm)	-0.005559 u	ppm	0.000969	17.43	-2.277320	Y 377.433
Ca (315.887 nm)	176.408510 o	ppm	0.934480	0.53	135659.497225	Y_R 377.433
Cd (214.439 nm)	0.000013	ppm	0.000009	69.54	21.261000	Y 377.433
Co (228.615 nm)	0.009807	ppm	0.000125	1.27	163.550000	Y 242.219
Cr (205.560 nm)	0.031911	ppm	0.000681	2.13	460.609000	Y 377.433
Cu (324.754 nm)	0.026439	ppm	0.001113	4.21	1006.890000	Y 377.433
Fe (238.204 nm)	24.262622 o	ppm	0.165385	0.68	87571.123322	Y_R 377.433
Fe H (259.940 nm)	24.585800	ppm	0.174589	0.71	45041.800000	Y_R 377.433
K (766.491 nm)	3.175200	ppm	0.013189	0.42	2877.520000	Y_R2 488.368
Li (670.783 nm)	0.031669	ppm	0.001303	4.11	-356.078000	Y_R2 488.368
Mg (279.078 nm)	13.920800	ppm	0.450479	3.24	76575.500000	Y 377.433
Mn (257.610 nm)	0.386551	ppm	0.012437	3.22	87299.900000	Y 377.433
Mo (202.032 nm)	0.000387	ppm	0.000271	69.93	0.823468	Y 377.433
Na (589.592 nm)	0.326195	ppm	0.008964	2.75	2909.910000	Y_R2 488.368
Na H (589.593 nm)	0.308095 u	ppm	0.019377	6.29	4425.367937	Y_R 488.368
Ni (231.604 nm)	0.023395	ppm	0.001339	5.72	151.542000	Y 377.433
P (213.618 nm)	0.378291	ppm	0.010394	2.75	805.240000	Y 242.219
Pb (220.353 nm)	0.059819	ppm	0.002101	3.51	166.847000	Y 242.219
S (181.972 nm)	0.354890	ppm	0.018997	5.35	204.795276	Y 377.433
Sb (206.834 nm)	-0.001608 u	ppm	0.000927	57.67	-30.410300	Y 377.433
Se (196.026 nm)	-0.003135 u	ppm	0.001592	50.78	6.859140	Y 242.219
Si (288.158 nm)	0.654826	ppm	0.027007	4.12	6365.300000	Y 377.433
Sn (189.925 nm)	0.004227	ppm	0.000870	20.58	15.959500	Y 377.433
Sr (421.552 nm)	0.092743	ppm	0.000235	0.25	19260.975019	Y_R 488.368
Th (288.505 nm)	0.003402	ppm	0.000040	1.18	93.795300	Y 377.433
Ti (336.122 nm)	0.841387	ppm	0.027324	3.25	117763.000000	Y 377.433
Tl (190.794 nm)	0.002955	ppm	0.000179	6.06	-4.996870	Y 377.433
U (409.013 nm)	-0.008028 u	ppm	0.003431	42.73	-223.304000	Y 377.433
V (292.401 nm)	0.047076	ppm	0.001410	3.00	1690.050000	Y 377.433
Zn (206.200 nm)	0.057490	ppm	0.001252	2.18	286.139000	Y 377.433
Zr (343.823 nm)	0.030655	ppm	0.000826	2.70	4027.000000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.112201	21012.818455	0.002794	0.25
Y 377.433	1.127807	1144531.648010	0.003715	0.33
Y_R 377.433	1.215820	93425.600000	0.001383	0.11
Y_R 488.368	1.248700	54786.500000	0.003038	0.24
Y_R2 488.368	1.237192	106823.044420	0.006076	0.49

Sample Name: 280-115961-A-1-B MS

Date: 10/29/2018 5:33:42 PM Rack:Tube: 1:74

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.052743	ppm	0.000003	0.01	1880.410000	Y 377.433
Al (167.019 nm)	111.683000 o	ppm	0.063654	0.06	59097.500000	Y_R 377.433
Al H (396.152 nm)	159.749801 o	ppm	0.552842	0.35	403817.461344	Y_R 377.433
As (188.980 nm)	1.045890	ppm	0.004406	0.42	1250.910000	Y 242.219
B (249.678 nm)	1.218470 o	ppm	0.001884	0.15	28803.600000	Y 242.219
Ba (493.408 nm)	2.738480 o	ppm	0.013821	0.50	314345.000000	Y_R 488.368
Be (234.861 nm)	0.049963	ppm	0.000004	0.01	18696.100000	Y_R 488.368
Bi (223.061 nm)	2.003370	ppm	0.002308	0.12	4888.750000	Y 377.433
Ca (315.887 nm)	914.818856 o	ppm	1.026041	0.11	703772.581825	Y_R 377.433
Cd (214.439 nm)	0.089986	ppm	0.000036	0.04	5275.110000	Y 377.433
Co (228.615 nm)	0.530390	ppm	0.001387	0.26	9367.600000	Y 242.219
Cr (205.560 nm)	0.391382	ppm	0.000205	0.05	5667.100000	Y 377.433
Cu (324.754 nm)	0.427485	ppm	0.000144	0.03	22085.200000	Y 377.433
Fe (238.204 nm)	149.501988 o	ppm	0.046099	0.03	539512.003274	Y_R 377.433
Fe H (259.940 nm)	154.043000	ppm	0.156158	0.10	281407.000000	Y_R 377.433
K (766.491 nm)	83.564300	ppm	0.150757	0.18	93177.600000	Y_R2 488.368
Li (670.783 nm)	1.169390	ppm	0.001016	0.09	36608.000000	Y_R2 488.368
Mg (279.078 nm)	129.636000 o	ppm	0.403519	0.31	712889.000000	Y 377.433
Mn (257.610 nm)	2.648130 o	ppm	0.010002	0.38	597701.000000	Y 377.433
Mo (202.032 nm)	0.967053	ppm	0.002464	0.25	8069.000000	Y 377.433
Na (589.592 nm)	56.621400 o	ppm	0.013091	0.02	364717.000000	Y_R2 488.368
Na H (589.593 nm)	59.587087	ppm	0.215167	0.36	224548.978628	Y_R 488.368
Ni (231.604 nm)	0.595804	ppm	0.001460	0.25	3900.260000	Y 377.433
P (213.618 nm)	12.192700 o	ppm	0.012718	0.10	25113.400000	Y 242.219
Pb (220.353 nm)	0.813358	ppm	0.001945	0.24	2236.650000	Y 242.219
S (181.972 nm)	4.694035	ppm	0.002885	0.06	2323.466251	Y 377.433
Sb (206.834 nm)	0.272768	ppm	0.002731	1.00	656.101000	Y 377.433
Se (196.026 nm)	2.049990	ppm	0.006822	0.33	1918.360000	Y 242.219
Si (288.158 nm)	4.989250	ppm	0.004317	0.09	41762.700000	Y 377.433
Sn (189.925 nm)	1.818090	ppm	0.002698	0.15	3476.360000	Y 377.433
Sr (421.552 nm)	1.474373 o	ppm	0.008229	0.56	304029.631340	Y_R 488.368
Th (288.505 nm)	1.027090	ppm	0.003415	0.33	2714.240000	Y 377.433
Ti (336.122 nm)	6.632500 o	ppm	0.002140	0.03	928807.000000	Y 377.433
Tl (190.794 nm)	1.852070	ppm	0.001034	0.06	3914.000000	Y 377.433
U (409.013 nm)	2.071840	ppm	0.000099	0.00	8942.350000	Y 377.433
V (292.401 nm)	0.798494	ppm	0.001130	0.14	28084.800000	Y 377.433
Zn (206.200 nm)	0.773254	ppm	0.000251	0.03	3865.370000	Y 377.433
Zr (343.823 nm)	0.721370	ppm	0.000579	0.08	93270.000000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.061254	20050.279502	0.000029	0.00
Y 377.433	1.078416	1094408.182532	0.002511	0.23
Y_R 377.433	1.207140	92758.800000	0.001843	0.15
Y_R 488.368	1.239910	54400.900000	0.001437	0.12
Y_R2 488.368	1.215500	104950.088345	0.002078	0.17

Sample Name: 280-115961-A-1-C MSD

Date: 10/29/2018 5:37:06 PM Rack:Tube: 1:75

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.053032	ppm	0.000393	0.74	1893.760000	Y 377.433
Al (167.019 nm)	88.100900 o	ppm	0.290293	0.33	46612.000000	Y_R 377.433
Al H (396.152 nm)	109.913391 o	ppm	0.364804	0.33	277933.121848	Y_R 377.433
As (188.980 nm)	1.040500	ppm	0.000606	0.06	1244.800000	Y 242.219
B (249.678 nm)	1.169530 o	ppm	0.001250	0.11	27703.400000	Y 242.219
Ba (493.408 nm)	2.539940 o	ppm	0.014586	0.57	291539.000000	Y_R 488.368
Be (234.861 nm)	0.049851	ppm	0.000200	0.40	17381.000000	Y_R 488.368
Bi (223.061 nm)	2.022980	ppm	0.000635	0.03	4929.540000	Y 377.433
Ca (315.887 nm)	726.367786 o	ppm	0.048182	0.01	558783.404610	Y_R 377.433
Cd (214.439 nm)	0.092763	ppm	0.000159	0.17	5394.490000	Y 377.433
Co (228.615 nm)	0.519806	ppm	0.000235	0.05	9128.590000	Y 242.219
Cr (205.560 nm)	0.336030	ppm	0.000357	0.11	4871.220000	Y 377.433
Cu (324.754 nm)	0.375019	ppm	0.001791	0.48	19373.200000	Y 377.433
Fe (238.204 nm)	106.588044 o	ppm	0.283827	0.27	384652.023315	Y_R 377.433
Fe H (259.940 nm)	108.017000	ppm	0.336260	0.31	197372.000000	Y_R 377.433
K (766.491 nm)	74.846300	ppm	0.105404	0.14	83384.700000	Y_R2 488.368
Li (670.783 nm)	1.124170	ppm	0.002382	0.21	35138.600000	Y_R2 488.368
Mg (279.078 nm)	102.721000 o	ppm	0.292634	0.28	564893.000000	Y 377.433
Mn (257.610 nm)	2.006810 o	ppm	0.004457	0.22	452968.000000	Y 377.433
Mo (202.032 nm)	0.992554	ppm	0.000170	0.02	8281.840000	Y 377.433
Na (589.592 nm)	50.975100 o	ppm	0.124249	0.24	328553.000000	Y_R2 488.368
Na H (589.593 nm)	53.331713	ppm	0.398107	0.75	201394.004123	Y_R 488.368
Ni (231.604 nm)	0.561806	ppm	0.001241	0.22	3676.410000	Y 377.433
P (213.618 nm)	11.694200 o	ppm	0.005855	0.05	24087.800000	Y 242.219
Pb (220.353 nm)	0.738078	ppm	0.000888	0.12	2038.600000	Y 242.219
S (181.972 nm)	3.763662	ppm	0.031184	0.83	1868.839538	Y 377.433
Sb (206.834 nm)	0.346897	ppm	0.002990	0.86	863.924000	Y 377.433
Se (196.026 nm)	2.073100	ppm	0.001033	0.05	1946.310000	Y 242.219
Si (288.158 nm)	4.962310	ppm	0.000813	0.02	41542.700000	Y 377.433
Sn (189.925 nm)	1.878190	ppm	0.002271	0.12	3591.020000	Y 377.433
Sr (421.552 nm)	1.362659 o	ppm	0.007685	0.56	281004.239219	Y_R 488.368
Th (288.505 nm)	1.035200	ppm	0.003959	0.38	2721.620000	Y 377.433
Ti (336.122 nm)	4.964830 o	ppm	0.000689	0.01	695326.000000	Y 377.433
Tl (190.794 nm)	1.905250	ppm	0.001303	0.07	4035.570000	Y 377.433
U (409.013 nm)	2.099680	ppm	0.002830	0.13	9066.690000	Y 377.433
V (292.401 nm)	0.720247	ppm	0.001064	0.15	25309.200000	Y 377.433
Zn (206.200 nm)	0.739461	ppm	0.000866	0.12	3696.390000	Y 377.433
Zr (343.823 nm)	0.666039	ppm	0.001165	0.17	86027.900000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.057232	19974.290549	0.001729	0.16
Y 377.433	1.071413	1087301.102795	0.000458	0.04
Y_R 377.433	1.177650	90493.100000	0.001286	0.11
Y_R 488.368	1.214080	53267.300000	0.002256	0.19
Y_R2 488.368	1.195633	103234.681119	0.007127	0.60

Sample Name: 280-115961-A-1-Apds

Date: 10/29/2018 5:40:30 PM Rack:Tube: 1:76

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.050778	ppm	0.000218	0.43	1801.880000	Y 377.433
Al (167.019 nm)	77.832900 o	ppm	0.385250	0.49	41194.000000	Y_R 377.433
Al H (396.152 nm)	94.338519	ppm	0.312818	0.33	238598.716114	Y_R 377.433
As (188.980 nm)	0.224329	ppm	0.000467	0.21	265.569000	Y 242.219
B (249.678 nm)	0.185620	ppm	0.000193	0.10	4333.560000	Y 242.219
Ba (493.408 nm)	0.654872	ppm	0.001871	0.29	75829.300000	Y_R 488.368
Be (234.861 nm)	0.048061	ppm	0.000316	0.66	17228.000000	Y_R 488.368
Bi (223.061 nm)	-0.012741 u	ppm	0.000615	4.82	-5.096960	Y 377.433
Ca (315.887 nm)	855.983947 o	ppm	2.372410	0.28	658506.562280	Y_R 377.433
Cd (214.439 nm)	0.044272	ppm	0.000003	0.01	2633.920000	Y 377.433
Co (228.615 nm)	0.089360	ppm	0.000185	0.21	1644.400000	Y 242.219
Cr (205.560 nm)	0.193512	ppm	0.000615	0.32	2792.170000	Y 377.433
Cu (324.754 nm)	0.180053	ppm	0.000474	0.26	8863.580000	Y 377.433
Fe (238.204 nm)	116.977485 o	ppm	0.376367	0.32	422143.533409	Y_R 377.433
Fe H (259.940 nm)	118.534000	ppm	0.366553	0.31	216574.000000	Y_R 377.433
K (766.491 nm)	36.056400	ppm	0.050636	0.14	39812.500000	Y_R2 488.368
Li (670.783 nm)	0.208274	ppm	0.001421	0.68	5381.730000	Y_R2 488.368
Mg (279.078 nm)	82.706400 o	ppm	0.162037	0.20	454814.000000	Y 377.433
Mn (257.610 nm)	1.818970 o	ppm	0.004811	0.26	410574.000000	Y 377.433
Mo (202.032 nm)	0.046900	ppm	0.000230	0.49	389.042000	Y 377.433
Na (589.592 nm)	20.989200 o	ppm	0.034494	0.16	134893.000000	Y_R2 488.368
Na H (589.593 nm)	21.632729	ppm	0.080065	0.37	83232.353828	Y_R 488.368
Ni (231.604 nm)	0.156730	ppm	0.000337	0.21	1026.960000	Y 377.433
P (213.618 nm)	3.780210 o	ppm	0.011693	0.31	7804.700000	Y 242.219
Pb (220.353 nm)	0.364150	ppm	0.000959	0.26	1000.940000	Y 242.219
S (181.972 nm)	1.687584	ppm	0.010300	0.61	857.184628	Y 377.433
Sb (206.834 nm)	0.095002	ppm	0.002336	2.46	201.648000	Y 377.433
Se (196.026 nm)	0.198143	ppm	0.005905	2.98	181.994000	Y 242.219
Si (288.158 nm)	8.332630	ppm	0.021296	0.26	69066.600000	Y 377.433
Sn (189.925 nm)	0.109784	ppm	0.002614	2.38	217.336000	Y 377.433
Sr (421.552 nm)	0.499117	ppm	0.001158	0.23	103018.970656	Y_R 488.368
Th (288.505 nm)	0.223783	ppm	0.000857	0.38	674.424000	Y 377.433
Ti (336.122 nm)	3.946780 o	ppm	0.006420	0.16	553547.000000	Y 377.433
Tl (190.794 nm)	0.186573	ppm	0.000162	0.09	371.623000	Y 377.433
U (409.013 nm)	0.471185	ppm	0.002226	0.47	1850.510000	Y 377.433
V (292.401 nm)	0.269188	ppm	0.000245	0.09	9519.600000	Y 377.433
Zn (206.200 nm)	0.432468	ppm	0.000685	0.16	2161.250000	Y 377.433
Zr (343.823 nm)	0.191619	ppm	0.000637	0.33	25003.800000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.068299	20183.375438	0.002856	0.27
Y 377.433	1.083207	1099270.905626	0.002907	0.27
Y_R 377.433	1.191500	91556.700000	0.000455	0.04
Y_R 488.368	1.222860	53652.600000	0.008070	0.66
Y_R2 488.368	1.210275	104498.914919	0.001548	0.13

Sample Name: 280-115961-A-2-A

Date: 10/29/2018 5:43:53 PM Rack:Tube: 1:77

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000049 u	ppm	0.000328	> 100.00	-467.666000	Y 377.433
Al (167.019 nm)	94.564300 o	ppm	0.089955	0.10	50057.300000	Y_R 377.433
Al H (396.152 nm)	113.497690 o	ppm	0.254550	0.22	286629.588346	Y_R 377.433
As (188.980 nm)	0.024455	ppm	0.000696	2.84	25.464800	Y 242.219
B (249.678 nm)	0.046744	ppm	0.000068	0.14	984.671000	Y 242.219
Ba (493.408 nm)	0.541597	ppm	0.000030	0.01	62726.400000	Y_R 488.368
Be (234.861 nm)	0.003415	ppm	0.000104	3.03	5548.490000	Y_R 488.368
Bi (223.061 nm)	-0.013637 u	ppm	0.000087	0.64	-1.260930	Y 377.433
Ca (315.887 nm)	102.099381 o	ppm	0.069186	0.07	78488.055868	Y_R 377.433
Cd (214.439 nm)	-0.000553 u	ppm	0.000063	11.48	108.459000	Y 377.433
Co (228.615 nm)	0.072059	ppm	0.000239	0.33	1374.890000	Y 242.219
Cr (205.560 nm)	0.180078	ppm	0.001067	0.59	2586.700000	Y 377.433
Cu (324.754 nm)	0.102821	ppm	0.000018	0.02	5207.700000	Y 377.433
Fe (238.204 nm)	155.029942 o	ppm	0.042213	0.03	559460.269072	Y_R 377.433
Fe H (259.940 nm)	158.590000	ppm	0.315253	0.20	289710.000000	Y_R 377.433
K (766.491 nm)	13.462400	ppm	0.091102	0.68	14433.000000	Y_R2 488.368
Li (670.783 nm)	0.121379	ppm	0.000535	0.44	2558.550000	Y_R2 488.368
Mg (279.078 nm)	39.281300	ppm	0.107341	0.27	215877.000000	Y 377.433
Mn (257.610 nm)	3.075970 o	ppm	0.008560	0.28	694259.000000	Y 377.433
Mo (202.032 nm)	0.000635	ppm	0.000167	26.30	2.897250	Y 377.433
Na (589.592 nm)	0.848922	ppm	0.000388	0.05	7049.020000	Y_R2 488.368
Na H (589.593 nm)	0.747379 u	ppm	0.000128	0.02	6439.449932	Y_R 488.368
Ni (231.604 nm)	0.114519	ppm	0.000692	0.60	752.328000	Y 377.433
P (213.618 nm)	2.336470 o	ppm	0.000706	0.03	4834.210000	Y 242.219
Pb (220.353 nm)	0.110864	ppm	0.001025	0.92	290.579000	Y 242.219
S (181.972 nm)	0.555886	ppm	0.004301	0.77	308.818259	Y 377.433
Sb (206.834 nm)	-0.000923 u	ppm	0.003109	> 100.00	-60.800600	Y 377.433
Se (196.026 nm)	-0.002955 u	ppm	0.002074	70.19	-12.492900	Y 242.219
Si (288.158 nm)	2.961790	ppm	0.010571	0.36	25205.300000	Y 377.433
Sn (189.925 nm)	0.016118	ppm	0.000594	3.69	38.644300	Y 377.433
Sr (421.552 nm)	0.124473	ppm	0.000159	0.13	25800.918962	Y_R 488.368
Th (288.505 nm)	0.036867	ppm	0.000935	2.54	231.572000	Y 377.433
Ti (336.122 nm)	4.836020 o	ppm	0.006960	0.14	675416.000000	Y 377.433
Tl (190.794 nm)	0.002902	ppm	0.000832	28.67	-25.142000	Y 377.433
U (409.013 nm)	-0.041954 u	ppm	0.001002	2.39	-246.374000	Y 377.433
V (292.401 nm)	0.333952	ppm	0.000508	0.15	11829.500000	Y 377.433
Zn (206.200 nm)	0.271650	ppm	0.001150	0.42	1357.060000	Y 377.433
Zr (343.823 nm)	0.082588	ppm	0.000016	0.02	11080.400000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.135448	21452.039251	0.001362	0.12
Y 377.433	1.143472	1160429.640591	0.003855	0.34
Y_R 377.433	1.241000	95360.600000	0.000397	0.03
Y_R 488.368	1.271790	55799.700000	0.001923	0.15
Y_R2 488.368	1.251599	108066.957224	0.005101	0.41

Sample Name: 280-115961-A-3-A

Date: 10/29/2018 5:47:16 PM Rack:Tube: 1:78

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000115 u	ppm	0.000298	> 100.00	-475.652000	Y 377.433
Al (167.019 nm)	104.555000 o	ppm	0.112074	0.11	55350.500000	Y_R 377.433
Al H (396.152 nm)	131.737290 o	ppm	0.614220	0.47	332676.532764	Y_R 377.433
As (188.980 nm)	0.028326	ppm	0.001222	4.31	29.906400	Y 242.219
B (249.678 nm)	0.057870	ppm	0.000266	0.46	1214.810000	Y 242.219
Ba (493.408 nm)	0.647555	ppm	0.004221	0.65	74877.800000	Y_R 488.368
Be (234.861 nm)	0.003701	ppm	0.000068	1.83	6348.450000	Y_R 488.368
Bi (223.061 nm)	-0.018040 u	ppm	0.000388	2.15	-8.151790	Y 377.433
Ca (315.887 nm)	111.032539 o	ppm	0.679543	0.61	85360.986943	Y_R 377.433
Cd (214.439 nm)	-0.000481 u	ppm	0.000016	3.43	134.537000	Y 377.433
Co (228.615 nm)	0.081562	ppm	0.000504	0.62	1559.930000	Y 242.219
Cr (205.560 nm)	0.213744	ppm	0.000171	0.08	3071.270000	Y 377.433
Cu (324.754 nm)	0.211378	ppm	0.000224	0.11	11008.400000	Y 377.433
Fe (238.204 nm)	179.027727 o	ppm	0.707753	0.40	646059.080171	Y_R 377.433
Fe H (259.940 nm)	184.242000	ppm	0.982883	0.53	336546.000000	Y_R 377.433
K (766.491 nm)	14.011400	ppm	0.047437	0.34	15049.700000	Y_R2 488.368
Li (670.783 nm)	0.130298	ppm	0.000213	0.16	2848.320000	Y_R2 488.368
Mg (279.078 nm)	43.224500	ppm	0.050777	0.12	237530.000000	Y 377.433
Mn (257.610 nm)	3.269980 o	ppm	0.001704	0.05	738043.000000	Y 377.433
Mo (202.032 nm)	0.000577	ppm	0.000167	28.94	2.407750	Y 377.433
Na (589.592 nm)	0.932803	ppm	0.002220	0.24	7785.670000	Y_R2 488.368
Na H (589.593 nm)	0.804479 u	ppm	0.019453	2.42	6748.633619	Y_R 488.368
Ni (231.604 nm)	0.151007	ppm	0.003133	2.07	991.790000	Y 377.433
P (213.618 nm)	2.744770 o	ppm	0.000130	0.00	5674.270000	Y 242.219
Pb (220.353 nm)	1.175160	ppm	0.003236	0.28	3256.220000	Y 242.219
S (181.972 nm)	1.548462	ppm	0.006352	0.41	792.731129	Y 377.433
Sb (206.834 nm)	-0.003429 u	ppm	0.000624	18.19	-73.262300	Y 377.433
Se (196.026 nm)	-0.004676 u	ppm	0.000475	10.16	-17.946800	Y 242.219
Si (288.158 nm)	2.879780	ppm	0.012020	0.42	24535.600000	Y 377.433
Sn (189.925 nm)	0.041213	ppm	0.000477	1.16	86.519500	Y 377.433
Sr (421.552 nm)	0.142150	ppm	0.001205	0.85	29444.258358	Y_R 488.368
Th (288.505 nm)	0.040417	ppm	0.006211	15.37	244.419000	Y 377.433
Ti (336.122 nm)	5.444760 o	ppm	0.008064	0.15	760459.000000	Y 377.433
Tl (190.794 nm)	0.001741	ppm	0.000853	49.00	-30.797600	Y 377.433
U (409.013 nm)	-0.050228 u	ppm	0.000060	0.12	-265.372000	Y 377.433
V (292.401 nm)	0.375135	ppm	0.000396	0.11	13283.300000	Y 377.433
Zn (206.200 nm)	0.373812	ppm	0.000198	0.05	1867.930000	Y 377.433
Zr (343.823 nm)	0.111483	ppm	0.000154	0.14	14867.000000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.147625	21682.096008	0.000617	0.05
Y 377.433	1.152689	1169782.695873	0.000253	0.02
Y_R 377.433	1.253680	96334.700000	0.004957	0.40
Y_R 488.368	1.292680	56716.100000	0.008260	0.64
Y_R2 488.368	1.274273	110024.660797	0.002994	0.23

Sample Name: 280-115961-A-4-A

Date: 10/29/2018 5:50:39 PM Rack:Tube: 1:79

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000440 u	ppm	0.000040	9.05	-467.036000	Y 377.433
Al (167.019 nm)	92.836000 o	ppm	0.058636	0.06	49143.900000	Y_R 377.433
Al H (396.152 nm)	114.665344 o	ppm	0.252353	0.22	289664.420651	Y_R 377.433
As (188.980 nm)	0.024486	ppm	0.002891	11.80	25.505900	Y 242.219
B (249.678 nm)	0.070152	ppm	0.000190	0.27	1540.090000	Y 242.219
Ba (493.408 nm)	0.651062	ppm	0.000368	0.06	75300.400000	Y_R 488.368
Be (234.861 nm)	0.003859	ppm	0.000147	3.82	5659.680000	Y_R 488.368
Bi (223.061 nm)	-0.016663 u	ppm	0.000471	2.82	-8.684450	Y 377.433
Ca (315.887 nm)	301.956228 o	ppm	0.832080	0.28	232252.531462	Y_R 377.433
Cd (214.439 nm)	-0.000444 u	ppm	0.000037	8.24	114.189000	Y 377.433
Co (228.615 nm)	0.057297	ppm	0.000403	0.70	1119.950000	Y 242.219
Cr (205.560 nm)	0.162451	ppm	0.000133	0.08	2329.820000	Y 377.433
Cu (324.754 nm)	0.172908	ppm	0.000102	0.06	8827.820000	Y 377.433
Fe (238.204 nm)	154.332923 o	ppm	0.047560	0.03	556944.995577	Y_R 377.433
Fe H (259.940 nm)	158.525000	ppm	0.454820	0.29	289591.000000	Y_R 377.433
K (766.491 nm)	17.229100	ppm	0.014465	0.08	18664.100000	Y_R2 488.368
Li (670.783 nm)	0.117567	ppm	0.000382	0.32	2434.690000	Y_R2 488.368
Mg (279.078 nm)	61.476500 o	ppm	0.055403	0.09	337976.000000	Y 377.433
Mn (257.610 nm)	2.140830 o	ppm	0.002325	0.11	483212.000000	Y 377.433
Mo (202.032 nm)	0.000314	ppm	0.000003	1.11	0.214943	Y 377.433
Na (589.592 nm)	2.800000	ppm	0.011297	0.40	19624.900000	Y_R2 488.368
Na H (589.593 nm)	2.749788 u	ppm	0.019556	0.71	13894.919746	Y_R 488.368
Ni (231.604 nm)	0.133996	ppm	0.000735	0.55	879.626000	Y 377.433
P (213.618 nm)	2.597260 o	ppm	0.014123	0.54	5370.770000	Y 242.219
Pb (220.353 nm)	0.188604	ppm	0.002632	1.40	507.009000	Y 242.219
S (181.972 nm)	0.523559	ppm	0.001438	0.27	290.945544	Y 377.433
Sb (206.834 nm)	-0.005108 u	ppm	0.000570	11.16	-72.712600	Y 377.433
Se (196.026 nm)	-0.006805 u	ppm	0.007619	> 100.00	-16.694900	Y 242.219
Si (288.158 nm)	3.165200	ppm	0.004796	0.15	26866.400000	Y 377.433
Sn (189.925 nm)	0.017333	ppm	0.002397	13.83	40.963600	Y 377.433
Sr (421.552 nm)	0.244078	ppm	0.000245	0.10	50452.730846	Y_R 488.368
Th (288.505 nm)	0.038042	ppm	0.001484	3.90	216.174000	Y 377.433
Ti (336.122 nm)	4.849730 o	ppm	0.001071	0.02	677945.000000	Y 377.433
Tl (190.794 nm)	0.001840	ppm	0.001003	54.52	-27.517600	Y 377.433
U (409.013 nm)	-0.050339 u	ppm	0.000072	0.14	-328.765000	Y 377.433
V (292.401 nm)	0.320341	ppm	0.000061	0.02	11356.400000	Y 377.433
Zn (206.200 nm)	0.258552	ppm	0.000665	0.26	1291.570000	Y 377.433
Zr (343.823 nm)	0.179611	ppm	0.000135	0.08	23564.800000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.120767	21174.659641	0.001228	0.11
Y 377.433	1.130915	1147686.411996	0.000483	0.04
Y_R 377.433	1.243230	95532.300000	0.002461	0.20
Y_R 488.368	1.273850	55889.900000	0.003177	0.25
Y_R2 488.368	1.264091	109145.519360	0.007516	0.59

Sample Name: CCVH-5380945

Date: 10/29/2018 5:54:01 PM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.002117 u	ppm	0.000130	6.14	-766.184000	Y 377.433
Al (167.019 nm)	50.000000 o	ppm	0.265522	0.53	26449.000000	Y_R 377.433
Al H (396.152 nm)	49.645633	ppm	0.242497	0.49	125400.384407	Y_R 377.433
As (188.980 nm)	0.000148 u	ppm	0.000794	> 100.00	-2.833380	Y 242.219
B (249.678 nm)	-0.000878 u	ppm	0.000037	4.26	-1.917800	Y 242.219
Ba (493.408 nm)	-0.000314 u	ppm	0.000033	10.50	585.290000	Y_R 488.368
Be (234.861 nm)	-0.000308 u	ppm	0.000072	23.26	1417.580000	Y_R 488.368
Bi (223.061 nm)	1.014520	ppm	0.002712	0.27	2475.650000	Y 377.433
Ca (315.887 nm)	0.014465	ppm	0.001728	11.95	-53.329578	Y_R 377.433
Cd (214.439 nm)	-0.000325 u	ppm	0.000017	5.36	27.610300	Y 377.433
Co (228.615 nm)	0.003147	ppm	0.000208	6.61	20.280100	Y 242.219
Cr (205.560 nm)	-0.000151 u	ppm	0.000001	0.77	-14.231600	Y 377.433
Cu (324.754 nm)	-0.006974 u	ppm	0.000283	4.06	-374.776000	Y 377.433
Fe (238.204 nm)	52.291542 o	ppm	0.229795	0.44	188716.755662	Y_R 377.433
Fe H (259.940 nm)	52.628400	ppm	0.216468	0.41	96242.400000	Y_R 377.433
K (766.491 nm)	0.133034	ppm	0.055006	41.35	-539.710000	Y_R2 488.368
Li (670.783 nm)	0.011374	ppm	0.000612	5.38	-1015.460000	Y_R2 488.368
Mg (279.078 nm)	-0.018607 u	ppm	0.000378	2.03	-413.014000	Y 377.433
Mn (257.610 nm)	0.001464	ppm	0.000033	2.26	391.837000	Y 377.433
Mo (202.032 nm)	0.000054 u	ppm	0.000302	> 100.00	-1.960010	Y 377.433
Na (589.592 nm)	231.745000 o	ppm	0.639397	0.28	1469110.000000	Y_R2 488.368
Na H (589.593 nm)	236.669439	ppm	3.286331	1.39	872173.693511	Y_R 488.368
Ni (231.604 nm)	0.003309	ppm	0.000016	0.48	21.343200	Y 377.433
P (213.618 nm)	-0.005829 u	ppm	0.000379	6.50	14.911800	Y 242.219
Pb (220.353 nm)	-0.004832 u	ppm	0.000183	3.79	7.463540	Y 242.219
S (181.972 nm)	5.174073	ppm	0.004374	0.08	2551.273306	Y 377.433
Sb (206.834 nm)	-0.004790 u	ppm	0.001231	25.70	-77.829100	Y 377.433
Se (196.026 nm)	-0.001612 u	ppm	0.004732	> 100.00	3.067580	Y 242.219
Si (288.158 nm)	-0.002288 u	ppm	0.000670	29.28	998.938000	Y 377.433
Sn (189.925 nm)	0.000334	ppm	0.000406	> 100.00	8.533770	Y 377.433
Sr (421.552 nm)	0.000333	ppm	0.000028	8.45	214.199960	Y_R 488.368
Th (288.505 nm)	5.067510	ppm	0.021813	0.43	12747.700000	Y 377.433
Ti (336.122 nm)	0.002280	ppm	0.000007	0.31	32.047100	Y 377.433
Tl (190.794 nm)	-0.004105 u	ppm	0.000812	19.78	-17.269600	Y 377.433
U (409.013 nm)	10.371100	ppm	0.077679	0.75	45961.500000	Y 377.433
V (292.401 nm)	0.002406	ppm	0.000327	13.61	-57.688200	Y 377.433
Zn (206.200 nm)	0.001812	ppm	0.000471	26.02	7.715070	Y 377.433
Zr (343.823 nm)	-0.004460 u	ppm	0.000015	0.33	-412.511000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.099130	20765.866402	0.000728	0.07
Y 377.433	1.099112	1115411.511063	0.001825	0.17
Y_R 377.433	1.190230	91459.300000	0.006287	0.53
Y_R 488.368	1.220300	53540.300000	0.015817	1.30
Y_R2 488.368	1.204686	104016.322017	0.001512	0.13

Sample Name: CCV-5391053

Date: 10/29/2018 5:57:25 PM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.492969	ppm	0.000652	0.13	21422.500000	Y 377.433
Al (167.019 nm)	0.565884 Q	ppm	0.005316	0.94	301.633000 Q	Y_R 377.433
Al H (396.152 nm)	0.495560 u	ppm	0.007857	1.59	1370.863031	Y_R 377.433
As (188.980 nm)	1.019330	ppm	0.001830	0.18	1220.270000	Y 242.219
B (249.678 nm)	0.501350	ppm	0.001465	0.29	12001.800000	Y 242.219
Ba (493.408 nm)	0.496209	ppm	0.002563	0.52	57378.100000	Y_R 488.368
Be (234.861 nm)	0.453365	ppm	0.001497	0.33	130180.000000	Y_R 488.368
Bi (223.061 nm)	-0.000670 u	ppm	0.001632	> 100.00	6.176590	Y 377.433
Ca (315.887 nm)	5.224713	ppm	0.023122	0.44	3955.564441	Y_R 377.433
Cd (214.439 nm)	0.498342	ppm	0.002059	0.41	28465.200000	Y 377.433
Co (228.615 nm)	0.507180	ppm	0.000815	0.16	8760.820000	Y 242.219
Cr (205.560 nm)	0.502332	ppm	0.000940	0.19	7320.730000	Y 377.433
Cu (324.754 nm)	0.497982	ppm	0.000062	0.01	26239.400000	Y 377.433
Fe (238.204 nm)	2.644843	ppm	0.008002	0.30	9560.843422	Y_R 377.433
Fe H (259.940 nm)	2.587780 u	ppm	0.011426	0.44	4877.280000	Y_R 377.433
K (766.491 nm)	49.119100	ppm	0.041225	0.08	54485.700000	Y_R2 488.368
Li (670.783 nm)	0.980530	ppm	0.000555	0.06	30471.900000	Y_R2 488.368
Mg (279.078 nm)	19.283400	ppm	0.005154	0.03	106111.000000	Y 377.433
Mn (257.610 nm)	0.502957	ppm	0.000385	0.08	113571.000000	Y 377.433
Mo (202.032 nm)	0.502360	ppm	0.001602	0.32	4190.490000	Y 377.433
Na (589.592 nm)	4.766880	ppm	0.000447	0.01	31787.200000	Y_R2 488.368
Na H (589.593 nm)	4.851263 u	ppm	0.018219	0.38	21464.822406	Y_R 488.368
Ni (231.604 nm)	0.504536	ppm	0.002326	0.46	3296.980000	Y 377.433
P (213.618 nm)	0.974426	ppm	0.002432	0.25	2031.790000	Y 242.219
Pb (220.353 nm)	1.000880	ppm	0.004256	0.43	2794.100000	Y 242.219
S (181.972 nm)	0.021078	ppm	0.002931	13.91	42.467376	Y 377.433
Sb (206.834 nm)	1.013140	ppm	0.001720	0.17	2671.270000	Y 377.433
Se (196.026 nm)	1.007400	ppm	0.001430	0.14	960.102000	Y 242.219
Si (288.158 nm)	4.950630	ppm	0.012899	0.26	41447.300000	Y 377.433
Sn (189.925 nm)	0.985835	ppm	0.002492	0.25	1888.630000	Y 377.433
Sr (421.552 nm)	0.484271	ppm	0.001952	0.40	99959.118201	Y_R 488.368
Th (288.505 nm)	-0.000306 u	ppm	0.000608	> 100.00	92.840900	Y 377.433
Ti (336.122 nm)	0.506129	ppm	0.000359	0.07	70414.400000	Y 377.433
Tl (190.794 nm)	1.016100	ppm	0.002556	0.25	2160.270000	Y 377.433
U (409.013 nm)	-0.000127 u	ppm	0.002666	> 100.00	-211.258000	Y 377.433
V (292.401 nm)	0.501349	ppm	0.000949	0.19	17517.200000	Y 377.433
Zn (206.200 nm)	0.494831	ppm	0.000694	0.14	2473.100000	Y 377.433
Zr (343.823 nm)	0.505186	ppm	0.000528	0.10	65033.700000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.110927	20988.748987	0.001159	0.10
Y 377.433	1.117276	1133845.205478	0.000370	0.03
Y_R 377.433	1.195380	91855.400000	0.006715	0.56
Y_R 488.368	1.230890	54005.100000	0.006215	0.50
Y_R2 488.368	1.205656	104100.124615	0.000455	0.04

Sample Name: CCB

Date: 10/29/2018 6:00:47 PM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000431 u	ppm	0.000085	19.79	-452.521000	Y 377.433
Al (167.019 nm)	0.002196	ppm	0.001226	55.82	2.163140	Y_R 377.433
Al H (396.152 nm)	-0.026114 u	ppm	0.001570	6.01	11.886847	Y_R 377.433
As (188.980 nm)	0.000195 u	ppm	0.002128	> 100.00	-2.338200	Y 242.219
B (249.678 nm)	0.000448	ppm	0.000098	21.94	103.855000	Y 242.219
Ba (493.408 nm)	-0.000880 u	ppm	0.000171	19.44	472.541000	Y_R 488.368
Be (234.861 nm)	0.000045	ppm	0.000005	11.18	-46.705300	Y_R 488.368
Bi (223.061 nm)	0.001417	ppm	0.001612	> 100.00	10.818700	Y 377.433
Ca (315.887 nm)	0.018641	ppm	0.002410	12.93	-50.117676	Y_R 377.433
Cd (214.439 nm)	0.000091	ppm	0.000020	22.40	3.609530	Y 377.433
Co (228.615 nm)	0.000281	ppm	0.000213	75.88	-29.354300	Y 242.219
Cr (205.560 nm)	-0.000167 u	ppm	0.000078	46.49	-0.754012	Y 377.433
Cu (324.754 nm)	-0.000082 u	ppm	0.000063	76.52	-317.223000	Y 377.433
Fe (238.204 nm)	0.000346 u	ppm	0.000642	> 100.00	17.868086	Y_R 377.433
Fe H (259.940 nm)	-0.077443 u	ppm	0.001417	1.83	11.047800	Y_R 377.433
K (766.491 nm)	0.092893	ppm	0.025910	27.89	-584.799000	Y_R2 488.368
Li (670.783 nm)	0.011045 Z	ppm	0.001491	13.50	-1026.140000 Z	Y_R2 488.368
Mg (279.078 nm)	0.000755	ppm	0.001044	> 100.00	38.518400	Y 377.433
Mn (257.610 nm)	0.000023 u	ppm	0.000038	> 100.00	66.589800	Y 377.433
Mo (202.032 nm)	0.000427	ppm	0.000058	13.51	1.157050	Y 377.433
Na (589.592 nm)	-0.013007 u	ppm	0.004837	37.19	535.166000	Y_R2 488.368
Na H (589.593 nm)	-0.208461 u	ppm	0.002134	1.02	2419.377013	Y_R 488.368
Ni (231.604 nm)	-0.000534 u	ppm	0.000577	> 100.00	-5.828330	Y 377.433
P (213.618 nm)	0.000639	ppm	0.000510	79.89	28.219000	Y 242.219
Pb (220.353 nm)	-0.000589 u	ppm	0.000717	> 100.00	2.186190	Y 242.219
S (181.972 nm)	0.010644	ppm	0.006197	58.22	36.239283	Y 377.433
Sb (206.834 nm)	0.002405	ppm	0.000085	3.54	-13.812300	Y 377.433
Se (196.026 nm)	0.000771 u	ppm	0.003407	> 100.00	14.189800	Y 242.219
Si (288.158 nm)	-0.024650 u	ppm	0.000298	1.21	816.321000	Y 377.433
Sn (189.925 nm)	-0.001171 u	ppm	0.000196	16.69	5.661340	Y 377.433
Sr (421.552 nm)	-0.000074 u	ppm	0.000121	> 100.00	130.431379	Y_R 488.368
Th (288.505 nm)	-0.000798 u	ppm	0.005263	> 100.00	75.584000	Y 377.433
Ti (336.122 nm)	0.000482	ppm	0.000013	2.71	-219.243000	Y 377.433
Tl (190.794 nm)	0.000603	ppm	0.000328	54.30	-5.887920	Y 377.433
U (409.013 nm)	0.002805	ppm	0.002033	72.46	-161.716000	Y 377.433
V (292.401 nm)	0.000006 u	ppm	0.000015	> 100.00	24.137200	Y 377.433
Zn (206.200 nm)	0.000282	ppm	0.000092	32.67	0.064472	Y 377.433
Zr (343.823 nm)	0.000064	ppm	0.000061	94.48	21.646300	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.116232	21088.976891	0.001217	0.11
Y 377.433	1.128550	1145286.249026	0.000762	0.07
Y_R 377.433	1.184060	90985.300000	0.007290	0.62
Y_R 488.368	1.216270	53363.800000	0.005472	0.45
Y_R2 488.368	1.202452	103823.417343	0.004376	0.36

Sample Name: CCVL-5398386

Date: 10/29/2018 6:04:11 PM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.008576	ppm	0.000189	2.21	-52.975900	Y 377.433
Al (167.019 nm)	0.114190	ppm	0.001230	1.08	61.396600	Y_R 377.433
Al H (396.152 nm)	0.074582 u	ppm	0.003016	4.04	267.623749	Y_R 377.433
As (188.980 nm)	0.014515	ppm	0.000658	4.53	14.840100	Y 242.219
B (249.678 nm)	0.099380	ppm	0.000105	0.11	2450.660000	Y 242.219
Ba (493.408 nm)	0.009072	ppm	0.000119	1.31	1611.710000	Y_R 488.368
Be (234.861 nm)	0.000981	ppm	0.000010	1.03	224.414000	Y_R 488.368
Bi (223.061 nm)	0.102874	ppm	0.001303	1.27	256.853000	Y 377.433
Ca (315.887 nm)	0.222067	ppm	0.002861	1.29	106.395794	Y_R 377.433
Cd (214.439 nm)	0.005141	ppm	0.000060	1.17	292.113000	Y 377.433
Co (228.615 nm)	0.010852	ppm	0.000246	2.27	153.938000	Y 242.219
Cr (205.560 nm)	0.010005	ppm	0.000134	1.34	147.503000	Y 377.433
Cu (324.754 nm)	0.015300	ppm	0.000182	1.19	501.728000	Y 377.433
Fe (238.204 nm)	0.107124	ppm	0.000642	0.60	403.190212	Y_R 377.433
Fe H (259.940 nm)	0.025654 u	ppm	0.000502	1.96	199.283000	Y_R 377.433
K (766.491 nm)	3.200470	ppm	0.017268	0.54	2905.910000	Y_R2 488.368
Li (670.783 nm)	0.032431 Q	ppm	0.000707	2.18	-331.324000 Q	Y_R2 488.368
Mg (279.078 nm)	0.190778	ppm	0.000921	0.48	1082.740000	Y 377.433
Mn (257.610 nm)	0.010287	ppm	0.000023	0.22	2382.970000	Y 377.433
Mo (202.032 nm)	0.018670	ppm	0.000056	0.30	153.416000	Y 377.433
Na (589.592 nm)	0.984969	ppm	0.001254	0.13	6878.720000	Y_R2 488.368
Na H (589.593 nm)	0.747219 u	ppm	0.015479	2.07	5937.950953	Y_R 488.368
Ni (231.604 nm)	0.040779	ppm	0.000506	1.24	264.248000	Y 377.433
P (213.618 nm)	2.754970 o	ppm	0.009775	0.35	5695.260000	Y 242.219
Pb (220.353 nm)	0.010074	ppm	0.000278	2.76	31.935000	Y 242.219
S (181.972 nm)	0.101422	ppm	0.008251	8.14	80.478847	Y 377.433
Sb (206.834 nm)	0.023200	ppm	0.000065	0.28	41.305700	Y 377.433
Se (196.026 nm)	0.016704	ppm	0.002765	16.55	29.153400	Y 242.219
Si (288.158 nm)	0.460163	ppm	0.000838	0.18	4775.580000	Y 377.433
Sn (189.925 nm)	0.094982	ppm	0.001158	1.22	189.098000	Y 377.433
Sr (421.552 nm)	0.009573	ppm	0.000119	1.24	2118.852508	Y_R 488.368
Th (288.505 nm)	0.014774	ppm	0.002080	14.08	115.146000	Y 377.433
Ti (336.122 nm)	0.010805	ppm	0.000002	0.02	1223.150000	Y 377.433
Tl (190.794 nm)	0.017272	ppm	0.002055	11.90	29.640600	Y 377.433
U (409.013 nm)	0.067155	ppm	0.001487	2.21	123.204000	Y 377.433
V (292.401 nm)	0.009617	ppm	0.000216	2.25	357.613000	Y 377.433
Zn (206.200 nm)	0.020568	ppm	0.000327	1.59	101.506000	Y 377.433
Zr (343.823 nm)	0.014953	ppm	0.000077	0.51	1937.950000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.138374	21507.319269	0.000811	0.07
Y 377.433	1.151348	1168422.396492	0.001630	0.14
Y_R 377.433	1.221370	93852.600000	0.008675	0.71
Y_R 488.368	1.256730	55139.000000	0.004025	0.32
Y_R2 488.368	1.229416	106151.587045	0.000613	0.05

Sample Name: 280-115961-A-5-A

Date: 10/29/2018 6:07:34 PM Rack:Tube: 1:80

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000140 u	ppm	0.000401	> 100.00	-454.756000	Y 377.433
Al (167.019 nm)	89.267500 o	ppm	0.420333	0.47	47250.900000	Y_R 377.433
Al H (396.152 nm)	107.039656	ppm	0.403969	0.38	270404.239964	Y_R 377.433
As (188.980 nm)	0.024048	ppm	0.001216	5.06	25.083600	Y 242.219
B (249.678 nm)	0.064869	ppm	0.000047	0.07	1431.750000	Y 242.219
Ba (493.408 nm)	0.583961	ppm	0.001500	0.26	67603.800000	Y_R 488.368
Be (234.861 nm)	0.003313	ppm	0.000235	7.10	5137.740000	Y_R 488.368
Bi (223.061 nm)	-0.008071 u	ppm	0.000402	4.99	10.220000	Y 377.433
Ca (315.887 nm)	277.751147 o	ppm	1.540917	0.55	213629.793759	Y_R 377.433
Cd (214.439 nm)	-0.000345 u	ppm	0.000001	0.23	108.674000	Y 377.433
Co (228.615 nm)	0.047954	ppm	0.000034	0.07	936.438000	Y 242.219
Cr (205.560 nm)	0.170556	ppm	0.001301	0.76	2451.210000	Y 377.433
Cu (324.754 nm)	0.144685	ppm	0.000284	0.20	7333.310000	Y 377.433
Fe (238.204 nm)	142.303545 o	ppm	0.094231	0.07	513535.579770	Y_R 377.433
Fe H (259.940 nm)	145.162000	ppm	0.513891	0.35	265193.000000	Y_R 377.433
K (766.491 nm)	13.119400	ppm	0.126507	0.96	14047.700000	Y_R2 488.368
Li (670.783 nm)	0.119591	ppm	0.000273	0.23	2500.440000	Y_R2 488.368
Mg (279.078 nm)	46.353900 o	ppm	0.182347	0.39	254805.000000	Y 377.433
Mn (257.610 nm)	1.854790 o	ppm	0.004624	0.25	418658.000000	Y 377.433
Mo (202.032 nm)	0.000300	ppm	0.000130	43.47	0.093689	Y 377.433
Na (589.592 nm)	1.478200	ppm	0.009648	0.65	11119.300000	Y_R2 488.368
Na H (589.593 nm)	1.353671 u	ppm	0.004208	0.31	8705.754484	Y_R 488.368
Ni (231.604 nm)	0.115253	ppm	0.000056	0.05	756.628000	Y 377.433
P (213.618 nm)	2.109920	ppm	0.009027	0.43	4368.080000	Y 242.219
Pb (220.353 nm)	3.033550 o	ppm	0.001172	0.04	8445.690000	Y 242.219
S (181.972 nm)	1.542513	ppm	0.007624	0.49	786.610229	Y 377.433
Sb (206.834 nm)	-0.002144 u	ppm	0.000540	25.20	-61.151300	Y 377.433
Se (196.026 nm)	-0.001334 u	ppm	0.007142	> 100.00	-9.811750	Y 242.219
Si (288.158 nm)	2.863080	ppm	0.016617	0.58	24399.100000	Y 377.433
Sn (189.925 nm)	0.019681	ppm	0.001782	9.06	45.442200	Y 377.433
Sr (421.552 nm)	0.197126	ppm	0.000672	0.34	40775.458171	Y_R 488.368
Th (288.505 nm)	0.035963	ppm	0.002068	5.75	204.558000	Y 377.433
Ti (336.122 nm)	4.201730 o	ppm	0.001665	0.04	587374.000000	Y 377.433
Tl (190.794 nm)	0.002977	ppm	0.000708	23.79	-22.060700	Y 377.433
U (409.013 nm)	-0.046584 u	ppm	0.005418	11.63	-315.638000	Y 377.433
V (292.401 nm)	0.274226	ppm	0.000399	0.15	9718.450000	Y 377.433
Zn (206.200 nm)	0.273902	ppm	0.000672	0.25	1368.330000	Y 377.433
Zr (343.823 nm)	0.139500	ppm	0.000985	0.71	18368.300000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.118001	21122.402893	0.001909	0.17
Y 377.433	1.126437	1143141.281020	0.002057	0.18
Y_R 377.433	1.220240	93765.300000	0.005782	0.47
Y_R 488.368	1.252600	54957.700000	0.002305	0.18
Y_R2 488.368	1.240951	107147.567185	0.004789	0.39

Sample Name: 280-115961-A-6-A

Date: 10/29/2018 6:10:57 PM Rack:Tube: 1:81

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000307 u	ppm	0.000222	72.24	-467.868000	Y 377.433
Al (167.019 nm)	104.030000 o	ppm	0.178722	0.17	55073.200000	Y_R 377.433
Al H (396.152 nm)	135.091929 o	ppm	0.133007	0.10	341227.220403	Y_R 377.433
As (188.980 nm)	0.030284	ppm	0.003485	11.51	32.258200	Y 242.219
B (249.678 nm)	0.071325	ppm	0.000235	0.33	1533.970000	Y 242.219
Ba (493.408 nm)	0.821510	ppm	0.003829	0.47	94830.500000	Y_R 488.368
Be (234.861 nm)	0.004224	ppm	0.000365	8.64	6487.790000	Y_R 488.368
Bi (223.061 nm)	-0.016728 u	ppm	0.000248	1.48	-5.026550	Y 377.433
Ca (315.887 nm)	299.333430 o	ppm	0.776398	0.26	230234.621330	Y_R 377.433
Cd (214.439 nm)	-0.000357 u	ppm	0.000019	5.27	141.284000	Y 377.433
Co (228.615 nm)	0.070792	ppm	0.000290	0.41	1353.750000	Y 242.219
Cr (205.560 nm)	0.210517	ppm	0.000105	0.05	3024.310000	Y 377.433
Cu (324.754 nm)	0.199661	ppm	0.000478	0.24	10284.900000	Y 377.433
Fe (238.204 nm)	178.763617 o	ppm	0.265122	0.15	645106.007741	Y_R 377.433
Fe H (259.940 nm)	184.021000	ppm	0.682121	0.37	336142.000000	Y_R 377.433
K (766.491 nm)	18.396100	ppm	0.111439	0.61	19975.000000	Y_R2 488.368
Li (670.783 nm)	0.144955	ppm	0.000840	0.58	3324.530000	Y_R2 488.368
Mg (279.078 nm)	66.676400 o	ppm	0.143690	0.22	366542.000000	Y 377.433
Mn (257.610 nm)	2.971340 o	ppm	0.003934	0.13	670646.000000	Y 377.433
Mo (202.032 nm)	-0.000124 u	ppm	0.000152	> 100.00	-3.443330	Y 377.433
Na (589.592 nm)	2.321700	ppm	0.007642	0.33	16923.800000	Y_R2 488.368
Na H (589.593 nm)	2.224962 u	ppm	0.031876	1.43	12127.875362	Y_R 488.368
Ni (231.604 nm)	0.166885	ppm	0.001249	0.75	1095.570000	Y 377.433
P (213.618 nm)	2.624920 o	ppm	0.020648	0.79	5427.690000	Y 242.219
Pb (220.353 nm)	0.738515	ppm	0.000427	0.06	2036.900000	Y 242.219
S (181.972 nm)	0.945727	ppm	0.003582	0.38	498.463164	Y 377.433
Sb (206.834 nm)	-0.006966 u	ppm	0.002452	35.19	-83.066800	Y 377.433
Se (196.026 nm)	-0.002462 u	ppm	0.002085	84.67	-16.137500	Y 242.219
Si (288.158 nm)	2.896920	ppm	0.000404	0.01	24675.500000	Y 377.433
Sn (189.925 nm)	0.022198	ppm	0.001983	8.93	50.244500	Y 377.433
Sr (421.552 nm)	0.267075	ppm	0.000008	0.00	55192.565275	Y_R 488.368
Th (288.505 nm)	0.045111	ppm	0.002345	5.20	249.068000	Y 377.433
Ti (336.122 nm)	4.859690 o	ppm	0.006868	0.14	679329.000000	Y 377.433
Tl (190.794 nm)	0.000809 u	ppm	0.001963	> 100.00	-30.322200	Y 377.433
U (409.013 nm)	-0.054839 u	ppm	0.007961	14.52	-325.524000	Y 377.433
V (292.401 nm)	0.344779	ppm	0.000003	0.00	12204.100000	Y 377.433
Zn (206.200 nm)	0.416299	ppm	0.000241	0.06	2080.390000	Y 377.433
Zr (343.823 nm)	0.165897	ppm	0.000023	0.01	21868.500000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.119988	21159.950721	0.001798	0.16
Y 377.433	1.127355	1144073.349358	0.002563	0.23
Y_R 377.433	1.232360	94696.600000	0.000008	0.00
Y_R 488.368	1.265380	55518.500000	0.003440	0.27
Y_R2 488.368	1.246768	107649.824659	0.002048	0.16

Sample Name: 280-115961-A-7-A

Date: 10/29/2018 6:14:21 PM Rack:Tube: 1:82

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000396 u	ppm	0.000074	18.79	-471.543000	Y 377.433
Al (167.019 nm)	99.094300 o	ppm	0.181043	0.18	52461.700000	Y_R 377.433
Al H (396.152 nm)	123.913107 o	ppm	0.631880	0.51	312988.066231	Y_R 377.433
As (188.980 nm)	0.030714	ppm	0.001972	6.42	32.824000	Y 242.219
B (249.678 nm)	0.070984	ppm	0.000182	0.26	1534.250000	Y 242.219
Ba (493.408 nm)	0.728899	ppm	0.000992	0.14	84214.900000	Y_R 488.368
Be (234.861 nm)	0.003923	ppm	0.000308	7.84	6224.090000	Y_R 488.368
Bi (223.061 nm)	-0.017753 u	ppm	0.000599	3.37	-8.446810	Y 377.433
Ca (315.887 nm)	253.655807 o	ppm	0.630594	0.25	195091.488322	Y_R 377.433
Cd (214.439 nm)	-0.000418 u	ppm	0.000048	11.57	132.363000	Y 377.433
Co (228.615 nm)	0.068984	ppm	0.000608	0.88	1321.690000	Y 242.219
Cr (205.560 nm)	0.189123	ppm	0.000468	0.25	2713.930000	Y 377.433
Cu (324.754 nm)	0.185728	ppm	0.000585	0.31	9558.220000	Y 377.433
Fe (238.204 nm)	172.777052 o	ppm	1.032806	0.60	623502.788976	Y_R 377.433
Fe H (259.940 nm)	177.192000	ppm	0.468533	0.26	323674.000000	Y_R 377.433
K (766.491 nm)	16.325500	ppm	0.093800	0.57	17649.100000	Y_R2 488.368
Li (670.783 nm)	0.126239	ppm	0.000956	0.76	2716.450000	Y_R2 488.368
Mg (279.078 nm)	51.151800 o	ppm	0.009368	0.02	281149.000000	Y 377.433
Mn (257.610 nm)	2.896580 o	ppm	0.000933	0.03	653773.000000	Y 377.433
Mo (202.032 nm)	0.000769	ppm	0.000193	25.14	4.013780	Y 377.433
Na (589.592 nm)	1.528050	ppm	0.001049	0.07	11715.500000	Y_R2 488.368
Na H (589.593 nm)	1.380626 u	ppm	0.000901	0.07	8940.710265	Y_R 488.368
Ni (231.604 nm)	0.141654	ppm	0.000508	0.36	930.400000	Y 377.433
P (213.618 nm)	2.483370 o	ppm	0.008723	0.35	5136.450000	Y 242.219
Pb (220.353 nm)	1.271470	ppm	0.004973	0.39	3526.840000	Y 242.219
S (181.972 nm)	3.764776	ppm	0.000688	0.02	1871.409998	Y 377.433
Sb (206.834 nm)	-0.005687 u	ppm	0.000792	13.92	-78.146800	Y 377.433
Se (196.026 nm)	-0.006007 u	ppm	0.000492	8.18	-18.600300	Y 242.219
Si (288.158 nm)	3.110170	ppm	0.000823	0.03	26417.100000	Y 377.433
Sn (189.925 nm)	0.017974	ppm	0.000846	4.71	42.185400	Y 377.433
Sr (421.552 nm)	0.218655	ppm	0.000698	0.32	45212.776683	Y_R 488.368
Th (288.505 nm)	0.039438	ppm	0.002689	6.82	233.119000	Y 377.433
Ti (336.122 nm)	4.835010 o	ppm	0.001190	0.02	675741.000000	Y 377.433
Tl (190.794 nm)	0.002346	ppm	0.002370	> 100.00	-26.797400	Y 377.433
U (409.013 nm)	-0.049626 u	ppm	0.002426	4.89	-297.824000	Y 377.433
V (292.401 nm)	0.319145	ppm	0.000227	0.07	11307.400000	Y 377.433
Zn (206.200 nm)	0.378131	ppm	0.001498	0.40	1889.530000	Y 377.433
Zr (343.823 nm)	0.148260	ppm	0.000191	0.13	19582.000000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.130937	21366.802517	0.000618	0.05
Y 377.433	1.139645	1156545.171917	0.001183	0.10
Y_R 377.433	1.239280	95228.900000	0.003239	0.26
Y_R 488.368	1.269730	55709.200000	0.004817	0.38
Y_R2 488.368	1.255903	108438.579790	0.006722	0.54

Sample Name: 280-115961-A-8-A

Date: 10/29/2018 6:17:44 PM Rack:Tube: 1:83

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.002624	ppm	0.000636	24.26	-347.103000	Y 377.433
Al (167.019 nm)	119.056000 o	ppm	0.252322	0.21	63097.300000	Y_R 377.433
Al H (396.152 nm)	166.565961 o	ppm	1.328725	0.80	420668.549146	Y_R 377.433
As (188.980 nm)	0.112605	ppm	0.002255	2.00	129.875000	Y 242.219
B (249.678 nm)	0.088076	ppm	0.000004	0.00	1738.530000	Y 242.219
Ba (493.408 nm)	1.292540 o	ppm	0.004245	0.33	148860.000000	Y_R 488.368
Be (234.861 nm)	0.004776	ppm	0.000080	1.67	10707.900000	Y_R 488.368
Bi (223.061 nm)	-0.022526 u	ppm	0.002472	10.97	2.351330	Y 377.433
Ca (315.887 nm)	276.195840 o	ppm	1.015204	0.37	212433.210107	Y_R 377.433
Cd (214.439 nm)	0.046018	ppm	0.000118	0.26	2914.390000	Y 377.433
Co (228.615 nm)	0.089745	ppm	0.000425	0.47	1684.790000	Y 242.219
Cr (205.560 nm)	0.304502	ppm	0.000041	0.01	4359.000000	Y 377.433
Cu (324.754 nm)	0.766313	ppm	0.000415	0.05	40631.600000	Y 377.433
Fe (238.204 nm)	314.970440 o	ppm	2.651970	0.84	1136624.235411	Y_R 377.433
Fe H (259.940 nm)	319.748000	ppm	2.540540	0.79	583955.000000	Y_R 377.433
K (766.491 nm)	20.712800	ppm	0.142280	0.69	22577.300000	Y_R2 488.368
Li (670.783 nm)	0.171102	ppm	0.000419	0.24	4174.000000	Y_R2 488.368
Mg (279.078 nm)	62.046300 o	ppm	0.096628	0.16	340853.000000	Y 377.433
Mn (257.610 nm)	2.963700 o	ppm	0.005959	0.20	668921.000000	Y 377.433
Mo (202.032 nm)	0.002966	ppm	0.000461	15.54	22.349300	Y 377.433
Na (589.592 nm)	1.428240	ppm	0.016948	1.19	12174.500000	Y_R2 488.368
Na H (589.593 nm)	1.302170 u	ppm	0.025879	1.99	9182.259819	Y_R 488.368
Ni (231.604 nm)	0.227561	ppm	0.000118	0.05	1497.530000	Y 377.433
P (213.618 nm)	3.267130 o	ppm	0.000997	0.03	6749.050000	Y 242.219
Pb (220.353 nm)	2.044000	ppm	0.002020	0.10	5680.770000	Y 242.219
S (181.972 nm)	6.930929	ppm	0.012134	0.18	3413.744909	Y 377.433
Sb (206.834 nm)	0.001034 u	ppm	0.001488	> 100.00	-92.293800	Y 377.433
Se (196.026 nm)	-0.000422 u	ppm	0.000878	> 100.00	-38.683000	Y 242.219
Si (288.158 nm)	3.720870	ppm	0.006229	0.17	31404.400000	Y 377.433
Sn (189.925 nm)	0.045294	ppm	0.000865	1.91	94.305200	Y 377.433
Sr (421.552 nm)	0.431928	ppm	0.001792	0.41	89170.534404	Y_R 488.368
Th (288.505 nm)	0.043336	ppm	0.005351	12.35	239.456000	Y 377.433
Ti (336.122 nm)	4.949210 o	ppm	0.005491	0.11	691761.000000	Y 377.433
Tl (190.794 nm)	0.002361	ppm	0.001198	50.73	-30.804900	Y 377.433
U (409.013 nm)	-0.052255 u	ppm	0.000210	0.40	-185.509000	Y 377.433
V (292.401 nm)	0.366684	ppm	0.000077	0.02	12951.100000	Y 377.433
Zn (206.200 nm)	13.991500 o	ppm	0.014535	0.10	69964.300000	Y 377.433
Zr (343.823 nm)	0.142329	ppm	0.000013	0.01	19220.600000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.132030	21387.455697	0.000543	0.05
Y 377.433	1.144429	1161400.448845	0.002402	0.21
Y_R 377.433	1.254470	96396.100000	0.006674	0.53
Y_R 488.368	1.284240	56345.600000	0.007895	0.61
Y_R2 488.368	1.257925	108613.165341	0.001245	0.10

Sample Name: 280-115961-A-9-A

Date: 10/29/2018 6:21:08 PM Rack:Tube: 1:84

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000389	ppm	0.000189	48.57	-448.052000	Y 377.433
Al (167.019 nm)	134.238000 o	ppm	0.608171	0.45	71101.300000	Y_R 377.433
Al H (396.152 nm)	201.964523 o	ppm	0.199912	0.10	510025.989525	Y_R 377.433
As (188.980 nm)	0.048901	ppm	0.000209	0.43	53.673200	Y 242.219
B (249.678 nm)	0.085886	ppm	0.000163	0.19	1724.470000	Y 242.219
Ba (493.408 nm)	1.520090 o	ppm	0.001156	0.08	174880.000000	Y_R 488.368
Be (234.861 nm)	0.005176	ppm	0.000097	1.87	10031.800000	Y_R 488.368
Bi (223.061 nm)	-0.022895 u	ppm	0.000094	0.41	-2.719950	Y 377.433
Ca (315.887 nm)	274.805597 o	ppm	0.004014	0.00	211363.569121	Y_R 377.433
Cd (214.439 nm)	0.000521	ppm	0.000017	3.35	291.553000	Y 377.433
Co (228.615 nm)	0.091852	ppm	0.000033	0.04	1761.810000	Y 242.219
Cr (205.560 nm)	0.321467	ppm	0.000822	0.26	4613.320000	Y 377.433
Cu (324.754 nm)	0.383741	ppm	0.001052	0.27	20208.500000	Y 377.433
Fe (238.204 nm)	288.213263 o	ppm	0.577386	0.20	1040067.835368	Y_R 377.433
Fe H (259.940 nm)	293.529000	ppm	0.128820	0.04	536085.000000	Y_R 377.433
K (766.491 nm)	25.246300	ppm	0.053325	0.21	27669.700000	Y_R2 488.368
Li (670.783 nm)	0.195173	ppm	0.001312	0.67	4956.070000	Y_R2 488.368
Mg (279.078 nm)	69.899700 o	ppm	0.208691	0.30	384098.000000	Y 377.433
Mn (257.610 nm)	2.883350 o	ppm	0.001901	0.07	650787.000000	Y 377.433
Mo (202.032 nm)	0.001759	ppm	0.000230	13.09	12.278500	Y 377.433
Na (589.592 nm)	1.555060	ppm	0.000808	0.05	13419.600000	Y_R2 488.368
Na H (589.593 nm)	1.451429 u	ppm	0.011793	0.81	9944.481548	Y_R 488.368
Ni (231.604 nm)	0.235039	ppm	0.000527	0.22	1545.370000	Y 377.433
P (213.618 nm)	3.347250 o	ppm	0.006355	0.19	6913.890000	Y 242.219
Pb (220.353 nm)	4.009760 o	ppm	0.005325	0.13	11151.800000	Y 242.219
S (181.972 nm)	3.727863	ppm	0.013875	0.37	1853.397729	Y 377.433
Sb (206.834 nm)	0.015221	ppm	0.001727	11.35	-51.011500	Y 377.433
Se (196.026 nm)	-0.003213 u	ppm	0.000135	4.19	-35.691300	Y 242.219
Si (288.158 nm)	3.424190	ppm	0.001333	0.04	28981.500000	Y 377.433
Sn (189.925 nm)	0.032185	ppm	0.000377	1.17	69.297300	Y 377.433
Sr (421.552 nm)	0.293758	ppm	0.000070	0.02	60692.289886	Y_R 488.368
Th (288.505 nm)	0.067197	ppm	0.000006	0.01	302.410000	Y 377.433
Ti (336.122 nm)	6.154860 o	ppm	0.008745	0.14	860136.000000	Y 377.433
Tl (190.794 nm)	0.003682	ppm	0.000575	15.61	-32.418200	Y 377.433
U (409.013 nm)	-0.067780 u	ppm	0.000975	1.44	-284.662000	Y 377.433
V (292.401 nm)	0.493484	ppm	0.001188	0.24	17431.300000	Y 377.433
Zn (206.200 nm)	1.128780 o	ppm	0.006319	0.56	5643.200000	Y 377.433
Zr (343.823 nm)	0.229491	ppm	0.000522	0.23	30362.500000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.130027	21349.620621	0.005778	0.51
Y 377.433	1.137814	1154687.054718	0.005893	0.52
Y_R 377.433	1.247770	95880.700000	0.004662	0.37
Y_R 488.368	1.279400	56133.600000	0.001769	0.14
Y_R2 488.368	1.261197	108895.678439	0.000442	0.04

Sample Name: 280-115961-A-10-A

Date: 10/29/2018 6:24:31 PM Rack:Tube: 1:85

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001065	ppm	0.000166	15.55	-410.324000	Y 377.433
Al (167.019 nm)	121.810000 o	ppm	1.021000	0.84	64580.800000	Y_R 377.433
Al H (396.152 nm)	173.799472 o	ppm	1.190924	0.69	438930.977867	Y_R 377.433
As (188.980 nm)	0.118583	ppm	0.000022	0.02	136.669000	Y 242.219
B (249.678 nm)	0.095437	ppm	0.000791	0.83	1852.370000	Y 242.219
Ba (493.408 nm)	1.507770 o	ppm	0.002940	0.19	173536.000000	Y_R 488.368
Be (234.861 nm)	0.003105	ppm	0.000299	9.64	11571.700000	Y_R 488.368
Bi (223.061 nm)	-0.024171 u	ppm	0.000755	3.12	5.453580	Y 377.433
Ca (315.887 nm)	282.477826 o	ppm	1.085664	0.38	217266.376116	Y_R 377.433
Cd (214.439 nm)	0.000780	ppm	0.000062	7.93	371.744000	Y 377.433
Co (228.615 nm)	0.169114	ppm	0.000041	0.02	3082.420000	Y 242.219
Cr (205.560 nm)	0.266588	ppm	0.000194	0.07	3794.380000	Y 377.433
Cu (324.754 nm)	0.449309	ppm	0.000824	0.18	23755.900000	Y 377.433
Fe (238.204 nm)	359.643944 o	ppm	1.420349	0.39	1297833.789901	Y_R 377.433
Fe H (259.940 nm)	367.228000	ppm	0.016326	0.00	670646.000000	Y_R 377.433
K (766.491 nm)	25.313900	ppm	0.021786	0.09	27745.700000	Y_R2 488.368
Li (670.783 nm)	0.181743	ppm	0.001855	1.02	4519.740000	Y_R2 488.368
Mg (279.078 nm)	78.391600 o	ppm	0.128327	0.16	430698.000000	Y 377.433
Mn (257.610 nm)	3.221930 o	ppm	0.002971	0.09	727200.000000	Y 377.433
Mo (202.032 nm)	0.003507	ppm	0.000061	1.75	26.867600	Y 377.433
Na (589.592 nm)	1.784140	ppm	0.012382	0.69	14847.300000	Y_R2 488.368
Na H (589.593 nm)	1.677183 u	ppm	0.004870	0.29	10761.796941	Y_R 488.368
Ni (231.604 nm)	0.298989	ppm	0.001151	0.39	1966.210000	Y 377.433
P (213.618 nm)	3.201830 o	ppm	0.014863	0.46	6614.690000	Y 242.219
Pb (220.353 nm)	2.537730 o	ppm	0.000358	0.01	7059.800000	Y 242.219
S (181.972 nm)	1.712704	ppm	0.007825	0.46	872.613522	Y 377.433
Sb (206.834 nm)	-0.000946 u	ppm	0.001276	> 100.00	-109.695000	Y 377.433
Se (196.026 nm)	-0.003375 u	ppm	0.005237	> 100.00	-49.213000	Y 242.219
Si (288.158 nm)	3.383080	ppm	0.006693	0.20	28645.800000	Y 377.433
Sn (189.925 nm)	0.023164	ppm	0.000403	1.74	52.087000	Y 377.433
Sr (421.552 nm)	0.282332	ppm	0.000333	0.12	58337.300787	Y_R 488.368
Th (288.505 nm)	0.051459	ppm	0.002372	4.61	263.597000	Y 377.433
Ti (336.122 nm)	5.657650 o	ppm	0.013881	0.25	790718.000000	Y 377.433
Tl (190.794 nm)	0.004939	ppm	0.000571	11.56	-29.179400	Y 377.433
U (409.013 nm)	-0.053465 u	ppm	0.004172	7.80	-155.404000	Y 377.433
V (292.401 nm)	0.394585	ppm	0.000065	0.02	13956.600000	Y 377.433
Zn (206.200 nm)	1.243650 o	ppm	0.005111	0.41	6217.630000	Y 377.433
Zr (343.823 nm)	0.194377	ppm	0.000046	0.02	26046.100000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.125481	21263.730326	0.000447	0.04
Y 377.433	1.136123	1152971.325704	0.000211	0.02
Y_R 377.433	1.250350	96079.400000	0.011338	0.91
Y_R 488.368	1.281850	56241.100000	0.006438	0.50
Y_R2 488.368	1.259257	108728.132849	0.001092	0.09

Sample Name: 280-115961-A-11-A

Date: 10/29/2018 6:27:54 PM Rack:Tube: 1:86

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000732	ppm	0.000040	5.50	-443.167000	Y 377.433
Al (167.019 nm)	99.710100 o	ppm	0.030161	0.03	52780.600000	Y_R 377.433
Al H (396.152 nm)	126.110426 o	ppm	0.551035	0.44	318552.969405	Y_R 377.433
As (188.980 nm)	0.024907	ppm	0.001009	4.05	25.942500	Y 242.219
B (249.678 nm)	0.051920	ppm	0.000044	0.08	1096.500000	Y 242.219
Ba (493.408 nm)	0.607807	ppm	0.001870	0.31	70355.600000	Y_R 488.368
Be (234.861 nm)	0.003284	ppm	0.000006	0.18	5738.220000	Y_R 488.368
Bi (223.061 nm)	-0.012223 u	ppm	0.001386	11.34	3.366290	Y 377.433
Ca (315.887 nm)	295.514949 o	ppm	1.490529	0.50	227296.784979	Y_R 377.433
Cd (214.439 nm)	-0.000224 u	ppm	0.000079	35.33	134.197000	Y 377.433
Co (228.615 nm)	0.069381	ppm	0.000710	1.02	1327.530000	Y 242.219
Cr (205.560 nm)	0.189032	ppm	0.000911	0.48	2715.260000	Y 377.433
Cu (324.754 nm)	0.128168	ppm	0.000104	0.08	6458.580000	Y 377.433
Fe (238.204 nm)	162.565613 o	ppm	0.702718	0.43	586653.617638	Y_R 377.433
Fe H (259.940 nm)	167.308000	ppm	1.092660	0.65	305627.000000	Y_R 377.433
K (766.491 nm)	15.747500	ppm	0.072846	0.46	16999.900000	Y_R2 488.368
Li (670.783 nm)	0.130186	ppm	0.001406	1.08	2844.660000	Y_R2 488.368
Mg (279.078 nm)	40.196500	ppm	0.058419	0.15	220899.000000	Y 377.433
Mn (257.610 nm)	5.669020 o	ppm	0.011262	0.20	1279470.000000	Y 377.433
Mo (202.032 nm)	0.000896	ppm	0.000035	3.93	5.075430	Y 377.433
Na (589.592 nm)	0.708109	ppm	0.014051	1.98	6285.200000	Y_R2 488.368
Na H (589.593 nm)	0.507118 u	ppm	0.013738	2.71	5619.607230	Y_R 488.368
Ni (231.604 nm)	0.116729	ppm	0.000648	0.56	767.081000	Y 377.433
P (213.618 nm)	3.622780 o	ppm	0.006110	0.17	7480.800000	Y 242.219
Pb (220.353 nm)	0.844902	ppm	0.000005	0.00	2335.160000	Y 242.219
S (181.972 nm)	1.341501	ppm	0.009688	0.72	697.382992	Y 377.433
Sb (206.834 nm)	-0.004669 u	ppm	0.000434	9.30	-72.924200	Y 377.433
Se (196.026 nm)	-0.001951 u	ppm	0.001627	83.41	-10.814400	Y 242.219
Si (288.158 nm)	3.286160	ppm	0.005838	0.18	27854.300000	Y 377.433
Sn (189.925 nm)	0.016467	ppm	0.000637	3.87	39.311000	Y 377.433
Sr (421.552 nm)	0.211692	ppm	0.001082	0.51	43777.579760	Y_R 488.368
Th (288.505 nm)	0.027054	ppm	0.004053	14.98	255.909000	Y 377.433
Ti (336.122 nm)	4.803380 o	ppm	0.003249	0.07	671451.000000	Y 377.433
Tl (190.794 nm)	0.004691	ppm	0.001057	22.53	-21.400500	Y 377.433
U (409.013 nm)	-0.037581 u	ppm	0.001077	2.87	-253.491000	Y 377.433
V (292.401 nm)	0.323706	ppm	0.000228	0.07	11467.300000	Y 377.433
Zn (206.200 nm)	0.348039	ppm	0.000246	0.07	1739.050000	Y 377.433
Zr (343.823 nm)	0.046436	ppm	0.000038	0.08	6449.580000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.109945	20970.198163	0.000234	0.02
Y 377.433	1.121570	1138202.229549	0.000776	0.07
Y_R 377.433	1.230540	94556.600000	0.002829	0.23
Y_R 488.368	1.260870	55320.300000	0.003551	0.28
Y_R2 488.368	1.242044	107241.941895	0.003765	0.30

Sample Name: 280-115961-A-12-A

Date: 10/29/2018 6:31:17 PM Rack:Tube: 1:87

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000021 u	ppm	0.000262	> 100.00	-468.371000	Y 377.433
Al (167.019 nm)	133.091000 o	ppm	0.065382	0.05	70453.900000	Y_R 377.433
Al H (396.152 nm)	196.787476 o	ppm	2.096142	1.07	496920.995802	Y_R 377.433
As (188.980 nm)	0.031829	ppm	0.002916	9.16	33.742600	Y 242.219
B (249.678 nm)	0.082885	ppm	0.000293	0.35	1746.250000	Y 242.219
Ba (493.408 nm)	1.162010 o	ppm	0.003828	0.33	133818.000000	Y_R 488.368
Be (234.861 nm)	0.005858	ppm	0.000183	3.12	8269.370000	Y_R 488.368
Bi (223.061 nm)	-0.020129 u	ppm	0.000315	1.56	-6.348190	Y 377.433
Ca (315.887 nm)	192.063416 o	ppm	0.411091	0.21	147703.961819	Y_R 377.433
Cd (214.439 nm)	-0.000715 u	ppm	0.000058	8.09	161.010000	Y 377.433
Co (228.615 nm)	0.084990	ppm	0.000289	0.34	1624.280000	Y 242.219
Cr (205.560 nm)	0.309294	ppm	0.000943	0.30	4453.020000	Y 377.433
Cu (324.754 nm)	0.248726	ppm	0.000534	0.21	13013.400000	Y 377.433
Fe (238.204 nm)	222.414318 o	ppm	1.544148	0.69	802624.659149	Y_R 377.433
Fe H (259.940 nm)	225.447000	ppm	0.395109	0.18	411778.000000	Y_R 377.433
K (766.491 nm)	23.492700	ppm	0.108431	0.46	25699.900000	Y_R2 488.368
Li (670.783 nm)	0.197587	ppm	0.000506	0.26	5034.480000	Y_R2 488.368
Mg (279.078 nm)	77.624400 o	ppm	0.323298	0.42	426698.000000	Y 377.433
Mn (257.610 nm)	5.075620 o	ppm	0.018398	0.36	1145550.000000	Y 377.433
Mo (202.032 nm)	0.000296	ppm	0.000160	54.16	0.066545	Y 377.433
Na (589.592 nm)	1.740520	ppm	0.009115	0.52	13901.000000	Y_R2 488.368
Na H (589.593 nm)	1.581849 u	ppm	0.010088	0.64	10086.739928	Y_R 488.368
Ni (231.604 nm)	0.211376	ppm	0.000816	0.39	1388.120000	Y 377.433
P (213.618 nm)	3.254660 o	ppm	0.013739	0.42	6723.380000	Y 242.219
Pb (220.353 nm)	0.140620	ppm	0.002078	1.48	353.158000	Y 242.219
S (181.972 nm)	0.488026	ppm	0.000393	0.08	280.317959	Y 377.433
Sb (206.834 nm)	-0.006147 u	ppm	0.003191	51.91	-92.363000	Y 377.433
Se (196.026 nm)	-0.003288 u	ppm	0.005187	> 100.00	-22.309500	Y 242.219
Si (288.158 nm)	2.726930	ppm	0.009852	0.36	23287.300000	Y 377.433
Sn (189.925 nm)	0.019689	ppm	0.000411	2.09	45.458500	Y 377.433
Sr (421.552 nm)	0.202591	ppm	0.000335	0.17	41901.736493	Y_R 488.368
Th (288.505 nm)	0.055545	ppm	0.003587	6.46	316.170000	Y 377.433
Ti (336.122 nm)	5.593910 o	ppm	0.024763	0.44	781539.000000	Y 377.433
Tl (190.794 nm)	0.001751	ppm	0.002115	> 100.00	-32.516500	Y 377.433
U (409.013 nm)	-0.073890 u	ppm	0.001886	2.55	-351.067000	Y 377.433
V (292.401 nm)	0.434800	ppm	0.000837	0.19	15361.100000	Y 377.433
Zn (206.200 nm)	0.456652	ppm	0.000763	0.17	2282.180000	Y 377.433
Zr (343.823 nm)	0.172363	ppm	0.000897	0.52	22825.100000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.147746	21684.377236	0.000942	0.08
Y 377.433	1.154308	1171426.316461	0.004362	0.38
Y_R 377.433	1.268100	97442.800000	0.008234	0.65
Y_R 488.368	1.305070	57259.700000	0.006261	0.48
Y_R2 488.368	1.284863	110939.080968	0.005711	0.44

Sample Name: 280-115787-F-3-B@5

Date: 10/29/2018 6:34:40 PM Rack:Tube: 1:88

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000396 u	ppm	0.000174	43.98	-451.565000	Y 377.433
Al (167.019 nm)	0.126012	ppm	0.003508	2.78	67.621200	Y_R 377.433
Al H (396.152 nm)	0.086867 u	ppm	0.004039	4.65	298.163860	Y_R 377.433
As (188.980 nm)	0.001371	ppm	0.000301	21.97	-0.928325	Y 242.219
B (249.678 nm)	0.426799	ppm	0.000117	0.03	10216.400000	Y 242.219
Ba (493.408 nm)	0.002961	ppm	0.000030	1.02	912.633000	Y_R 488.368
Be (234.861 nm)	0.000089	ppm	0.000014	15.67	-32.400600	Y_R 488.368
Bi (223.061 nm)	-0.000177 u	ppm	0.001263	> 100.00	6.966600	Y 377.433
Ca (315.887 nm)	1.523680	ppm	0.002710	0.18	1107.819300	Y_R 377.433
Cd (214.439 nm)	0.000099	ppm	0.000119	> 100.00	4.104940	Y 377.433
Co (228.615 nm)	0.000361	ppm	0.000129	35.86	-27.900200	Y 242.219
Cr (205.560 nm)	0.000458	ppm	0.000135	29.39	8.331020	Y 377.433
Cu (324.754 nm)	0.000743	ppm	0.000158	21.19	-274.779000	Y 377.433
Fe (238.204 nm)	0.074153	ppm	0.000625	0.84	284.208319	Y_R 377.433
Fe H (259.940 nm)	-0.008331 u	ppm	0.002360	28.32	137.233000	Y_R 377.433
K (766.491 nm)	0.686399	ppm	0.018429	2.68	81.878500	Y_R2 488.368
Li (670.783 nm)	0.078275	ppm	0.000526	0.67	1158.120000	Y_R2 488.368
Mg (279.078 nm)	0.214017	ppm	0.000611	0.29	1211.580000	Y 377.433
Mn (257.610 nm)	0.002331	ppm	0.000017	0.74	587.443000	Y 377.433
Mo (202.032 nm)	0.005723	ppm	0.000531	9.28	45.357300	Y 377.433
Na (589.592 nm)	124.744000 o	ppm	0.320934	0.26	791089.000000	Y_R2 488.368
Na H (589.593 nm)	124.997254	ppm	0.004997	0.00	462145.859451	Y_R 488.368
Ni (231.604 nm)	-0.000151 u	ppm	0.000231	> 100.00	-3.321900	Y 377.433
P (213.618 nm)	0.001455	ppm	0.000297	20.38	29.898700	Y 242.219
Pb (220.353 nm)	0.001659	ppm	0.000586	35.34	8.405070	Y 242.219
S (181.972 nm)	69.899233 o	ppm	0.002794	0.00	34077.947331	Y 377.433
Sb (206.834 nm)	0.001952	ppm	0.000960	49.18	-15.052200	Y 377.433
Se (196.026 nm)	-0.002819 u	ppm	0.002386	84.64	10.807000	Y 242.219
Si (288.158 nm)	2.752100	ppm	0.016384	0.60	23492.900000	Y 377.433
Sn (189.925 nm)	-0.000085 u	ppm	0.000350	> 100.00	7.734280	Y 377.433
Sr (421.552 nm)	0.577525	ppm	0.003656	0.63	119179.679687	Y_R 488.368
Th (288.505 nm)	0.000289 u	ppm	0.000918	> 100.00	78.447600	Y 377.433
Ti (336.122 nm)	0.003013	ppm	0.000050	1.65	138.932000	Y 377.433
Tl (190.794 nm)	0.000253 u	ppm	0.000376	> 100.00	-6.659880	Y 377.433
U (409.013 nm)	-0.002263 u	ppm	0.003484	> 100.00	-184.477000	Y 377.433
V (292.401 nm)	0.004095	ppm	0.000187	4.57	167.247000	Y 377.433
Zn (206.200 nm)	0.001791	ppm	0.000473	26.43	7.613800	Y 377.433
Zr (343.823 nm)	0.000392	ppm	0.000066	16.83	64.097700	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.109634	20964.322740	0.005933	0.53
Y 377.433	1.118924	1135517.173272	0.009251	0.83
Y_R 377.433	1.197370	92008.300000	0.006285	0.52
Y_R 488.368	1.252420	54949.700000	0.006230	0.50
Y_R2 488.368	1.205086	104050.879051	0.000178	0.01

Sample Name: 280-115787-F-4-B@5

Date: 10/29/2018 6:38:03 PM Rack:Tube: 1:89

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000180 u	ppm	0.000190	> 100.00	-441.614000	Y 377.433
Al (167.019 nm)	0.222345	ppm	0.001903	0.86	118.534000	Y_R 377.433
Al H (396.152 nm)	0.173431 u	ppm	0.002196	1.27	516.779818	Y_R 377.433
As (188.980 nm)	0.001095	ppm	0.000802	73.30	-1.260010	Y 242.219
B (249.678 nm)	0.386016	ppm	0.000396	0.10	9249.050000	Y 242.219
Ba (493.408 nm)	0.001026	ppm	0.000075	7.31	691.272000	Y_R 488.368
Be (234.861 nm)	0.000083	ppm	0.000005	5.48	-32.923100	Y_R 488.368
Bi (223.061 nm)	-0.000082 u	ppm	0.001596	> 100.00	7.202400	Y 377.433
Ca (315.887 nm)	2.154874	ppm	0.008493	0.39	1593.442385	Y_R 377.433
Cd (214.439 nm)	0.000079	ppm	0.000073	91.53	3.023400	Y 377.433
Co (228.615 nm)	0.000307	ppm	0.000009	2.86	-28.845500	Y 242.219
Cr (205.560 nm)	0.000415	ppm	0.000068	16.38	7.703720	Y 377.433
Cu (324.754 nm)	0.000243 u	ppm	0.000415	> 100.00	-301.146000	Y 377.433
Fe (238.204 nm)	0.105776	ppm	0.001866	1.76	398.322679	Y_R 377.433
Fe H (259.940 nm)	0.027152 u	ppm	0.002298	8.46	202.018000	Y_R 377.433
K (766.491 nm)	0.362978	ppm	0.009333	2.57	-281.417000	Y_R2 488.368
Li (670.783 nm)	0.088573	ppm	0.001555	1.76	1492.690000	Y_R2 488.368
Mg (279.078 nm)	0.253467	ppm	0.000807	0.32	1428.620000	Y 377.433
Mn (257.610 nm)	0.004590	ppm	0.000005	0.10	1097.390000	Y 377.433
Mo (202.032 nm)	0.003518	ppm	0.000026	0.75	26.959000	Y 377.433
Na (589.592 nm)	131.213000 o	ppm	0.108801	0.08	832077.000000	Y_R2 488.368
Na H (589.593 nm)	133.566911	ppm	1.258909	0.94	493609.773585	Y_R 488.368
Ni (231.604 nm)	0.001060	ppm	0.000774	73.04	4.592790	Y 377.433
P (213.618 nm)	-0.000892 u	ppm	0.003492	> 100.00	25.069200	Y 242.219
Pb (220.353 nm)	-0.000025 u	ppm	0.002227	> 100.00	3.683050	Y 242.219
S (181.972 nm)	62.359095 o	ppm	0.066683	0.11	30405.262272	Y 377.433
Sb (206.834 nm)	0.000872 u	ppm	0.001618	> 100.00	-17.898700	Y 377.433
Se (196.026 nm)	-0.002534 u	ppm	0.002207	87.10	11.071600	Y 242.219
Si (288.158 nm)	1.144190	ppm	0.003353	0.29	10361.700000	Y 377.433
Sn (189.925 nm)	-0.001403 u	ppm	0.001002	71.38	5.218490	Y 377.433
Sr (421.552 nm)	0.764013	ppm	0.007202	0.94	157616.876877	Y_R 488.368
Th (288.505 nm)	0.001033	ppm	0.000231	22.40	80.183600	Y 377.433
Ti (336.122 nm)	0.002640	ppm	0.000151	5.74	88.692000	Y 377.433
Tl (190.794 nm)	0.001710	ppm	0.000638	37.32	-3.542100	Y 377.433
U (409.013 nm)	0.001587	ppm	0.000037	2.34	-167.431000	Y 377.433
V (292.401 nm)	0.001213	ppm	0.000172	14.15	66.368200	Y 377.433
Zn (206.200 nm)	0.001397	ppm	0.000206	14.75	5.639350	Y 377.433
Zr (343.823 nm)	0.000085	ppm	0.000041	47.66	24.645600	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.112293	21014.568755	0.000192	0.02
Y 377.433	1.121248	1137876.084911	0.000387	0.03
Y_R 377.433	1.202210	92379.900000	0.005726	0.48
Y_R 488.368	1.233450	54117.300000	0.011274	0.91
Y_R2 488.368	1.215041	104910.454552	0.009338	0.77

Sample Name: CCVH-5380945

Date: 10/29/2018 6:41:27 PM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.002482 u	ppm	0.000395	15.92	-782.565000	Y 377.433
Al (167.019 nm)	49.639100 o	ppm	0.259358	0.52	26258.300000	Y_R 377.433
Al H (396.152 nm)	49.612491	ppm	0.081623	0.16	125316.761096	Y_R 377.433
As (188.980 nm)	-0.000150 u	ppm	0.000821	> 100.00	-3.191180	Y 242.219
B (249.678 nm)	-0.001458 u	ppm	0.000054	3.68	-15.541700	Y 242.219
Ba (493.408 nm)	-0.000397 u	ppm	0.000391	98.54	575.703000	Y_R 488.368
Be (234.861 nm)	-0.000367 u	ppm	0.000065	17.79	1398.330000	Y_R 488.368
Bi (223.061 nm)	1.017220	ppm	0.001280	0.13	2482.180000	Y 377.433
Ca (315.887 nm)	0.007408	ppm	0.004525	61.08	-58.759676	Y_R 377.433
Cd (214.439 nm)	-0.000350 u	ppm	0.000011	3.00	26.109500	Y 377.433
Co (228.615 nm)	0.003480	ppm	0.000133	3.83	26.040500	Y 242.219
Cr (205.560 nm)	0.000128	ppm	0.000038	29.69	-10.142500	Y 377.433
Cu (324.754 nm)	-0.006693 u	ppm	0.000058	0.87	-358.285000	Y 377.433
Fe (238.204 nm)	52.114744 o	ppm	0.239762	0.46	188078.759206	Y_R 377.433
Fe H (259.940 nm)	52.510900	ppm	0.088033	0.17	96027.900000	Y_R 377.433
K (766.491 nm)	0.185339	ppm	0.003178	1.71	-480.956000	Y_R2 488.368
Li (670.783 nm)	0.012365	ppm	0.001228	9.93	-983.275000	Y_R2 488.368
Mg (279.078 nm)	-0.019869 u	ppm	0.000821	4.13	-420.129000	Y 377.433
Mn (257.610 nm)	0.001457	ppm	0.000034	2.31	390.328000	Y 377.433
Mo (202.032 nm)	0.000302	ppm	0.000113	37.53	0.111114	Y 377.433
Na (589.592 nm)	231.206000 o	ppm	0.554330	0.24	1465690.000000	Y_R2 488.368
Na H (589.593 nm)	236.416980	ppm	2.167964	0.92	871245.966374	Y_R 488.368
Ni (231.604 nm)	0.004388	ppm	0.000117	2.67	28.387800	Y 377.433
P (213.618 nm)	-0.006770 u	ppm	0.000986	14.56	12.975500	Y 242.219
Pb (220.353 nm)	-0.003980 u	ppm	0.000320	8.04	9.867920	Y 242.219
S (181.972 nm)	5.169552	ppm	0.006062	0.12	2549.071435	Y 377.433
Sb (206.834 nm)	-0.004090 u	ppm	0.001030	25.18	-75.987300	Y 377.433
Se (196.026 nm)	-0.003070 u	ppm	0.003642	> 100.00	1.712840	Y 242.219
Si (288.158 nm)	-0.002007 u	ppm	0.000961	47.90	1001.240000	Y 377.433
Sn (189.925 nm)	0.001432	ppm	0.000873	60.97	10.628200	Y 377.433
Sr (421.552 nm)	0.000279	ppm	0.000043	15.29	203.129367	Y_R 488.368
Th (288.505 nm)	5.070640	ppm	0.026056	0.51	12755.600000	Y 377.433
Ti (336.122 nm)	0.002128	ppm	0.000021	0.98	10.842700	Y 377.433
Tl (190.794 nm)	-0.003937 u	ppm	0.000371	9.43	-16.908400	Y 377.433
U (409.013 nm)	10.363800	ppm	0.014959	0.14	45929.200000	Y 377.433
V (292.401 nm)	0.002395	ppm	0.000095	3.97	-57.810800	Y 377.433
Zn (206.200 nm)	0.001146	ppm	0.000206	17.94	4.387200	Y 377.433
Zr (343.823 nm)	-0.004845 u	ppm	0.000005	0.10	-462.315000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.110120	20973.501146	0.000010	0.00
Y 377.433	1.111519	1128002.213259	0.000912	0.08
Y_R 377.433	1.210060	92983.300000	0.000887	0.07
Y_R 488.368	1.246180	54675.800000	0.020005	1.61
Y_R2 488.368	1.220219	105357.540215	0.004417	0.36

Sample Name: CCV-5391053

Date: 10/29/2018 6:44:50 PM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.490654	ppm	0.000166	0.03	21320.400000	Y 377.433
Al (167.019 nm)	0.569920 Q	ppm	0.000602	0.11	303.763000 Q	Y_R 377.433
Al H (396.152 nm)	0.494745 u	ppm	0.006217	1.26	1368.619372	Y_R 377.433
As (188.980 nm)	1.017910	ppm	0.000889	0.09	1218.570000	Y 242.219
B (249.678 nm)	0.503044	ppm	0.000158	0.03	12041.900000	Y 242.219
Ba (493.408 nm)	0.496491	ppm	0.002495	0.50	57410.200000	Y_R 488.368
Be (234.861 nm)	0.452348	ppm	0.001654	0.37	129888.000000	Y_R 488.368
Bi (223.061 nm)	-0.000962 u	ppm	0.000394	41.00	5.467320	Y 377.433
Ca (315.887 nm)	5.217924	ppm	0.006474	0.12	3950.338440	Y_R 377.433
Cd (214.439 nm)	0.491758	ppm	0.000317	0.06	28089.100000	Y 377.433
Co (228.615 nm)	0.505807	ppm	0.002379	0.47	8737.030000	Y 242.219
Cr (205.560 nm)	0.501284	ppm	0.000382	0.08	7305.470000	Y 377.433
Cu (324.754 nm)	0.498653	ppm	0.000088	0.02	26276.100000	Y 377.433
Fe (238.204 nm)	2.631682	ppm	0.020281	0.77	9513.352095	Y_R 377.433
Fe H (259.940 nm)	2.589900 u	ppm	0.018204	0.70	4881.130000	Y_R 377.433
K (766.491 nm)	48.569500	ppm	0.156465	0.32	53868.400000	Y_R2 488.368
Li (670.783 nm)	0.969923	ppm	0.001078	0.11	30127.300000	Y_R2 488.368
Mg (279.078 nm)	19.045700	ppm	0.002272	0.01	104803.000000	Y 377.433
Mn (257.610 nm)	0.499741	ppm	0.000245	0.05	112845.000000	Y 377.433
Mo (202.032 nm)	0.499122	ppm	0.000380	0.08	4163.460000	Y 377.433
Na (589.592 nm)	4.738290	ppm	0.000383	0.01	31606.900000	Y_R2 488.368
Na H (589.593 nm)	4.774331 u	ppm	0.041801	0.88	21182.773326	Y_R 488.368
Ni (231.604 nm)	0.500371	ppm	0.000684	0.14	3269.740000	Y 377.433
P (213.618 nm)	0.968697	ppm	0.000436	0.05	2020.000000	Y 242.219
Pb (220.353 nm)	0.996336	ppm	0.001111	0.11	2781.450000	Y 242.219
S (181.972 nm)	0.012488	ppm	0.005375	43.04	38.278178	Y 377.433
Sb (206.834 nm)	1.008010	ppm	0.000276	0.03	2657.690000	Y 377.433
Se (196.026 nm)	1.009470	ppm	0.000960	0.10	962.040000	Y 242.219
Si (288.158 nm)	4.924670	ppm	0.007915	0.16	41235.300000	Y 377.433
Sn (189.925 nm)	0.978104	ppm	0.002494	0.25	1873.880000	Y 377.433
Sr (421.552 nm)	0.485259	ppm	0.002699	0.56	100162.709912	Y_R 488.368
Th (288.505 nm)	0.002681	ppm	0.002258	84.25	100.054000	Y 377.433
Ti (336.122 nm)	0.504737	ppm	0.000048	0.01	70220.000000	Y 377.433
Tl (190.794 nm)	1.008410	ppm	0.002992	0.30	2143.860000	Y 377.433
U (409.013 nm)	0.005321	ppm	0.002691	50.57	-187.035000	Y 377.433
V (292.401 nm)	0.497724	ppm	0.000730	0.15	17390.500000	Y 377.433
Zn (206.200 nm)	0.485955	ppm	0.001173	0.24	2428.710000	Y 377.433
Zr (343.823 nm)	0.504135	ppm	0.000466	0.09	64898.400000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.135555	21454.048363	0.001552	0.14
Y 377.433	1.149237	1166279.420056	0.001154	0.10
Y_R 377.433	1.227380	94314.300000	0.003775	0.31
Y_R 488.368	1.262310	55383.600000	0.005284	0.42
Y_R2 488.368	1.230633	106256.668889	0.005207	0.42

Sample Name: CCB

Date: 10/29/2018 6:48:13 PM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000539 u	ppm	0.000110	20.51	-457.265000	Y 377.433
Al (167.019 nm)	-0.000869 u	ppm	0.000641	73.76	0.544614	Y_R 377.433
Al H (396.152 nm)	-0.022958 u	ppm	0.002693	11.73	19.859088	Y_R 377.433
As (188.980 nm)	-0.000369 u	ppm	0.000788	> 100.00	-3.014700	Y 242.219
B (249.678 nm)	-0.000002 u	ppm	0.000294	> 100.00	93.166400	Y 242.219
Ba (493.408 nm)	-0.001017 u	ppm	0.000251	24.70	456.872000	Y_R 488.368
Be (234.861 nm)	0.000044	ppm	0.000011	25.37	-46.982400	Y_R 488.368
Bi (223.061 nm)	0.002090	ppm	0.000807	38.63	12.450600	Y 377.433
Ca (315.887 nm)	0.011662	ppm	0.000131	1.13	-55.486825	Y_R 377.433
Cd (214.439 nm)	0.000081	ppm	0.000032	39.80	3.023950	Y 377.433
Co (228.615 nm)	0.000270	ppm	0.000001	0.34	-29.541500	Y 242.219
Cr (205.560 nm)	0.000083 u	ppm	0.000126	> 100.00	2.902540	Y 377.433
Cu (324.754 nm)	-0.000283 u	ppm	0.000138	48.79	-327.620000	Y 377.433
Fe (238.204 nm)	0.001791	ppm	0.001409	78.66	23.083550	Y_R 377.433
Fe H (259.940 nm)	-0.077579 u	ppm	0.001731	2.23	10.798100	Y_R 377.433
K (766.491 nm)	0.157328	ppm	0.019782	12.57	-512.420000	Y_R2 488.368
Li (670.783 nm)	0.010479 Z	ppm	0.000350	3.34	-1044.540000 Z	Y_R2 488.368
Mg (279.078 nm)	0.000658 u	ppm	0.001201	> 100.00	38.008000	Y 377.433
Mn (257.610 nm)	0.000000 u	ppm	0.000037	> 100.00	61.451200	Y 377.433
Mo (202.032 nm)	0.000532	ppm	0.000067	12.63	2.031430	Y 377.433
Na (589.592 nm)	-0.028172 u	ppm	0.005817	20.65	439.052000	Y_R2 488.368
Na H (589.593 nm)	-0.267409 u	ppm	0.028262	10.57	2202.926286	Y_R 488.368
Ni (231.604 nm)	-0.000390 u	ppm	0.000614	> 100.00	-4.885360	Y 377.433
P (213.618 nm)	-0.002081 u	ppm	0.002720	> 100.00	22.623100	Y 242.219
Pb (220.353 nm)	0.000321	ppm	0.000232	72.39	4.722360	Y 242.219
S (181.972 nm)	0.005550	ppm	0.002226	40.12	33.757988	Y 377.433
Sb (206.834 nm)	0.001765	ppm	0.001537	87.08	-15.502600	Y 377.433
Se (196.026 nm)	-0.000648 u	ppm	0.000660	> 100.00	12.856800	Y 242.219
Si (288.158 nm)	-0.024715 u	ppm	0.000784	3.17	815.784000	Y 377.433
Sn (189.925 nm)	-0.001118 u	ppm	0.000414	37.02	5.763260	Y 377.433
Sr (421.552 nm)	-0.000227 u	ppm	0.000001	0.37	98.821306	Y_R 488.368
Th (288.505 nm)	-0.000536 u	ppm	0.002757	> 100.00	76.217500	Y 377.433
Ti (336.122 nm)	0.000583	ppm	0.000051	8.81	-205.141000	Y 377.433
Tl (190.794 nm)	0.000478 u	ppm	0.000947	> 100.00	-6.154930	Y 377.433
U (409.013 nm)	0.002005 u	ppm	0.005321	> 100.00	-165.272000	Y 377.433
V (292.401 nm)	0.000107 u	ppm	0.000230	> 100.00	27.805500	Y 377.433
Zn (206.200 nm)	0.000204 u	ppm	0.000326	> 100.00	-0.322220	Y 377.433
Zr (343.823 nm)	0.000097	ppm	0.000062	64.01	25.845200	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.120099	21162.038973	0.000402	0.04
Y 377.433	1.131282	1148058.416503	0.000056	0.00
Y_R 377.433	1.187600	91257.100000	0.004244	0.36
Y_R 488.368	1.225560	53771.100000	0.008179	0.67
Y_R2 488.368	1.205780	104110.760458	0.007562	0.63

Sample Name: CCVL-5398386

Date: 10/29/2018 6:51:37 PM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.008601	ppm	0.000337	3.92	-51.793000	Y 377.433
Al (167.019 nm)	0.112308	ppm	0.000796	0.71	60.403900	Y_R 377.433
Al H (396.152 nm)	0.074452 u	ppm	0.002407	3.23	267.349435	Y_R 377.433
As (188.980 nm)	0.016394	ppm	0.000305	1.86	17.094000	Y 242.219
B (249.678 nm)	0.099042	ppm	0.000382	0.39	2442.640000	Y 242.219
Ba (493.408 nm)	0.008911	ppm	0.000010	0.11	1593.270000	Y_R 488.368
Be (234.861 nm)	0.000977	ppm	0.000023	2.38	223.414000	Y_R 488.368
Bi (223.061 nm)	0.101510	ppm	0.000410	0.40	253.546000	Y 377.433
Ca (315.887 nm)	0.222667	ppm	0.006874	3.09	106.857218	Y_R 377.433
Cd (214.439 nm)	0.005112	ppm	0.000033	0.65	290.499000	Y 377.433
Co (228.615 nm)	0.010804	ppm	0.000214	1.98	153.103000	Y 242.219
Cr (205.560 nm)	0.009928	ppm	0.000172	1.73	146.378000	Y 377.433
Cu (324.754 nm)	0.015757	ppm	0.000506	3.21	526.690000	Y 377.433
Fe (238.204 nm)	0.108637	ppm	0.000000	0.00	408.649842	Y_R 377.433
Fe H (259.940 nm)	0.025022 u	ppm	0.000262	1.05	198.130000	Y_R 377.433
K (766.491 nm)	3.212900	ppm	0.047373	1.47	2919.860000	Y_R2 488.368
Li (670.783 nm)	0.031787 Q	ppm	0.001419	4.46	-352.250000 Q	Y_R2 488.368
Mg (279.078 nm)	0.189354	ppm	0.000977	0.52	1074.940000	Y 377.433
Mn (257.610 nm)	0.010285	ppm	0.000046	0.45	2382.500000	Y 377.433
Mo (202.032 nm)	0.019277	ppm	0.000100	0.52	158.484000	Y 377.433
Na (589.592 nm)	0.972282	ppm	0.010657	1.10	6797.400000	Y_R2 488.368
Na H (589.593 nm)	0.678516 u	ppm	0.009983	1.47	5685.239894	Y_R 488.368
Ni (231.604 nm)	0.040923	ppm	0.000075	0.18	265.184000	Y 377.433
P (213.618 nm)	2.737750 o	ppm	0.008737	0.32	5659.850000	Y 242.219
Pb (220.353 nm)	0.009945	ppm	0.000646	6.49	31.568700	Y 242.219
S (181.972 nm)	0.098750	ppm	0.007253	7.35	79.177414	Y 377.433
Sb (206.834 nm)	0.021378	ppm	0.000237	1.11	36.484700	Y 377.433
Se (196.026 nm)	0.012946 Q	ppm	0.002369	18.30	25.622000 Q	Y 242.219
Si (288.158 nm)	0.458257	ppm	0.000315	0.07	4760.010000	Y 377.433
Sn (189.925 nm)	0.095224	ppm	0.000699	0.73	189.560000	Y 377.433
Sr (421.552 nm)	0.009620	ppm	0.000032	0.33	2128.534669	Y_R 488.368
Th (288.505 nm)	0.018696	ppm	0.005695	30.46	124.771000	Y 377.433
Ti (336.122 nm)	0.010747	ppm	0.000114	1.06	1214.990000	Y 377.433
Tl (190.794 nm)	0.016415	ppm	0.002953	17.99	27.809900	Y 377.433
U (409.013 nm)	0.066798	ppm	0.001501	2.25	121.609000	Y 377.433
V (292.401 nm)	0.009489	ppm	0.000057	0.60	353.368000	Y 377.433
Zn (206.200 nm)	0.020142	ppm	0.000082	0.41	99.379300	Y 377.433
Zr (343.823 nm)	0.015050	ppm	0.000005	0.04	1950.430000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.147029	21670.824897	0.003114	0.27
Y 377.433	1.159885	1177085.582639	0.002717	0.23
Y_R 377.433	1.230560	94558.500000	0.002229	0.18
Y_R 488.368	1.265080	55505.100000	0.005026	0.40
Y_R2 488.368	1.245833	107569.120812	0.016649	1.34

Sample Name: 280-115787-F-5-A@5

Date: 10/29/2018 6:55:01 PM Rack:Tube: 1:90

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000085	ppm	0.000047	55.97	-429.799000	Y 377.433
Al (167.019 nm)	-0.000957 u	ppm	0.001525	> 100.00	0.504195	Y_R 377.433
Al H (396.152 nm)	-0.017804 u	ppm	0.001334	7.49	36.694479	Y_R 377.433
As (188.980 nm)	0.003281	ppm	0.001597	48.68	1.363490	Y 242.219
B (249.678 nm)	0.397974	ppm	0.020522	5.16	9532.820000	Y 242.219
Ba (493.408 nm)	0.006682	ppm	0.000031	0.46	1339.930000	Y_R 488.368
Be (234.861 nm)	0.000077	ppm	0.000002	2.40	-37.461400	Y_R 488.368
Bi (223.061 nm)	0.001250	ppm	0.000870	69.60	10.416200	Y 377.433
Ca (315.887 nm)	8.213123	ppm	0.116968	1.42	6254.496172	Y_R 377.433
Cd (214.439 nm)	0.000062	ppm	0.000023	37.32	1.920780	Y 377.433
Co (228.615 nm)	0.000189 u	ppm	0.000422	> 100.00	-30.937900	Y 242.219
Cr (205.560 nm)	-0.000179 u	ppm	0.000163	91.12	-0.936127	Y 377.433
Cu (324.754 nm)	0.000568	ppm	0.000022	3.94	-286.981000	Y 377.433
Fe (238.204 nm)	0.011035	ppm	0.000951	8.62	56.440960	Y_R 377.433
Fe H (259.940 nm)	-0.069297 u	ppm	0.001440	2.08	25.919900	Y_R 377.433
K (766.491 nm)	0.279019	ppm	0.002427	0.87	-375.726000	Y_R2 488.368
Li (670.783 nm)	0.017574	ppm	0.000911	5.19	-814.038000	Y_R2 488.368
Mg (279.078 nm)	2.205550	ppm	0.115234	5.22	12167.300000	Y 377.433
Mn (257.610 nm)	0.032905	ppm	0.001636	4.97	7487.620000	Y 377.433
Mo (202.032 nm)	0.003464	ppm	0.000134	3.88	26.501600	Y 377.433
Na (589.592 nm)	187.400000 o	ppm	0.474699	0.25	1188130.000000	Y_R2 488.368
Na H (589.593 nm)	198.673528	ppm	1.921692	0.97	732669.584351	Y_R 488.368
Ni (231.604 nm)	0.000187	ppm	0.000078	41.85	-1.114680	Y 377.433
P (213.618 nm)	0.003186	ppm	0.000438	13.74	33.459900	Y 242.219
Pb (220.353 nm)	0.000384	ppm	0.000325	84.59	4.893010	Y 242.219
S (181.972 nm)	43.399970 o	ppm	2.113592	4.87	21170.615677	Y 377.433
Sb (206.834 nm)	0.000937	ppm	0.000159	16.98	-17.726000	Y 377.433
Se (196.026 nm)	-0.002413 u	ppm	0.001336	55.35	11.220900	Y 242.219
Si (288.158 nm)	0.938543	ppm	0.046657	4.97	8682.290000	Y 377.433
Sn (189.925 nm)	-0.000304 u	ppm	0.000677	> 100.00	7.315940	Y 377.433
Sr (421.552 nm)	0.208502	ppm	0.003092	1.48	43120.209806	Y_R 488.368
Th (288.505 nm)	0.002080	ppm	0.001360	65.38	83.359700	Y 377.433
Ti (336.122 nm)	0.000854	ppm	0.000055	6.43	-142.046000	Y 377.433
Tl (190.794 nm)	0.000874	ppm	0.000437	50.01	-5.316720	Y 377.433
U (409.013 nm)	0.015213	ppm	0.004026	26.47	-108.098000	Y 377.433
V (292.401 nm)	0.000172	ppm	0.000107	62.37	29.928000	Y 377.433
Zn (206.200 nm)	0.002389	ppm	0.000123	5.14	10.601100	Y 377.433
Zr (343.823 nm)	0.000024 u	ppm	0.000034	> 100.00	16.454500	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.104777	20872.554208	0.002373	0.21
Y 377.433	1.114843	1131375.734633	0.001623	0.15
Y_R 377.433	1.205430	92627.100000	0.005019	0.42
Y_R 488.368	1.235520	54208.100000	0.004584	0.37
Y_R2 488.368	1.218109	105175.294462	0.006470	0.53

Sample Name: 280-115787-H-6-A@5

Date: 10/29/2018 6:58:24 PM Rack:Tube: 2:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000247 u	ppm	0.000252	> 100.00	-444.339000	Y 377.433
Al (167.019 nm)	0.000671	ppm	0.000493	73.46	1.374010	Y_R 377.433
Al H (396.152 nm)	-0.023628 u	ppm	0.001427	6.04	18.982271	Y_R 377.433
As (188.980 nm)	0.002012	ppm	0.001950	96.94	-0.159305	Y 242.219
B (249.678 nm)	0.257179	ppm	0.000760	0.30	6193.240000	Y 242.219
Ba (493.408 nm)	0.000412	ppm	0.000048	11.75	620.846000	Y_R 488.368
Be (234.861 nm)	0.000099	ppm	0.000001	1.40	-30.544100	Y_R 488.368
Bi (223.061 nm)	0.001330	ppm	0.000379	28.52	10.612000	Y 377.433
Ca (315.887 nm)	1.823829	ppm	0.002234	0.12	1338.745810	Y_R 377.433
Cd (214.439 nm)	0.000085	ppm	0.000059	70.11	3.254730	Y 377.433
Co (228.615 nm)	0.000339	ppm	0.000367	> 100.00	-28.345200	Y 242.219
Cr (205.560 nm)	0.000234	ppm	0.000035	15.11	5.092140	Y 377.433
Cu (324.754 nm)	0.000401	ppm	0.000343	85.41	-292.159000	Y 377.433
Fe (238.204 nm)	0.026945	ppm	0.001031	3.83	113.854831	Y_R 377.433
Fe H (259.940 nm)	-0.052402 u	ppm	0.001520	2.90	56.768000	Y_R 377.433
K (766.491 nm)	0.314320	ppm	0.078228	24.89	-336.073000	Y_R2 488.368
Li (670.783 nm)	0.083114	ppm	0.001741	2.09	1315.340000	Y_R2 488.368
Mg (279.078 nm)	0.182465	ppm	0.001150	0.63	1038.150000	Y 377.433
Mn (257.610 nm)	0.003180	ppm	0.000009	0.29	779.178000	Y 377.433
Mo (202.032 nm)	0.000894	ppm	0.000170	19.00	5.056810	Y 377.433
Na (589.592 nm)	125.804000 o	ppm	0.027544	0.02	797801.000000	Y_R2 488.368
Na H (589.593 nm)	128.091113	ppm	0.121380	0.09	473503.785506	Y_R 488.368
Ni (231.604 nm)	0.002363	ppm	0.000158	6.69	13.109300	Y 377.433
P (213.618 nm)	-0.005063 u	ppm	0.001587	31.35	16.487500	Y 242.219
Pb (220.353 nm)	0.000137 u	ppm	0.000800	> 100.00	4.204870	Y 242.219
S (181.972 nm)	64.405762 o	ppm	0.003778	0.01	31402.160303	Y 377.433
Sb (206.834 nm)	-0.000116 u	ppm	0.001760	> 100.00	-20.476400	Y 377.433
Se (196.026 nm)	-0.005783 u	ppm	0.000438	7.57	8.029500	Y 242.219
Si (288.158 nm)	0.734451	ppm	0.001193	0.16	7015.570000	Y 377.433
Sn (189.925 nm)	-0.001160 u	ppm	0.000275	23.72	5.682070	Y 377.433
Sr (421.552 nm)	0.496244	ppm	0.000704	0.14	102426.755481	Y_R 488.368
Th (288.505 nm)	0.000892	ppm	0.001256	> 100.00	79.763600	Y 377.433
Ti (336.122 nm)	0.000792	ppm	0.000042	5.32	-170.437000	Y 377.433
Tl (190.794 nm)	0.000237 u	ppm	0.000371	> 100.00	-6.670420	Y 377.433
U (409.013 nm)	0.001018 u	ppm	0.003206	> 100.00	-169.969000	Y 377.433
V (292.401 nm)	0.000050 u	ppm	0.000079	> 100.00	25.807500	Y 377.433
Zn (206.200 nm)	0.001058	ppm	0.000292	27.61	3.943700	Y 377.433
Zr (343.823 nm)	-0.000029 u	ppm	0.000073	> 100.00	9.702020	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.117222	21107.689459	0.000292	0.03
Y 377.433	1.126822	1143532.161854	0.000047	0.00
Y_R 377.433	1.209460	92937.500000	0.005343	0.44
Y_R 488.368	1.240270	54416.600000	0.000497	0.04
Y_R2 488.368	1.204365	103988.654698	0.010335	0.86

Sample Name: 280-115787-H-7-B@5

Date: 10/29/2018 7:01:46 PM Rack:Tube: 2:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000383 u	ppm	0.000219	57.16	-450.464000	Y 377.433
Al (167.019 nm)	0.003992	ppm	0.002091	52.38	3.114850	Y_R 377.433
Al H (396.152 nm)	-0.023278 u	ppm	0.001159	4.98	19.851493	Y_R 377.433
As (188.980 nm)	0.000850	ppm	0.000539	63.45	-1.553120	Y 242.219
B (249.678 nm)	0.310583	ppm	0.000171	0.05	7459.990000	Y 242.219
Ba (493.408 nm)	0.000599	ppm	0.000268	44.76	642.132000	Y_R 488.368
Be (234.861 nm)	0.000088	ppm	0.000005	5.72	-34.621500	Y_R 488.368
Bi (223.061 nm)	-0.000363 u	ppm	0.000675	> 100.00	6.504700	Y 377.433
Ca (315.887 nm)	1.279485	ppm	0.001802	0.14	919.941897	Y_R 377.433
Cd (214.439 nm)	0.000077	ppm	0.000007	9.58	2.786500	Y 377.433
Co (228.615 nm)	0.000345	ppm	0.000046	13.42	-28.242500	Y 242.219
Cr (205.560 nm)	-0.000041 u	ppm	0.000044	> 100.00	1.080050	Y 377.433
Cu (324.754 nm)	0.000623	ppm	0.000298	47.79	-279.981000	Y 377.433
Fe (238.204 nm)	0.005242	ppm	0.001856	35.41	35.534061	Y_R 377.433
Fe H (259.940 nm)	-0.073549 u	ppm	0.000685	0.93	18.156000	Y_R 377.433
K (766.491 nm)	0.264784	ppm	0.072836	27.51	-391.716000	Y_R2 488.368
Li (670.783 nm)	0.071978	ppm	0.000939	1.30	953.525000	Y_R2 488.368
Mg (279.078 nm)	0.130743	ppm	0.001786	1.37	753.594000	Y 377.433
Mn (257.610 nm)	0.001308	ppm	0.000003	0.21	356.750000	Y 377.433
Mo (202.032 nm)	0.003471	ppm	0.000322	9.28	26.567100	Y 377.433
Na (589.592 nm)	105.702000 o	ppm	0.342225	0.32	670422.000000	Y_R2 488.368
Na H (589.593 nm)	108.304072	ppm	0.317915	0.29	400850.898322	Y_R 488.368
Ni (231.604 nm)	0.001341	ppm	0.000504	37.59	6.429140	Y 377.433
P (213.618 nm)	-0.003769 u	ppm	0.001616	42.89	19.150500	Y 242.219
Pb (220.353 nm)	0.000796	ppm	0.000082	10.25	6.033990	Y 242.219
S (181.972 nm)	44.507270 o	ppm	0.028703	0.06	21709.893696	Y 377.433
Sb (206.834 nm)	0.000264 u	ppm	0.001171	> 100.00	-19.500300	Y 377.433
Se (196.026 nm)	-0.003222 u	ppm	0.001234	38.32	10.438600	Y 242.219
Si (288.158 nm)	0.738282	ppm	0.007375	1.00	7046.850000	Y 377.433
Sn (189.925 nm)	-0.001109 u	ppm	0.000132	11.86	5.780610	Y 377.433
Sr (421.552 nm)	0.232635	ppm	0.000215	0.09	48094.223767	Y_R 488.368
Th (288.505 nm)	0.003393	ppm	0.000222	6.53	85.935700	Y 377.433
Ti (336.122 nm)	0.000744	ppm	0.000014	1.86	-178.770000	Y 377.433
Tl (190.794 nm)	0.000587	ppm	0.000605	> 100.00	-5.930070	Y 377.433
U (409.013 nm)	0.004364	ppm	0.001062	24.34	-155.011000	Y 377.433
V (292.401 nm)	0.000115 u	ppm	0.000197	> 100.00	28.054900	Y 377.433
Zn (206.200 nm)	0.001825	ppm	0.000157	8.61	7.782560	Y 377.433
Zr (343.823 nm)	-0.000093 u	ppm	0.000068	72.66	1.399850	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.113755	21042.184015	0.000739	0.07
Y 377.433	1.120548	1137165.327009	0.001533	0.14
Y_R 377.433	1.195650	91875.600000	0.000410	0.03
Y_R 488.368	1.224240	53713.400000	0.007588	0.62
Y_R2 488.368	1.209062	104394.198280	0.002884	0.24

Sample Name: 280-115887-H-2-B@5

Date: 10/29/2018 7:05:08 PM Rack:Tube: 2:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000214 u	ppm	0.000358	> 100.00	-443.296000	Y 377.433
Al (167.019 nm)	0.014681	ppm	0.001533	10.44	8.842520	Y_R 377.433
Al H (396.152 nm)	-0.010587 u	ppm	0.002320	21.92	51.851858	Y_R 377.433
As (188.980 nm)	0.000992 u	ppm	0.001657	> 100.00	-1.383120	Y 242.219
B (249.678 nm)	0.322020	ppm	0.000051	0.02	7731.080000	Y 242.219
Ba (493.408 nm)	0.001927	ppm	0.000196	10.18	794.329000	Y_R 488.368
Be (234.861 nm)	0.000086	ppm	0.000012	13.83	-31.135700	Y_R 488.368
Bi (223.061 nm)	0.004328	ppm	0.000967	22.35	17.899600	Y 377.433
Ca (315.887 nm)	1.504357	ppm	0.009071	0.60	1092.952635	Y_R 377.433
Cd (214.439 nm)	0.000061	ppm	0.000054	89.39	1.982640	Y 377.433
Co (228.615 nm)	0.000374	ppm	0.000241	64.38	-27.728100	Y 242.219
Cr (205.560 nm)	0.000029 u	ppm	0.000089	> 100.00	2.076360	Y 377.433
Cu (324.754 nm)	0.000768	ppm	0.000219	28.52	-272.863000	Y 377.433
Fe (238.204 nm)	0.132490	ppm	0.000447	0.34	494.724444	Y_R 377.433
Fe H (259.940 nm)	0.051411 u	ppm	0.000264	0.51	246.311000	Y_R 377.433
K (766.491 nm)	0.260227	ppm	0.025253	9.70	-396.835000	Y_R2 488.368
Li (670.783 nm)	0.075723	ppm	0.000311	0.41	1075.190000	Y_R2 488.368
Mg (279.078 nm)	0.163395	ppm	0.001763	1.08	933.027000	Y 377.433
Mn (257.610 nm)	0.006853	ppm	0.000015	0.22	1608.060000	Y 377.433
Mo (202.032 nm)	0.001979	ppm	0.000560	28.32	14.108500	Y 377.433
Na (589.592 nm)	114.332000 o	ppm	0.482433	0.42	725108.000000	Y_R2 488.368
Na H (589.593 nm)	117.496155	ppm	1.919454	1.63	434603.122044	Y_R 488.368
Ni (231.604 nm)	0.000617	ppm	0.000219	35.58	1.696110	Y 377.433
P (213.618 nm)	-0.002212 u	ppm	0.000231	10.46	22.352300	Y 242.219
Pb (220.353 nm)	-0.000492 u	ppm	0.000621	> 100.00	2.454380	Y 242.219
S (181.972 nm)	56.075492 o	ppm	0.090426	0.16	27344.616902	Y 377.433
Sb (206.834 nm)	-0.000238 u	ppm	0.000059	24.72	-20.835900	Y 377.433
Se (196.026 nm)	-0.004301 u	ppm	0.002412	56.08	9.405490	Y 242.219
Si (288.158 nm)	0.781158	ppm	0.000040	0.01	7397.000000	Y 377.433
Sn (189.925 nm)	-0.001195 u	ppm	0.000279	23.35	5.616530	Y 377.433
Sr (421.552 nm)	0.168733	ppm	0.002039	1.21	34923.275227	Y_R 488.368
Th (288.505 nm)	0.001715	ppm	0.002334	> 100.00	81.965300	Y 377.433
Ti (336.122 nm)	0.000910	ppm	0.000016	1.79	-154.785000	Y 377.433
Tl (190.794 nm)	0.000561	ppm	0.000358	63.69	-5.984510	Y 377.433
U (409.013 nm)	-0.000072 u	ppm	0.001404	> 100.00	-174.655000	Y 377.433
V (292.401 nm)	0.002273	ppm	0.000096	4.24	103.633000	Y 377.433
Zn (206.200 nm)	0.002618	ppm	0.000048	1.85	11.746400	Y 377.433
Zr (343.823 nm)	-0.000075 u	ppm	0.000024	31.52	4.157900	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.113023	21028.360595	0.002399	0.22
Y 377.433	1.119261	1135859.076376	0.003130	0.28
Y_R 377.433	1.195300	91849.200000	0.003186	0.27
Y_R 488.368	1.220150	53534.100000	0.013451	1.10
Y_R2 488.368	1.202539	103830.971707	0.010553	0.88

Sample Name: 280-115787-E-3-A@5

Date: 10/29/2018 7:08:32 PM Rack:Tube: 2:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000083 u	ppm	0.000059	71.45	-437.782000	Y 377.433
Al (167.019 nm)	0.040779	ppm	0.001137	2.79	22.555200	Y_R 377.433
Al H (396.152 nm)	0.011653 u	ppm	0.000541	4.64	108.258875	Y_R 377.433
As (188.980 nm)	0.000854 u	ppm	0.001628	> 100.00	-1.547970	Y 242.219
B (249.678 nm)	0.446950	ppm	0.005959	1.33	10694.500000	Y 242.219
Ba (493.408 nm)	0.002016	ppm	0.000191	9.49	804.401000	Y_R 488.368
Be (234.861 nm)	0.000067	ppm	0.000008	11.22	-40.403900	Y_R 488.368
Bi (223.061 nm)	0.000947 u	ppm	0.001589	> 100.00	9.683240	Y 377.433
Ca (315.887 nm)	1.485963	ppm	0.004099	0.28	1078.800341	Y_R 377.433
Cd (214.439 nm)	0.000130	ppm	0.000031	23.82	5.848700	Y 377.433
Co (228.615 nm)	0.000296	ppm	0.000157	53.10	-29.064000	Y 242.219
Cr (205.560 nm)	0.000487	ppm	0.000160	32.89	8.776930	Y 377.433
Cu (324.754 nm)	0.000793	ppm	0.000598	75.33	-272.037000	Y 377.433
Fe (238.204 nm)	0.013751	ppm	0.001626	11.83	66.242319	Y_R 377.433
Fe H (259.940 nm)	-0.067395 u	ppm	0.000926	1.37	29.393800	Y_R 377.433
K (766.491 nm)	0.626370	ppm	0.035727	5.70	14.448800	Y_R2 488.368
Li (670.783 nm)	0.079304	ppm	0.000034	0.04	1191.530000	Y_R2 488.368
Mg (279.078 nm)	0.194302	ppm	0.004740	2.44	1103.250000	Y 377.433
Mn (257.610 nm)	0.001456	ppm	0.000001	0.04	390.017000	Y 377.433
Mo (202.032 nm)	0.005385	ppm	0.000100	1.86	42.542400	Y 377.433
Na (589.592 nm)	128.884000 o	ppm	0.184535	0.14	817322.000000	Y_R2 488.368
Na H (589.593 nm)	131.390826	ppm	0.451926	0.34	485620.759222	Y_R 488.368
Ni (231.604 nm)	0.000237 u	ppm	0.000377	> 100.00	-0.787781	Y 377.433
P (213.618 nm)	-0.000612 u	ppm	0.002445	> 100.00	25.644200	Y 242.219
Pb (220.353 nm)	0.000404	ppm	0.000532	> 100.00	4.920830	Y 242.219
S (181.972 nm)	72.937565 o	ppm	1.161497	1.59	35557.872200	Y 377.433
Sb (206.834 nm)	0.000144 u	ppm	0.000216	> 100.00	-19.805600	Y 377.433
Se (196.026 nm)	-0.005560 u	ppm	0.001616	29.06	8.240160	Y 242.219
Si (288.158 nm)	2.675620	ppm	0.063971	2.39	22868.200000	Y 377.433
Sn (189.925 nm)	-0.001207 u	ppm	0.000226	18.75	5.593530	Y 377.433
Sr (421.552 nm)	0.599136	ppm	0.000936	0.16	123634.023965	Y_R 488.368
Th (288.505 nm)	0.000618 u	ppm	0.002301	> 100.00	79.228200	Y 377.433
Ti (336.122 nm)	0.001638	ppm	0.000059	3.58	-53.264000	Y 377.433
Tl (190.794 nm)	0.000541	ppm	0.000394	72.85	-6.036010	Y 377.433
U (409.013 nm)	0.003172	ppm	0.002858	90.10	-160.332000	Y 377.433
V (292.401 nm)	0.004113	ppm	0.000271	6.60	167.875000	Y 377.433
Zn (206.200 nm)	0.000838	ppm	0.000054	6.46	2.844600	Y 377.433
Zr (343.823 nm)	-0.000065 u	ppm	0.000002	3.01	5.057910	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.112144	21011.744313	0.002035	0.18
Y 377.433	1.118790	1135381.576323	0.003730	0.33
Y_R 377.433	1.201190	92301.300000	0.001067	0.09
Y_R 488.368	1.225250	53757.500000	0.001884	0.15
Y_R2 488.368	1.206297	104155.424427	0.011006	0.91

Sample Name: 280-115787-E-4-A@5

Date: 10/29/2018 7:11:54 PM Rack:Tube: 2:5

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000230 u	ppm	0.000114	49.71	-443.857000	Y 377.433
Al (167.019 nm)	0.202639	ppm	0.002415	1.19	108.117000	Y_R 377.433
Al H (396.152 nm)	0.153000 u	ppm	0.003729	2.44	465.196414	Y_R 377.433
As (188.980 nm)	0.001911	ppm	0.000740	38.73	-0.280022	Y 242.219
B (249.678 nm)	0.378947	ppm	0.000111	0.03	9081.390000	Y 242.219
Ba (493.408 nm)	0.001041	ppm	0.000140	13.43	693.033000	Y_R 488.368
Be (234.861 nm)	0.000089	ppm	0.000009	10.12	-31.558000	Y_R 488.368
Bi (223.061 nm)	0.001412	ppm	0.000810	57.37	10.821200	Y 377.433
Ca (315.887 nm)	2.130374	ppm	0.003934	0.18	1574.593162	Y_R 377.433
Cd (214.439 nm)	0.000062	ppm	0.000056	89.65	2.043680	Y 377.433
Co (228.615 nm)	0.000481	ppm	0.000036	7.49	-25.842300	Y 242.219
Cr (205.560 nm)	0.000192	ppm	0.000191	99.20	4.460650	Y 377.433
Cu (324.754 nm)	0.000983	ppm	0.000002	0.20	-261.303000	Y 377.433
Fe (238.204 nm)	0.095086	ppm	0.000950	1.00	359.749329	Y_R 377.433
Fe H (259.940 nm)	0.013636 u	ppm	0.001401	10.28	177.340000	Y_R 377.433
K (766.491 nm)	0.342346	ppm	0.012043	3.52	-304.592000	Y_R2 488.368
Li (670.783 nm)	0.085179	ppm	0.001222	1.43	1382.430000	Y_R2 488.368
Mg (279.078 nm)	0.249720	ppm	0.000876	0.35	1407.940000	Y 377.433
Mn (257.610 nm)	0.004542	ppm	0.000004	0.09	1086.420000	Y 377.433
Mo (202.032 nm)	0.003589	ppm	0.000180	5.01	27.547200	Y 377.433
Na (589.592 nm)	130.471000 o	ppm	0.120833	0.09	827375.000000	Y_R2 488.368
Na H (589.593 nm)	132.049697	ppm	0.671640	0.51	488039.315931	Y_R 488.368
Ni (231.604 nm)	0.000742	ppm	0.000343	46.26	2.516840	Y 377.433
P (213.618 nm)	-0.002579 u	ppm	0.000552	21.39	21.598800	Y 242.219
Pb (220.353 nm)	-0.000723 u	ppm	0.000660	91.17	1.748510	Y 242.219
S (181.972 nm)	61.451573 o	ppm	0.276897	0.45	29963.221526	Y 377.433
Sb (206.834 nm)	0.000408 u	ppm	0.002638	> 100.00	-19.138400	Y 377.433
Se (196.026 nm)	-0.003707 u	ppm	0.000566	15.27	9.970920	Y 242.219
Si (288.158 nm)	1.104300	ppm	0.005358	0.49	10035.900000	Y 377.433
Sn (189.925 nm)	-0.001599 u	ppm	0.000703	43.98	4.844800	Y 377.433
Sr (421.552 nm)	0.750038	ppm	0.004584	0.61	154736.551179	Y_R 488.368
Th (288.505 nm)	0.003561	ppm	0.001033	29.01	86.454900	Y 377.433
Ti (336.122 nm)	0.002241	ppm	0.000004	0.20	32.936600	Y 377.433
Tl (190.794 nm)	0.000605	ppm	0.000227	37.56	-5.900720	Y 377.433
U (409.013 nm)	0.001516 u	ppm	0.005219	> 100.00	-167.745000	Y 377.433
V (292.401 nm)	0.001188	ppm	0.000006	0.47	65.569400	Y 377.433
Zn (206.200 nm)	0.001845	ppm	0.000230	12.45	7.883720	Y 377.433
Zr (343.823 nm)	-0.000003 u	ppm	0.000074	> 100.00	13.235000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.111314	20996.074543	0.000422	0.04
Y 377.433	1.117066	1133631.714262	0.000938	0.08
Y_R 377.433	1.193490	91710.300000	0.001449	0.12
Y_R 488.368	1.233700	54128.600000	0.013107	1.06
Y_R2 488.368	1.176996	101625.509399	0.011300	0.96

Sample Name: 280-115787-G-6-A@5

Date: 10/29/2018 7:15:17 PM Rack:Tube: 2:6

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000142 u	ppm	0.000308	> 100.00	-439.733000	Y 377.433
Al (167.019 nm)	0.043514	ppm	0.002633	6.05	24.025400	Y_R 377.433
Al H (396.152 nm)	0.016633 u	ppm	0.006526	39.24	120.995481	Y_R 377.433
As (188.980 nm)	0.003133	ppm	0.000963	30.73	1.185530	Y 242.219
B (249.678 nm)	0.266738	ppm	0.000216	0.08	6419.960000	Y 242.219
Ba (493.408 nm)	0.004301	ppm	0.000037	0.86	1066.160000	Y_R 488.368
Be (234.861 nm)	0.000158	ppm	0.000002	1.53	-12.836400	Y_R 488.368
Bi (223.061 nm)	0.003630	ppm	0.000836	23.02	16.193100	Y 377.433
Ca (315.887 nm)	2.255809	ppm	0.016206	0.72	1671.099234	Y_R 377.433
Cd (214.439 nm)	0.000197	ppm	0.000047	23.59	9.711550	Y 377.433
Co (228.615 nm)	0.001212	ppm	0.000044	3.60	-13.148300	Y 242.219
Cr (205.560 nm)	0.001344	ppm	0.000067	5.00	21.265400	Y 377.433
Cu (324.754 nm)	0.000551	ppm	0.000242	43.86	-284.134000	Y 377.433
Fe (238.204 nm)	0.053733	ppm	0.000025	0.05	210.520902	Y_R 377.433
Fe H (259.940 nm)	-0.027188 u	ppm	0.001651	6.07	102.804000	Y_R 377.433
K (766.491 nm)	0.476409	ppm	0.091555	19.22	-154.000000	Y_R2 488.368
Li (670.783 nm)	0.087741	ppm	0.000654	0.75	1465.660000	Y_R2 488.368
Mg (279.078 nm)	0.286938	ppm	0.001882	0.66	1612.800000	Y 377.433
Mn (257.610 nm)	0.004556	ppm	0.000020	0.45	1089.760000	Y 377.433
Mo (202.032 nm)	0.003216	ppm	0.000422	13.13	24.436000	Y 377.433
Na (589.592 nm)	130.489000 o	ppm	0.084015	0.06	827494.000000	Y_R2 488.368
Na H (589.593 nm)	133.893336	ppm	0.505325	0.38	494811.466667	Y_R 488.368
Ni (231.604 nm)	0.003350	ppm	0.000131	3.91	19.559800	Y 377.433
P (213.618 nm)	0.014225	ppm	0.002391	16.81	56.171700	Y 242.219
Pb (220.353 nm)	0.001053	ppm	0.000435	41.30	6.742070	Y 242.219
S (181.972 nm)	66.407785 o	ppm	0.066657	0.10	32377.319087	Y 377.433
Sb (206.834 nm)	0.002551	ppm	0.000136	5.34	-13.406800	Y 377.433
Se (196.026 nm)	-0.002603 u	ppm	0.003478	> 100.00	11.014000	Y 242.219
Si (288.158 nm)	0.853112	ppm	0.005351	0.63	7984.620000	Y 377.433
Sn (189.925 nm)	0.002248	ppm	0.000034	1.53	12.185100	Y 377.433
Sr (421.552 nm)	0.519168	ppm	0.004413	0.85	107151.800356	Y_R 488.368
Th (288.505 nm)	0.001205	ppm	0.000993	82.36	80.612600	Y 377.433
Ti (336.122 nm)	0.003296	ppm	0.000064	1.93	180.677000	Y 377.433
Tl (190.794 nm)	0.002924	ppm	0.003134	> 100.00	-0.953002	Y 377.433
U (409.013 nm)	0.002829	ppm	0.003132	> 100.00	-162.024000	Y 377.433
V (292.401 nm)	0.001177	ppm	0.000238	20.20	65.197700	Y 377.433
Zn (206.200 nm)	0.007898	ppm	0.000255	3.23	38.151800	Y 377.433
Zr (343.823 nm)	0.000723	ppm	0.000048	6.58	106.579000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.103058	20840.088144	0.002960	0.27
Y 377.433	1.108286	1124721.122944	0.003336	0.30
Y_R 377.433	1.187570	91255.200000	0.002831	0.24
Y_R 488.368	1.206580	52938.600000	0.005139	0.43
Y_R2 488.368	1.204772	104023.749185	0.001328	0.11

Sample Name: 280-115787-G-7-A@5

Date: 10/29/2018 7:18:40 PM Rack:Tube: 2:7

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000081	ppm	0.000054	66.40	-429.890000	Y 377.433
Al (167.019 nm)	0.343543	ppm	0.006980	2.03	182.663000	Y_R 377.433
Al H (396.152 nm)	0.281447 u	ppm	0.003369	1.20	789.257909	Y_R 377.433
As (188.980 nm)	0.001484	ppm	0.001299	87.48	-0.793726	Y 242.219
B (249.678 nm)	0.314036	ppm	0.000154	0.05	7541.530000	Y 242.219
Ba (493.408 nm)	0.002501	ppm	0.000117	4.67	860.191000	Y_R 488.368
Be (234.861 nm)	0.000105	ppm	0.000012	11.41	-21.873400	Y_R 488.368
Bi (223.061 nm)	-0.000207 u	ppm	0.002526	> 100.00	6.922890	Y 377.433
Ca (315.887 nm)	1.666994	ppm	0.012192	0.73	1218.081144	Y_R 377.433
Cd (214.439 nm)	0.000062	ppm	0.000021	33.50	2.166790	Y 377.433
Co (228.615 nm)	0.000587	ppm	0.000004	0.66	-23.903500	Y 242.219
Cr (205.560 nm)	0.004143	ppm	0.000201	4.85	62.014900	Y 377.433
Cu (324.754 nm)	0.001052	ppm	0.000006	0.53	-257.093000	Y 377.433
Fe (238.204 nm)	0.262058	ppm	0.000561	0.21	962.286507	Y_R 377.433
Fe H (259.940 nm)	0.180499 u	ppm	0.000731	0.41	482.002000	Y_R 377.433
K (766.491 nm)	0.345104	ppm	0.059877	17.35	-301.494000	Y_R2 488.368
Li (670.783 nm)	0.078483	ppm	0.001930	2.46	1164.870000	Y_R2 488.368
Mg (279.078 nm)	0.216346	ppm	0.000311	0.14	1224.110000	Y 377.433
Mn (257.610 nm)	0.007556	ppm	0.000028	0.37	1766.660000	Y 377.433
Mo (202.032 nm)	0.003670	ppm	0.000034	0.92	28.227400	Y 377.433
Na (589.592 nm)	115.991000 o	ppm	0.135570	0.12	735624.000000	Y_R2 488.368
Na H (589.593 nm)	117.719939	ppm	0.374308	0.32	435425.238883	Y_R 488.368
Ni (231.604 nm)	0.011977	ppm	0.000664	5.54	75.963500	Y 377.433
P (213.618 nm)	-0.003599 u	ppm	0.000241	6.69	19.498800	Y 242.219
Pb (220.353 nm)	0.000134 u	ppm	0.001574	> 100.00	4.112230	Y 242.219
S (181.972 nm)	50.649371 o	ppm	0.002636	0.01	24701.634447	Y 377.433
Sb (206.834 nm)	0.001440	ppm	0.000186	12.95	-16.338900	Y 377.433
Se (196.026 nm)	-0.004433 u	ppm	0.003600	81.21	9.263370	Y 242.219
Si (288.158 nm)	1.357820	ppm	0.004058	0.30	12106.400000	Y 377.433
Sn (189.925 nm)	-0.001581 u	ppm	0.000362	22.87	4.879100	Y 377.433
Sr (421.552 nm)	0.285940	ppm	0.000680	0.24	59081.032401	Y_R 488.368
Th (288.505 nm)	0.002252	ppm	0.002699	> 100.00	83.229600	Y 377.433
Ti (336.122 nm)	0.005389	ppm	0.000028	0.53	471.197000	Y 377.433
Tl (190.794 nm)	0.001019	ppm	0.000162	15.91	-5.033410	Y 377.433
U (409.013 nm)	0.001196	ppm	0.001295	> 100.00	-168.946000	Y 377.433
V (292.401 nm)	0.000515	ppm	0.000080	15.46	41.203700	Y 377.433
Zn (206.200 nm)	0.029600	ppm	0.000652	2.20	146.670000	Y 377.433
Zr (343.823 nm)	0.000178	ppm	0.000003	1.62	36.997700	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.100474	20791.265917	0.003539	0.32
Y 377.433	1.103809	1120178.003167	0.004407	0.40
Y_R 377.433	1.195140	91836.500000	0.008485	0.71
Y_R 488.368	1.235940	54226.800000	0.001688	0.14
Y_R2 488.368	1.198478	103480.318583	0.003719	0.31

Sample Name: 280-115887-G-2-A@5

Date: 10/29/2018 7:22:03 PM Rack:Tube: 2:8

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000026 u	ppm	0.000069	> 100.00	-432.594000	Y 377.433
Al (167.019 nm)	0.096336	ppm	0.003056	3.17	51.946500	Y_R 377.433
Al H (396.152 nm)	0.059997 u	ppm	0.007458	12.43	230.016398	Y_R 377.433
As (188.980 nm)	0.002091	ppm	0.001271	60.75	-0.064085	Y 242.219
B (249.678 nm)	0.305688	ppm	0.000697	0.23	7343.770000	Y 242.219
Ba (493.408 nm)	0.002072	ppm	0.000153	7.39	810.838000	Y_R 488.368
Be (234.861 nm)	0.000092	ppm	0.000004	3.83	-30.965100	Y_R 488.368
Bi (223.061 nm)	0.002618	ppm	0.001858	70.96	13.744100	Y 377.433
Ca (315.887 nm)	1.450091	ppm	0.004874	0.34	1051.202056	Y_R 377.433
Cd (214.439 nm)	0.000024	ppm	0.000026	> 100.00	-0.148698	Y 377.433
Co (228.615 nm)	0.000588	ppm	0.000212	35.99	-23.993400	Y 242.219
Cr (205.560 nm)	-0.000038 u	ppm	0.000386	> 100.00	1.104850	Y 377.433
Cu (324.754 nm)	0.000769	ppm	0.000022	2.84	-272.812000	Y 377.433
Fe (238.204 nm)	0.078544	ppm	0.000386	0.49	300.054588	Y_R 377.433
Fe H (259.940 nm)	0.000505 u	ppm	0.001861	> 100.00	153.366000	Y_R 377.433
K (766.491 nm)	0.336562	ppm	0.027293	8.11	-311.089000	Y_R2 488.368
Li (670.783 nm)	0.072593	ppm	0.000193	0.27	973.519000	Y_R2 488.368
Mg (279.078 nm)	0.169871	ppm	0.000755	0.44	968.813000	Y 377.433
Mn (257.610 nm)	0.009079	ppm	0.000013	0.14	2110.530000	Y 377.433
Mo (202.032 nm)	0.002001	ppm	0.000243	12.14	14.297200	Y 377.433
Na (589.592 nm)	109.735000 o	ppm	0.323898	0.30	695979.000000	Y_R2 488.368
Na H (589.593 nm)	110.182855	ppm	1.389475	1.26	407750.624812	Y_R 488.368
Ni (231.604 nm)	0.000593	ppm	0.000342	57.63	1.538100	Y 377.433
P (213.618 nm)	-0.004541 u	ppm	0.000276	6.08	17.561300	Y 242.219
Pb (220.353 nm)	0.001426	ppm	0.001213	85.04	7.768500	Y 242.219
S (181.972 nm)	53.375898 o	ppm	0.067353	0.13	26029.689301	Y 377.433
Sb (206.834 nm)	0.000087 u	ppm	0.001359	> 100.00	-19.961300	Y 377.433
Se (196.026 nm)	-0.003186 u	ppm	0.000875	27.47	10.465500	Y 242.219
Si (288.158 nm)	0.906439	ppm	0.000948	0.10	8420.110000	Y 377.433
Sn (189.925 nm)	-0.000417 u	ppm	0.002072	> 100.00	7.100780	Y 377.433
Sr (421.552 nm)	0.159525	ppm	0.001650	1.03	33025.493861	Y_R 488.368
Th (288.505 nm)	0.002211	ppm	0.000629	28.47	83.174100	Y 377.433
Ti (336.122 nm)	0.001976	ppm	0.000023	1.15	-6.203270	Y 377.433
Tl (190.794 nm)	0.000600 u	ppm	0.000898	> 100.00	-5.906050	Y 377.433
U (409.013 nm)	-0.001127 u	ppm	0.003591	> 100.00	-179.384000	Y 377.433
V (292.401 nm)	0.002282	ppm	0.000080	3.49	104.015000	Y 377.433
Zn (206.200 nm)	0.006376	ppm	0.000035	0.55	30.538700	Y 377.433
Zr (343.823 nm)	-0.000002 u	ppm	0.000109	> 100.00	13.368300	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.102938	20837.825966	0.001326	0.12
Y 377.433	1.106132	1122535.111878	0.001812	0.16
Y_R 377.433	1.194470	91785.500000	0.006774	0.57
Y_R 488.368	1.241220	54458.500000	0.016357	1.32
Y_R2 488.368	1.192265	102943.873878	0.009190	0.77

Sample Name: CCVH-5380945

Date: 10/29/2018 7:25:26 PM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.001734 u	ppm	0.000033	1.89	-750.589000	Y 377.433
Al (167.019 nm)	49.934600 o	ppm	0.111938	0.22	26414.500000	Y_R 377.433
Al H (396.152 nm)	49.684432	ppm	0.107230	0.22	125498.355227	Y_R 377.433
As (188.980 nm)	0.002590	ppm	0.002454	94.75	0.095173	Y 242.219
B (249.678 nm)	-0.001364 u	ppm	0.000105	7.73	-13.536100	Y 242.219
Ba (493.408 nm)	-0.000365 u	ppm	0.000033	8.97	579.440000	Y_R 488.368
Be (234.861 nm)	-0.000327 u	ppm	0.000059	18.00	1414.150000	Y_R 488.368
Bi (223.061 nm)	1.015560	ppm	0.001459	0.14	2478.200000	Y 377.433
Ca (315.887 nm)	0.002653 u	ppm	0.006051	> 100.00	-62.417761	Y_R 377.433
Cd (214.439 nm)	-0.000342 u	ppm	0.000131	38.14	26.682400	Y 377.433
Co (228.615 nm)	0.003001	ppm	0.000011	0.36	17.745600	Y 242.219
Cr (205.560 nm)	-0.000079 u	ppm	0.000167	> 100.00	-13.197900	Y 377.433
Cu (324.754 nm)	-0.006537 u	ppm	0.000123	1.88	-352.617000	Y 377.433
Fe (238.204 nm)	52.082705 o	ppm	0.059515	0.11	187963.142564	Y_R 377.433
Fe H (259.940 nm)	52.500800	ppm	0.180827	0.34	96009.600000	Y_R 377.433
K (766.491 nm)	0.144746	ppm	0.031756	21.94	-526.553000	Y_R2 488.368
Li (670.783 nm)	0.010534	ppm	0.001080	10.25	-1042.750000	Y_R2 488.368
Mg (279.078 nm)	-0.019493 u	ppm	0.000527	2.71	-419.508000	Y 377.433
Mn (257.610 nm)	0.001442	ppm	0.000040	2.79	386.785000	Y 377.433
Mo (202.032 nm)	0.000084	ppm	0.000084	99.73	-1.702990	Y 377.433
Na (589.592 nm)	233.390000 o	ppm	1.059640	0.45	1479530.000000	Y_R2 488.368
Na H (589.593 nm)	236.437756	ppm	0.253860	0.11	871322.478986	Y_R 488.368
Ni (231.604 nm)	0.004115	ppm	0.000247	6.01	26.609100	Y 377.433
P (213.618 nm)	-0.006352 u	ppm	0.000964	15.18	13.835500	Y 242.219
Pb (220.353 nm)	-0.004485 u	ppm	0.001085	24.18	8.554910	Y 242.219
S (181.972 nm)	5.151095	ppm	0.014088	0.27	2540.081037	Y 377.433
Sb (206.834 nm)	-0.004081 u	ppm	0.001108	27.15	-76.145700	Y 377.433
Se (196.026 nm)	-0.003763 u	ppm	0.000483	12.84	1.037160	Y 242.219
Si (288.158 nm)	-0.002456 u	ppm	0.000444	18.08	997.570000	Y 377.433
Sn (189.925 nm)	0.000524 u	ppm	0.000745	> 100.00	8.895250	Y 377.433
Sr (421.552 nm)	0.000357	ppm	0.000059	16.49	219.157549	Y_R 488.368
Th (288.505 nm)	5.067040	ppm	0.019493	0.38	12747.700000	Y 377.433
Ti (336.122 nm)	0.002005	ppm	0.000008	0.41	-6.357090	Y 377.433
Tl (190.794 nm)	-0.003331 u	ppm	0.001580	47.44	-15.620700	Y 377.433
U (409.013 nm)	10.383800	ppm	0.017715	0.17	46018.400000	Y 377.433
V (292.401 nm)	0.002488	ppm	0.000292	11.75	-56.979500	Y 377.433
Zn (206.200 nm)	0.001031	ppm	0.000165	15.98	3.808820	Y 377.433
Zr (343.823 nm)	-0.004761 u	ppm	0.000012	0.24	-451.101000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.095077	20689.293861	0.001759	0.16
Y 377.433	1.090942	1107120.020318	0.003220	0.30
Y_R 377.433	1.168330	89776.800000	0.004465	0.38
Y_R 488.368	1.209410	53062.700000	0.009378	0.78
Y_R2 488.368	1.168928	100928.887163	0.007539	0.64

Sample Name: CCV-5391053

Date: 10/29/2018 7:28:49 PM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.493352	ppm	0.000680	0.14	21439.600000	Y 377.433
Al (167.019 nm)	0.569522 Q	ppm	0.001354	0.24	303.552000 Q	Y_R 377.433
Al H (396.152 nm)	0.494702 u	ppm	0.000274	0.06	1369.024700	Y_R 377.433
As (188.980 nm)	1.015410	ppm	0.000582	0.06	1215.570000	Y 242.219
B (249.678 nm)	0.500632	ppm	0.000537	0.11	11984.800000	Y 242.219
Ba (493.408 nm)	0.496139	ppm	0.000183	0.04	57370.200000	Y_R 488.368
Be (234.861 nm)	0.460609	ppm	0.000408	0.09	132260.000000	Y_R 488.368
Bi (223.061 nm)	-0.000347 u	ppm	0.001130	> 100.00	6.956850	Y 377.433
Ca (315.887 nm)	5.230940	ppm	0.013073	0.25	3960.357072	Y_R 377.433
Cd (214.439 nm)	0.499214	ppm	0.001382	0.28	28515.000000	Y 377.433
Co (228.615 nm)	0.505802	ppm	0.001589	0.31	8737.030000	Y 242.219
Cr (205.560 nm)	0.503704	ppm	0.001069	0.21	7340.680000	Y 377.433
Cu (324.754 nm)	0.498492	ppm	0.001825	0.37	26266.000000	Y 377.433
Fe (238.204 nm)	2.622849	ppm	0.007273	0.28	9481.474626	Y_R 377.433
Fe H (259.940 nm)	2.592260 u	ppm	0.001427	0.06	4885.450000	Y_R 377.433
K (766.491 nm)	48.813800	ppm	0.046438	0.10	54142.800000	Y_R2 488.368
Li (670.783 nm)	0.972680	ppm	0.000394	0.04	30216.800000	Y_R2 488.368
Mg (279.078 nm)	19.326400	ppm	0.031903	0.17	106347.000000	Y 377.433
Mn (257.610 nm)	0.502887	ppm	0.000834	0.17	113555.000000	Y 377.433
Mo (202.032 nm)	0.504326	ppm	0.002548	0.51	4206.900000	Y 377.433
Na (589.592 nm)	4.760140	ppm	0.009518	0.20	31745.500000	Y_R2 488.368
Na H (589.593 nm)	4.896483 u	ppm	0.002428	0.05	21631.383620	Y_R 488.368
Ni (231.604 nm)	0.505292	ppm	0.001754	0.35	3301.920000	Y 377.433
P (213.618 nm)	0.918147	ppm	0.002468	0.27	1916.000000	Y 242.219
Pb (220.353 nm)	1.000930	ppm	0.000660	0.07	2794.230000	Y 242.219
S (181.972 nm)	0.008905	ppm	0.000844	9.48	36.542960	Y 377.433
Sb (206.834 nm)	1.009680	ppm	0.001293	0.13	2662.180000	Y 377.433
Se (196.026 nm)	1.010970	ppm	0.004074	0.40	963.456000	Y 242.219
Si (288.158 nm)	4.948640	ppm	0.019788	0.40	41431.000000	Y 377.433
Sn (189.925 nm)	0.992268	ppm	0.001154	0.12	1900.900000	Y 377.433
Sr (421.552 nm)	0.486596	ppm	0.001229	0.25	100438.238080	Y_R 488.368
Th (288.505 nm)	0.002519 u	ppm	0.004140	> 100.00	99.728800	Y 377.433
Ti (336.122 nm)	0.505435	ppm	0.001189	0.24	70317.500000	Y 377.433
Tl (190.794 nm)	1.015540	ppm	0.002514	0.25	2159.060000	Y 377.433
U (409.013 nm)	0.003918	ppm	0.003551	90.65	-193.429000	Y 377.433
V (292.401 nm)	0.501029	ppm	0.001802	0.36	17505.100000	Y 377.433
Zn (206.200 nm)	0.495221	ppm	0.001160	0.23	2475.050000	Y 377.433
Zr (343.823 nm)	0.505501	ppm	0.001000	0.20	65074.300000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.108723	20947.121394	0.001497	0.13
Y 377.433	1.111939	1128429.053595	0.000970	0.09
Y_R 377.433	1.178670	90571.200000	0.004172	0.35
Y_R 488.368	1.208460	53021.000000	0.003801	0.31
Y_R2 488.368	1.185193	102333.253985	0.003328	0.28

Sample Name: CCB

Date: 10/29/2018 7:32:12 PM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000165 u	ppm	0.000010	5.83	-440.725000	Y 377.433
Al (167.019 nm)	0.000465 u	ppm	0.000670	> 100.00	1.248650	Y_R 377.433
Al H (396.152 nm)	-0.027575 u	ppm	0.006797	24.65	8.179680	Y_R 377.433
As (188.980 nm)	-0.000834 u	ppm	0.002009	> 100.00	-3.573180	Y 242.219
B (249.678 nm)	0.000252	ppm	0.000203	80.66	99.186700	Y 242.219
Ba (493.408 nm)	-0.000873 u	ppm	0.000056	6.36	473.349000	Y_R 488.368
Be (234.861 nm)	0.000064	ppm	0.000003	4.58	-41.280700	Y_R 488.368
Bi (223.061 nm)	0.000729	ppm	0.000823	> 100.00	9.151970	Y 377.433
Ca (315.887 nm)	0.004107	ppm	0.000262	6.38	-61.299325	Y_R 377.433
Cd (214.439 nm)	0.000039	ppm	0.000017	44.61	0.592709	Y 377.433
Co (228.615 nm)	0.000374	ppm	0.000272	72.65	-27.746400	Y 242.219
Cr (205.560 nm)	0.000102	ppm	0.000074	72.22	3.174570	Y 377.433
Cu (324.754 nm)	0.000240	ppm	0.000234	97.85	-299.817000	Y 377.433
Fe (238.204 nm)	0.000681	ppm	0.000765	> 100.00	19.077614	Y_R 377.433
Fe H (259.940 nm)	-0.078518 u	ppm	0.001055	1.34	9.085160	Y_R 377.433
K (766.491 nm)	0.094062	ppm	0.053060	56.41	-583.486000	Y_R2 488.368
Li (670.783 nm)	0.010228 Z	ppm	0.001171	11.45	-1052.710000 Z	Y_R2 488.368
Mg (279.078 nm)	0.001276	ppm	0.001066	83.55	41.359700	Y 377.433
Mn (257.610 nm)	-0.000020 u	ppm	0.000031	> 100.00	56.950600	Y 377.433
Mo (202.032 nm)	0.000201	ppm	0.000003	1.68	-0.725970	Y 377.433
Na (589.592 nm)	-0.011865 u	ppm	0.012551	> 100.00	542.300000	Y_R2 488.368
Na H (589.593 nm)	-0.177341 u	ppm	0.002691	1.52	2533.592217	Y_R 488.368
Ni (231.604 nm)	-0.000120 u	ppm	0.000454	> 100.00	-3.125930	Y 377.433
P (213.618 nm)	-0.002586 u	ppm	0.002529	97.78	21.583100	Y 242.219
Pb (220.353 nm)	-0.000093 u	ppm	0.000816	> 100.00	3.576160	Y 242.219
S (181.972 nm)	-0.000639 u	ppm	0.002912	> 100.00	30.743605	Y 377.433
Sb (206.834 nm)	-0.000215 u	ppm	0.001900	> 100.00	-20.739300	Y 377.433
Se (196.026 nm)	0.000181 u	ppm	0.000377	> 100.00	13.635000	Y 242.219
Si (288.158 nm)	-0.024072 u	ppm	0.001036	4.30	821.041000	Y 377.433
Sn (189.925 nm)	-0.000326 u	ppm	0.000361	> 100.00	7.273530	Y 377.433
Sr (421.552 nm)	-0.000129 u	ppm	0.000171	> 100.00	119.156779	Y_R 488.368
Th (288.505 nm)	0.001139	ppm	0.001191	> 100.00	80.366900	Y 377.433
Ti (336.122 nm)	0.000397	ppm	0.000011	2.81	-231.120000	Y 377.433
Tl (190.794 nm)	0.001399	ppm	0.000779	55.66	-4.188420	Y 377.433
U (409.013 nm)	0.007281	ppm	0.001436	19.73	-141.822000	Y 377.433
V (292.401 nm)	-0.000247 u	ppm	0.000017	7.06	15.275100	Y 377.433
Zn (206.200 nm)	0.000301 u	ppm	0.000686	> 100.00	0.159667	Y 377.433
Zr (343.823 nm)	0.000092	ppm	0.000066	71.59	25.234500	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.107196	20918.261013	0.003394	0.31
Y 377.433	1.112994	1129499.226648	0.004249	0.38
Y_R 377.433	1.167240	89692.900000	0.002571	0.22
Y_R 488.368	1.196370	52490.700000	0.002195	0.18
Y_R2 488.368	1.175880	101529.172027	0.002572	0.22

Sample Name: CCVL-5398386

Date: 10/29/2018 7:35:36 PM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.008707	ppm	0.000173	1.98	-47.131100	Y 377.433
Al (167.019 nm)	0.112815	ppm	0.001256	1.11	60.670900	Y_R 377.433
Al H (396.152 nm)	0.074925 u	ppm	0.002750	3.67	268.552890	Y_R 377.433
As (188.980 nm)	0.016844	ppm	0.000802	4.76	17.634100	Y 242.219
B (249.678 nm)	0.099050	ppm	0.000397	0.40	2442.840000	Y 242.219
Ba (493.408 nm)	0.009104	ppm	0.000199	2.18	1615.410000	Y_R 488.368
Be (234.861 nm)	0.000987	ppm	0.000001	0.14	226.022000	Y_R 488.368
Bi (223.061 nm)	0.103117	ppm	0.002320	2.25	257.441000	Y 377.433
Ca (315.887 nm)	0.221653	ppm	0.008202	3.70	106.077595	Y_R 377.433
Cd (214.439 nm)	0.005179	ppm	0.000029	0.56	294.330000	Y 377.433
Co (228.615 nm)	0.010851	ppm	0.000442	4.07	153.906000	Y 242.219
Cr (205.560 nm)	0.009938	ppm	0.000182	1.83	146.525000	Y 377.433
Cu (324.754 nm)	0.015309	ppm	0.000063	0.41	503.109000	Y 377.433
Fe (238.204 nm)	0.107839	ppm	0.002981	2.76	405.769965	Y_R 377.433
Fe H (259.940 nm)	0.027475 u	ppm	0.002869	10.44	202.609000	Y_R 377.433
K (766.491 nm)	3.162740	ppm	0.000670	0.02	2863.530000	Y_R2 488.368
Li (670.783 nm)	0.031227 Q	ppm	0.000983	3.15	-370.456000 Q	Y_R2 488.368
Mg (279.078 nm)	0.193605	ppm	0.000592	0.31	1098.390000	Y 377.433
Mn (257.610 nm)	0.010334	ppm	0.000019	0.19	2393.620000	Y 377.433
Mo (202.032 nm)	0.019535	ppm	0.000370	1.89	160.637000	Y 377.433
Na (589.592 nm)	0.979529	ppm	0.010456	1.07	6843.830000	Y_R2 488.368
Na H (589.593 nm)	0.753287 u	ppm	0.007190	0.95	5960.028846	Y_R 488.368
Ni (231.604 nm)	0.041819	ppm	0.000141	0.34	271.043000	Y 377.433
P (213.618 nm)	2.768550 o	ppm	0.000542	0.02	5723.210000	Y 242.219
Pb (220.353 nm)	0.009612	ppm	0.001139	11.85	30.630700	Y 242.219
S (181.972 nm)	0.092202	ppm	0.000008	0.01	75.988239	Y 377.433
Sb (206.834 nm)	0.021193	ppm	0.000966	4.56	36.001500	Y 377.433
Se (196.026 nm)	0.016544	ppm	0.000625	3.78	29.003100	Y 242.219
Si (288.158 nm)	0.460760	ppm	0.003898	0.85	4780.450000	Y 377.433
Sn (189.925 nm)	0.095243	ppm	0.000503	0.53	189.597000	Y 377.433
Sr (421.552 nm)	0.009603	ppm	0.000012	0.13	2124.991758	Y_R 488.368
Th (288.505 nm)	0.014181	ppm	0.001035	7.30	113.623000	Y 377.433
Ti (336.122 nm)	0.010690	ppm	0.000113	1.06	1206.980000	Y 377.433
Tl (190.794 nm)	0.016425	ppm	0.000236	1.44	27.831900	Y 377.433
U (409.013 nm)	0.063570	ppm	0.000499	0.78	107.265000	Y 377.433
V (292.401 nm)	0.009716	ppm	0.000171	1.76	361.553000	Y 377.433
Zn (206.200 nm)	0.020975	ppm	0.000227	1.08	103.544000	Y 377.433
Zr (343.823 nm)	0.015052	ppm	0.000041	0.27	1950.800000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.128067	21312.586920	0.001874	0.17
Y 377.433	1.131889	1148674.835703	0.002297	0.20
Y_R 377.433	1.192960	91669.600000	0.001753	0.15
Y_R 488.368	1.222370	53631.200000	0.014637	1.20
Y_R2 488.368	1.205971	104127.280112	0.001368	0.11

Sample Name: MB 280-434734/1-A

Date: 10/29/2018 7:38:59 PM Rack:Tube: 2:9

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000045 u	ppm	0.000224	> 100.00	-435.355000	Y 377.433
Al (167.019 nm)	0.002632	ppm	0.000183	6.95	2.408510	Y_R 377.433
Al H (396.152 nm)	-0.019165 u	ppm	0.001769	9.23	29.438157	Y_R 377.433
As (188.980 nm)	0.000310 u	ppm	0.000548	> 100.00	-2.200660	Y 242.219
B (249.678 nm)	-0.000628 u	ppm	0.000059	9.47	78.295100	Y 242.219
Ba (493.408 nm)	-0.000759 u	ppm	0.000074	9.79	486.413000	Y_R 488.368
Be (234.861 nm)	0.000096	ppm	0.000014	14.71	-31.350500	Y_R 488.368
Bi (223.061 nm)	0.002161	ppm	0.001740	80.54	12.627200	Y 377.433
Ca (315.887 nm)	0.106296	ppm	0.001176	1.11	17.322038	Y_R 377.433
Cd (214.439 nm)	0.000038	ppm	0.000038	99.04	0.598734	Y 377.433
Co (228.615 nm)	0.000512	ppm	0.000037	7.31	-25.337800	Y 242.219
Cr (205.560 nm)	0.000245	ppm	0.000110	44.86	5.249370	Y 377.433
Cu (324.754 nm)	0.000628	ppm	0.000442	70.48	-279.305000	Y 377.433
Fe (238.204 nm)	0.023735	ppm	0.000896	3.77	102.271347	Y_R 377.433
Fe H (259.940 nm)	-0.056244 u	ppm	0.000118	0.21	49.753100	Y_R 377.433
K (766.491 nm)	0.145455	ppm	0.008061	5.54	-525.758000	Y_R2 488.368
Li (670.783 nm)	0.011034	ppm	0.000855	7.75	-1026.510000	Y_R2 488.368
Mg (279.078 nm)	0.016789	ppm	0.001249	7.44	126.812000	Y 377.433
Mn (257.610 nm)	0.000789	ppm	0.000019	2.41	239.435000	Y 377.433
Mo (202.032 nm)	0.000067 u	ppm	0.000174	> 100.00	-1.848760	Y 377.433
Na (589.592 nm)	0.037022	ppm	0.002744	7.41	852.036000	Y_R2 488.368
Na H (589.593 nm)	-0.261345 u	ppm	0.003923	1.50	2225.127072	Y_R 488.368
Ni (231.604 nm)	0.002547	ppm	0.000176	6.89	14.308700	Y 377.433
P (213.618 nm)	0.021642	ppm	0.001493	6.90	71.432600	Y 242.219
Pb (220.353 nm)	0.000674	ppm	0.000571	84.68	5.696240	Y 242.219
S (181.972 nm)	-0.001866 u	ppm	0.002803	> 100.00	30.147766	Y 377.433
Sb (206.834 nm)	0.002039	ppm	0.001121	54.99	-14.729800	Y 377.433
Se (196.026 nm)	-0.006296 u	ppm	0.001208	19.18	7.546060	Y 242.219
Si (288.158 nm)	-0.016983 u	ppm	0.000988	5.82	878.931000	Y 377.433
Sn (189.925 nm)	0.028545	ppm	0.000184	0.65	62.353000	Y 377.433
Sr (421.552 nm)	0.000028 u	ppm	0.000080	> 100.00	151.450066	Y_R 488.368
Th (288.505 nm)	0.000229 u	ppm	0.001767	> 100.00	78.032700	Y 377.433
Ti (336.122 nm)	0.001180	ppm	0.000033	2.82	-121.438000	Y 377.433
Tl (190.794 nm)	0.000349 u	ppm	0.000556	> 100.00	-6.432080	Y 377.433
U (409.013 nm)	-0.000346 u	ppm	0.000411	> 100.00	-175.701000	Y 377.433
V (292.401 nm)	-0.000041 u	ppm	0.000219	> 100.00	22.583000	Y 377.433
Zn (206.200 nm)	0.002897	ppm	0.000175	6.05	13.142300	Y 377.433
Zr (343.823 nm)	-0.000131 u	ppm	0.000068	52.40	-3.361250	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.127535	21302.535503	0.000229	0.02
Y 377.433	1.133752	1150565.215778	0.001393	0.12
Y_R 377.433	1.207080	92754.500000	0.007427	0.62
Y_R 488.368	1.240750	54437.700000	0.009617	0.78
Y_R2 488.368	1.218912	105244.688017	0.005195	0.43

Sample Name: LCS 280-434734/2-A

Date: 10/29/2018 7:42:22 PM Rack:Tube: 2:10

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.051394	ppm	0.000393	0.77	1819.330000	Y 377.433
Al (167.019 nm)	2.230290	ppm	0.000487	0.02	1179.950000	Y_R 377.433
Al H (396.152 nm)	2.015445	ppm	0.000850	0.04	5270.620024	Y_R 377.433
As (188.980 nm)	1.012580	ppm	0.003171	0.31	1212.190000	Y 242.219
B (249.678 nm)	1.023860	ppm	0.000069	0.01	24397.300000	Y 242.219
Ba (493.408 nm)	2.004360 o	ppm	0.006904	0.34	229989.000000	Y_R 488.368
Be (234.861 nm)	0.047191	ppm	0.000015	0.03	13467.500000	Y_R 488.368
Bi (223.061 nm)	2.004980	ppm	0.004339	0.22	4869.290000	Y 377.433
Ca (315.887 nm)	52.406082 o	ppm	0.147420	0.28	40255.423770	Y_R 377.433
Cd (214.439 nm)	0.100253	ppm	0.000127	0.13	5726.000000	Y 377.433
Co (228.615 nm)	0.500345	ppm	0.002919	0.58	8660.170000	Y 242.219
Cr (205.560 nm)	0.204702	ppm	0.000711	0.35	2983.870000	Y 377.433
Cu (324.754 nm)	0.250427	ppm	0.000058	0.02	13061.900000	Y 377.433
Fe (238.204 nm)	1.086052	ppm	0.000305	0.03	3935.763745	Y_R 377.433
Fe H (259.940 nm)	1.011020 u	ppm	0.000767	0.08	1998.390000	Y_R 377.433
K (766.491 nm)	50.139500	ppm	0.054958	0.11	55631.900000	Y_R2 488.368
Li (670.783 nm)	0.986591	ppm	0.002468	0.25	30668.800000	Y_R2 488.368
Mg (279.078 nm)	48.699000 o	ppm	0.003770	0.01	267879.000000	Y 377.433
Mn (257.610 nm)	0.503665	ppm	0.000113	0.02	113731.000000	Y 377.433
Mo (202.032 nm)	1.032770	ppm	0.000903	0.09	8617.470000	Y 377.433
Na (589.592 nm)	48.699000 o	ppm	0.123274	0.25	313092.000000	Y_R2 488.368
Na H (589.593 nm)	49.549530	ppm	0.225821	0.46	187002.868868	Y_R 488.368
Ni (231.604 nm)	0.493813	ppm	0.000538	0.11	3228.000000	Y 377.433
P (213.618 nm)	10.195800 o	ppm	0.012835	0.13	21004.800000	Y 242.219
Pb (220.353 nm)	0.501167	ppm	0.000005	0.00	1402.630000	Y 242.219
S (181.972 nm)	2.090063	ppm	0.008870	0.42	1050.245113	Y 377.433
Sb (206.834 nm)	0.520889	ppm	0.003444	0.66	1352.260000	Y 377.433
Se (196.026 nm)	2.072840	ppm	0.000266	0.01	1961.680000	Y 242.219
Si (288.158 nm)	1.228910	ppm	0.001079	0.09	11053.600000	Y 377.433
Sn (189.925 nm)	2.034910	ppm	0.007489	0.37	3890.000000	Y 377.433
Sr (421.552 nm)	0.979066	ppm	0.002214	0.23	201941.494148	Y_R 488.368
Th (288.505 nm)	1.022040	ppm	0.001451	0.14	2659.590000	Y 377.433
Ti (336.122 nm)	1.028720	ppm	0.000242	0.02	143544.000000	Y 377.433
Tl (190.794 nm)	2.041400	ppm	0.000781	0.04	4345.330000	Y 377.433
U (409.013 nm)	2.128760	ppm	0.001847	0.09	9238.980000	Y 377.433
V (292.401 nm)	0.513559	ppm	0.000594	0.12	17982.700000	Y 377.433
Zn (206.200 nm)	0.495807	ppm	0.001837	0.37	2477.970000	Y 377.433
Zr (343.823 nm)	0.505664	ppm	0.000724	0.14	65090.800000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.085436	20507.153938	0.001302	0.12
Y 377.433	1.093280	1109492.777183	0.000064	0.01
Y_R 377.433	1.167190	89689.200000	0.001504	0.13
Y_R 488.368	1.197160	52525.400000	0.001077	0.09
Y_R2 488.368	1.178538	101758.679544	0.011766	1.00

Sample Name: 280-115973-B-1-A

Date: 10/29/2018 7:45:45 PM Rack:Tube: 2:11

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000567 u	ppm	0.000146	25.67	-480.866000	Y 377.433
Al (167.019 nm)	82.438600 o	ppm	0.048115	0.06	43668.400000	Y_R 377.433
Al H (396.152 nm)	92.576557	ppm	0.509618	0.55	233783.606963	Y_R 377.433
As (188.980 nm)	0.044323	ppm	0.002487	5.61	49.073700	Y 242.219
B (249.678 nm)	0.049589	ppm	0.000389	0.78	1011.880000	Y 242.219
Ba (493.408 nm)	1.014720	ppm	0.002072	0.20	116884.000000	Y_R 488.368
Be (234.861 nm)	0.003069	ppm	0.000106	3.44	6253.690000	Y_R 488.368
Bi (223.061 nm)	-0.011617 u	ppm	0.000122	1.05	7.881780	Y 377.433
Ca (315.887 nm)	24.400479 o	ppm	0.052059	0.21	18708.613915	Y_R 377.433
Cd (214.439 nm)	0.000003 u	ppm	0.000083	> 100.00	164.823000	Y 377.433
Co (228.615 nm)	0.030848	ppm	0.000010	0.03	543.984000	Y 242.219
Cr (205.560 nm)	0.090726	ppm	0.000135	0.15	1276.810000	Y 377.433
Cu (324.754 nm)	0.067100	ppm	0.000159	0.24	3429.010000	Y 377.433
Fe (238.204 nm)	180.922128 o	ppm	0.100167	0.06	652895.245101	Y_R 377.433
Fe H (259.940 nm)	185.078000	ppm	0.468650	0.25	338072.000000	Y_R 377.433
K (766.491 nm)	14.122200	ppm	0.069651	0.49	15174.200000	Y_R2 488.368
Li (670.783 nm)	0.073462	ppm	0.000400	0.54	1001.730000	Y_R2 488.368
Mg (279.078 nm)	19.433700	ppm	0.013252	0.07	106650.000000	Y 377.433
Mn (257.610 nm)	2.464980 o	ppm	0.001159	0.05	556368.000000	Y 377.433
Mo (202.032 nm)	0.002356	ppm	0.000093	3.96	17.256800	Y 377.433
Na (589.592 nm)	0.501325	ppm	0.013769	2.75	5763.620000	Y_R2 488.368
Na H (589.593 nm)	0.281179 u	ppm	0.000773	0.27	5172.714452	Y_R 488.368
Ni (231.604 nm)	0.060728	ppm	0.000351	0.58	401.767000	Y 377.433
P (213.618 nm)	2.846010 o	ppm	0.012267	0.43	5882.580000	Y 242.219
Pb (220.353 nm)	0.075615	ppm	0.001153	1.52	201.001000	Y 242.219
S (181.972 nm)	0.647586	ppm	0.010104	1.56	352.114688	Y 377.433
Sb (206.834 nm)	-0.006206 u	ppm	0.000778	12.54	-82.106900	Y 377.433
Se (196.026 nm)	0.001185	ppm	0.000275	23.24	-15.226200	Y 242.219
Si (288.158 nm)	2.955750	ppm	0.005047	0.17	25155.900000	Y 377.433
Sn (189.925 nm)	0.036397	ppm	0.002553	7.01	77.332700	Y 377.433
Sr (421.552 nm)	0.301193	ppm	0.000328	0.11	62224.643582	Y_R 488.368
Th (288.505 nm)	0.070343	ppm	0.004138	5.88	297.767000	Y 377.433
Ti (336.122 nm)	1.320650 o	ppm	0.001920	0.15	184227.000000	Y 377.433
Tl (190.794 nm)	0.005449	ppm	0.000329	6.04	-5.690240	Y 377.433
U (409.013 nm)	-0.066496 u	ppm	0.000202	0.30	-315.978000	Y 377.433
V (292.401 nm)	0.233816	ppm	0.000276	0.12	8251.790000	Y 377.433
Zn (206.200 nm)	0.268570	ppm	0.000426	0.16	1341.660000	Y 377.433
Zr (343.823 nm)	0.073186	ppm	0.000030	0.04	9946.670000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.158135	21880.651903	0.000735	0.06
Y 377.433	1.155115	1172245.242679	0.000970	0.08
Y_R 377.433	1.233090	94753.100000	0.002462	0.20
Y_R 488.368	1.266640	55573.700000	0.004839	0.38
Y_R2 488.368	1.253300	108213.799412	0.006452	0.51

Sample Name: 280-115973-B-1-Asd@5

Date: 10/29/2018 7:49:07 PM Rack:Tube: 2:12

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000263 u	ppm	0.000104	39.54	-449.506000	Y 377.433
Al (167.019 nm)	20.125600 o	ppm	0.099990	0.50	10657.100000	Y_R 377.433
Al H (396.152 nm)	18.710047	ppm	0.149155	0.80	47310.555588	Y_R 377.433
As (188.980 nm)	0.009442	ppm	0.000238	2.52	8.439930	Y 242.219
B (249.678 nm)	0.009376	ppm	0.000172	1.84	262.378000	Y 242.219
Ba (493.408 nm)	0.205847	ppm	0.003563	1.73	24168.800000	Y_R 488.368
Be (234.861 nm)	0.000730	ppm	0.000013	1.76	1271.970000	Y_R 488.368
Bi (223.061 nm)	-0.004951 u	ppm	0.001324	26.75	1.300190	Y 377.433
Ca (315.887 nm)	4.990155	ppm	0.040214	0.81	3774.831908	Y_R 377.433
Cd (214.439 nm)	0.000010 u	ppm	0.000038	> 100.00	33.305100	Y 377.433
Co (228.615 nm)	0.006608	ppm	0.000070	1.06	89.078700	Y 242.219
Cr (205.560 nm)	0.018547	ppm	0.000167	0.90	262.260000	Y 377.433
Cu (324.754 nm)	0.013709	ppm	0.000233	1.70	451.642000	Y 377.433
Fe (238.204 nm)	37.384106 o	ppm	0.290262	0.78	134921.530817	Y_R 377.433
Fe H (259.940 nm)	37.731700	ppm	0.221572	0.59	69043.900000	Y_R 377.433
K (766.491 nm)	2.953690	ppm	0.008500	0.29	2628.690000	Y_R2 488.368
Li (670.783 nm)	0.021420	ppm	0.001397	6.52	-689.087000	Y_R2 488.368
Mg (279.078 nm)	3.938850	ppm	0.000186	0.00	21642.400000	Y 377.433
Mn (257.610 nm)	0.510039	ppm	0.000529	0.10	115169.000000	Y 377.433
Mo (202.032 nm)	0.000345	ppm	0.000059	17.17	0.474975	Y 377.433
Na (589.592 nm)	0.072757	ppm	0.004402	6.05	1479.990000	Y_R2 488.368
Na H (589.593 nm)	-0.228757 u	ppm	0.011967	5.23	2539.599292	Y_R 488.368
Ni (231.604 nm)	0.012292	ppm	0.000819	6.66	79.487200	Y 377.433
P (213.618 nm)	0.564343	ppm	0.000463	0.08	1188.040000	Y 242.219
Pb (220.353 nm)	0.014909	ppm	0.000045	0.30	42.686000	Y 242.219
S (181.972 nm)	0.135871	ppm	0.000153	0.11	98.400954	Y 377.433
Sb (206.834 nm)	0.000754 u	ppm	0.003691	> 100.00	-27.533000	Y 377.433
Se (196.026 nm)	-0.001988 u	ppm	0.002362	> 100.00	5.434760	Y 242.219
Si (288.158 nm)	0.573772	ppm	0.001757	0.31	5703.370000	Y 377.433
Sn (189.925 nm)	0.005540	ppm	0.002142	38.66	18.464800	Y 377.433
Sr (421.552 nm)	0.061395	ppm	0.000764	1.24	12799.760751	Y_R 488.368
Th (288.505 nm)	0.011465	ppm	0.000562	4.90	115.326000	Y 377.433
Ti (336.122 nm)	0.267751	ppm	0.000132	0.05	37122.300000	Y 377.433
Tl (190.794 nm)	0.001508	ppm	0.000395	26.22	-6.025760	Y 377.433
U (409.013 nm)	-0.010998 u	ppm	0.003953	35.94	-191.216000	Y 377.433
V (292.401 nm)	0.046992	ppm	0.000067	0.14	1677.560000	Y 377.433
Zn (206.200 nm)	0.054455	ppm	0.000211	0.39	270.962000	Y 377.433
Zr (343.823 nm)	0.014636	ppm	0.000006	0.04	2003.230000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.135622	21455.318931	0.000929	0.08
Y 377.433	1.138166	1155044.960430	0.000117	0.01
Y_R 377.433	1.207560	92790.900000	0.006506	0.54
Y_R 488.368	1.238360	54332.800000	0.018870	1.52
Y_R2 488.368	1.196049	103270.598606	0.001256	0.11

Sample Name: 280-115973-B-1-B MS

Date: 10/29/2018 7:52:30 PM Rack:Tube: 2:13

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.049136	ppm	0.000071	0.14	1680.410000	Y 377.433
Al (167.019 nm)	124.291000 o	ppm	0.639589	0.51	65791.800000	Y_R 377.433
Al H (396.152 nm)	172.006630 o	ppm	1.157895	0.67	434427.201209	Y_R 377.433
As (188.980 nm)	0.996302	ppm	0.006506	0.65	1190.970000	Y 242.219
B (249.678 nm)	1.038080	ppm	0.001745	0.17	24447.900000	Y 242.219
Ba (493.408 nm)	3.024050 o	ppm	0.011789	0.39	346907.000000	Y_R 488.368
Be (234.861 nm)	0.047753	ppm	0.000569	1.19	19651.700000	Y_R 488.368
Bi (223.061 nm)	1.896700	ppm	0.001780	0.09	4638.480000	Y 377.433
Ca (315.887 nm)	165.441825 o	ppm	0.751556	0.45	127222.076707	Y_R 377.433
Cd (214.439 nm)	0.090765	ppm	0.000037	0.04	5368.140000	Y 377.433
Co (228.615 nm)	0.497739	ppm	0.000134	0.03	8684.690000	Y 242.219
Cr (205.560 nm)	0.326601	ppm	0.000095	0.03	4708.690000	Y 377.433
Cu (324.754 nm)	0.336182	ppm	0.000156	0.05	17772.600000	Y 377.433
Fe (238.204 nm)	201.651162 o	ppm	0.290625	0.14	727698.386086	Y_R 377.433
Fe H (259.940 nm)	207.533000	ppm	0.109047	0.05	379071.000000	Y_R 377.433
K (766.491 nm)	69.239300	ppm	0.114030	0.16	77086.500000	Y_R2 488.368
Li (670.783 nm)	1.036630	ppm	0.000493	0.05	32294.600000	Y_R2 488.368
Mg (279.078 nm)	72.072900 o	ppm	0.056030	0.08	396143.000000	Y 377.433
Mn (257.610 nm)	4.548610 o	ppm	0.004093	0.09	1026610.000000	Y 377.433
Mo (202.032 nm)	0.921927	ppm	0.003425	0.37	7692.360000	Y 377.433
Na (589.592 nm)	46.533800 o	ppm	0.011680	0.03	301352.000000	Y_R2 488.368
Na H (589.593 nm)	47.632194	ppm	0.134536	0.28	180923.465034	Y_R 488.368
Ni (231.604 nm)	0.542425	ppm	0.000673	0.12	3553.430000	Y 377.433
P (213.618 nm)	12.368600 o	ppm	0.019763	0.16	25475.400000	Y 242.219
Pb (220.353 nm)	0.554051	ppm	0.001314	0.24	1513.760000	Y 242.219
S (181.972 nm)	2.809413	ppm	0.000793	0.03	1409.862520	Y 377.433
Sb (206.834 nm)	0.254009	ppm	0.000332	0.13	592.544000	Y 377.433
Se (196.026 nm)	1.914650	ppm	0.004312	0.23	1782.130000	Y 242.219
Si (288.158 nm)	5.538080	ppm	0.009098	0.16	46244.700000	Y 377.433
Sn (189.925 nm)	1.849650	ppm	0.000969	0.05	3536.580000	Y 377.433
Sr (421.552 nm)	1.362139 o	ppm	0.012063	0.89	280897.023684	Y_R 488.368
Th (288.505 nm)	1.022180	ppm	0.008338	0.82	2737.370000	Y 377.433
Ti (336.122 nm)	3.100250 o	ppm	0.000207	0.01	433197.000000	Y 377.433
Tl (190.794 nm)	1.842100	ppm	0.002642	0.14	3906.220000	Y 377.433
U (409.013 nm)	1.903640	ppm	0.000046	0.00	8394.040000	Y 377.433
V (292.401 nm)	0.866483	ppm	0.000982	0.11	30410.800000	Y 377.433
Zn (206.200 nm)	0.810821	ppm	0.000537	0.07	4053.230000	Y 377.433
Zr (343.823 nm)	0.568105	ppm	0.000851	0.15	73696.700000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.113358	21034.689330	0.001383	0.12
Y 377.433	1.112714	1129214.899628	0.001233	0.11
Y_R 377.433	1.220970	93821.800000	0.006491	0.53
Y_R 488.368	1.258190	55202.800000	0.006484	0.52
Y_R2 488.368	1.224329	105712.337063	0.006700	0.55

Sample Name: 280-115973-B-1-C MSD

Date: 10/29/2018 7:55:54 PM Rack:Tube: 2:14

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.050170	ppm	0.000145	0.29	1731.020000	Y 377.433
Al (167.019 nm)	126.911000 o	ppm	0.055791	0.04	67149.000000	Y_R 377.433
Al H (396.152 nm)	172.335770 o	ppm	0.598474	0.35	435223.264361	Y_R 377.433
As (188.980 nm)	1.023100	ppm	0.000309	0.03	1223.480000	Y 242.219
B (249.678 nm)	1.060870	ppm	0.001164	0.11	25050.800000	Y 242.219
Ba (493.408 nm)	3.178770 o	ppm	0.031009	0.98	364556.000000	Y_R 488.368
Be (234.861 nm)	0.048775	ppm	0.000351	0.72	18655.100000	Y_R 488.368
Bi (223.061 nm)	1.949000	ppm	0.002648	0.14	4758.480000	Y 377.433
Ca (315.887 nm)	80.410594 o	ppm	0.399032	0.50	61801.339365	Y_R 377.433
Cd (214.439 nm)	0.094528	ppm	0.000250	0.26	5543.710000	Y 377.433
Co (228.615 nm)	0.517935	ppm	0.001896	0.37	9039.220000	Y 242.219
Cr (205.560 nm)	0.333652	ppm	0.000314	0.09	4822.750000	Y 377.433
Cu (324.754 nm)	0.336394	ppm	0.000392	0.12	17795.200000	Y 377.433
Fe (238.204 nm)	158.719175 o	ppm	1.157890	0.73	572773.298270	Y_R 377.433
Fe H (259.940 nm)	163.523000	ppm	1.254970	0.77	298716.000000	Y_R 377.433
K (766.491 nm)	70.427800	ppm	0.207331	0.29	78421.500000	Y_R2 488.368
Li (670.783 nm)	1.058450	ppm	0.001657	0.16	33003.600000	Y_R2 488.368
Mg (279.078 nm)	74.183200 o	ppm	0.007996	0.01	407819.000000	Y 377.433
Mn (257.610 nm)	2.866420 o	ppm	0.001267	0.04	646966.000000	Y 377.433
Mo (202.032 nm)	0.952873	ppm	0.000000	0.00	7950.650000	Y 377.433
Na (589.592 nm)	47.421200 o	ppm	0.224740	0.47	307271.000000	Y_R2 488.368
Na H (589.593 nm)	49.258146	ppm	0.339565	0.69	187037.204287	Y_R 488.368
Ni (231.604 nm)	0.553429	ppm	0.002539	0.46	3623.750000	Y 377.433
P (213.618 nm)	12.342100 o	ppm	0.016715	0.14	25420.800000	Y 242.219
Pb (220.353 nm)	0.558706	ppm	0.000342	0.06	1523.080000	Y 242.219
S (181.972 nm)	2.852141	ppm	0.001352	0.05	1426.832794	Y 377.433
Sb (206.834 nm)	0.262253	ppm	0.002273	0.87	624.034000	Y 377.433
Se (196.026 nm)	1.973790	ppm	0.009274	0.47	1844.380000	Y 242.219
Si (288.158 nm)	6.358080	ppm	0.009908	0.16	52941.300000	Y 377.433
Sn (189.925 nm)	1.882680	ppm	0.001095	0.06	3599.580000	Y 377.433
Sr (421.552 nm)	1.346270 o	ppm	0.007557	0.56	277626.243679	Y_R 488.368
Th (288.505 nm)	1.050500	ppm	0.001687	0.16	2777.200000	Y 377.433
Ti (336.122 nm)	3.247270 o	ppm	0.004841	0.15	453468.000000	Y 377.433
Tl (190.794 nm)	1.920290	ppm	0.004396	0.23	4073.610000	Y 377.433
U (409.013 nm)	1.974600	ppm	0.007635	0.39	8685.700000	Y 377.433
V (292.401 nm)	0.839906	ppm	0.000686	0.08	29476.800000	Y 377.433
Zn (206.200 nm)	0.775277	ppm	0.001723	0.22	3875.490000	Y 377.433
Zr (343.823 nm)	0.577772	ppm	0.000882	0.15	74818.600000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.122834	21213.704588	0.000947	0.08
Y 377.433	1.121338	1137967.473625	0.001759	0.16
Y_R 377.433	1.220720	93802.000000	0.004405	0.36
Y_R 488.368	1.250070	54846.700000	0.000675	0.05
Y_R2 488.368	1.235420	106670.022107	0.007961	0.64

Sample Name: 280-115973-B-1-Apds

Date: 10/29/2018 7:59:18 PM Rack:Tube: 2:15

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.048376	ppm	0.000189	0.39	1679.060000	Y 377.433
Al (167.019 nm)	81.068400 o	ppm	0.159823	0.20	42941.800000	Y_R 377.433
Al H (396.152 nm)	91.034553	ppm	0.195081	0.21	229903.057604	Y_R 377.433
As (188.980 nm)	0.241130	ppm	0.001618	0.67	285.215000	Y 242.219
B (249.678 nm)	0.146481	ppm	0.000158	0.11	3318.030000	Y 242.219
Ba (493.408 nm)	1.083590	ppm	0.002519	0.23	124767.000000	Y_R 488.368
Be (234.861 nm)	0.046170	ppm	0.000038	0.08	18500.300000	Y_R 488.368
Bi (223.061 nm)	-0.011887 u	ppm	0.000703	5.91	6.552500	Y 377.433
Ca (315.887 nm)	43.576091 o	ppm	0.042559	0.10	33461.838982	Y_R 377.433
Cd (214.439 nm)	0.046914	ppm	0.000082	0.17	2840.350000	Y 377.433
Co (228.615 nm)	0.076798	ppm	0.000513	0.67	1339.910000	Y 242.219
Cr (205.560 nm)	0.136250	ppm	0.000014	0.01	1941.340000	Y 377.433
Cu (324.754 nm)	0.113710	ppm	0.000386	0.34	5902.230000	Y 377.433
Fe (238.204 nm)	176.825238 o	ppm	0.193527	0.11	638111.138712	Y_R 377.433
Fe H (259.940 nm)	181.488000	ppm	0.120541	0.07	331517.000000	Y_R 377.433
K (766.491 nm)	32.488900	ppm	0.233624	0.72	35805.200000	Y_R2 488.368
Li (670.783 nm)	0.167194	ppm	0.000476	0.28	4047.040000	Y_R2 488.368
Mg (279.078 nm)	37.484900	ppm	0.057549	0.15	205947.000000	Y 377.433
Mn (257.610 nm)	2.438010 o	ppm	0.002956	0.12	550282.000000	Y 377.433
Mo (202.032 nm)	0.047869	ppm	0.000041	0.08	397.129000	Y 377.433
Na (589.592 nm)	18.821400 o	ppm	0.070077	0.37	121986.000000	Y_R2 488.368
Na H (589.593 nm)	19.030812	ppm	0.047987	0.25	74081.597900	Y_R 488.368
Ni (231.604 nm)	0.105450	ppm	0.000879	0.83	694.150000	Y 377.433
P (213.618 nm)	4.645140 o	ppm	0.009036	0.19	9584.310000	Y 242.219
Pb (220.353 nm)	0.167525	ppm	0.000194	0.12	458.621000	Y 242.219
S (181.972 nm)	0.641586	ppm	0.001866	0.29	349.126626	Y 377.433
Sb (206.834 nm)	0.095221	ppm	0.002318	2.43	187.048000	Y 377.433
Se (196.026 nm)	0.200005	ppm	0.002655	1.33	172.340000	Y 242.219
Si (288.158 nm)	7.764270	ppm	0.050318	0.65	64425.000000	Y 377.433
Sn (189.925 nm)	0.127229	ppm	0.000092	0.07	250.618000	Y 377.433
Sr (421.552 nm)	0.339849	ppm	0.001245	0.37	70192.060104	Y_R 488.368
Th (288.505 nm)	0.265395	ppm	0.002207	0.83	787.023000	Y 377.433
Ti (336.122 nm)	1.339500 o	ppm	0.000803	0.06	186919.000000	Y 377.433
Tl (190.794 nm)	0.195919	ppm	0.000801	0.41	400.969000	Y 377.433
U (409.013 nm)	0.438670	ppm	0.004807	1.10	1917.950000	Y 377.433
V (292.401 nm)	0.276236	ppm	0.000098	0.04	9719.830000	Y 377.433
Zn (206.200 nm)	0.445081	ppm	0.002037	0.46	2224.320000	Y 377.433
Zr (343.823 nm)	0.120180	ppm	0.000127	0.11	15982.300000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.146491	21660.664224	0.001765	0.15
Y 377.433	1.150252	1167309.531561	0.001426	0.12
Y_R 377.433	1.243530	95555.200000	0.002762	0.22
Y_R 488.368	1.276080	55987.800000	0.002217	0.17
Y_R2 488.368	1.250508	107972.724868	0.001293	0.10

Sample Name: 280-115973-B-2-A

Date: 10/29/2018 8:02:40 PM Rack:Tube: 2:16

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000170	ppm	0.000048	28.20	-446.259000	Y 377.433
Al (167.019 nm)	96.502400 o	ppm	0.492117	0.51	51052.800000	Y_R 377.433
Al H (396.152 nm)	116.431155 o	ppm	0.652525	0.56	294037.615694	Y_R 377.433
As (188.980 nm)	0.040812	ppm	0.002198	5.39	45.464800	Y 242.219
B (249.678 nm)	0.092921	ppm	0.000003	0.00	2142.270000	Y 242.219
Ba (493.408 nm)	0.817909	ppm	0.002672	0.33	94311.500000	Y_R 488.368
Be (234.861 nm)	0.003470	ppm	0.000038	1.10	4224.780000	Y_R 488.368
Bi (223.061 nm)	-0.007965 u	ppm	0.000322	4.04	5.424450	Y 377.433
Ca (315.887 nm)	107.648723 o	ppm	0.320964	0.30	82757.570267	Y_R 377.433
Cd (214.439 nm)	0.000430	ppm	0.000035	8.21	123.594000	Y 377.433
Co (228.615 nm)	0.038525	ppm	0.000460	1.19	729.421000	Y 242.219
Cr (205.560 nm)	0.127170	ppm	0.000739	0.58	1827.010000	Y 377.433
Cu (324.754 nm)	0.080519	ppm	0.000097	0.12	4016.930000	Y 377.433
Fe (238.204 nm)	109.646651 o	ppm	0.332019	0.30	395689.363623	Y_R 377.433
Fe H (259.940 nm)	110.827000	ppm	0.328091	0.30	202503.000000	Y_R 377.433
K (766.491 nm)	20.782000	ppm	0.060097	0.29	22655.000000	Y_R2 488.368
Li (670.783 nm)	0.132013	ppm	0.000617	0.47	2904.050000	Y_R2 488.368
Mg (279.078 nm)	40.093100	ppm	0.060045	0.15	220414.000000	Y 377.433
Mn (257.610 nm)	1.818010 o	ppm	0.001352	0.07	410357.000000	Y 377.433
Mo (202.032 nm)	0.007779	ppm	0.000460	5.91	62.521900	Y 377.433
Na (589.592 nm)	8.831640	ppm	0.023629	0.27	58168.400000	Y_R2 488.368
Na H (589.593 nm)	8.939227 u	ppm	0.057981	0.65	36777.616690	Y_R 488.368
Ni (231.604 nm)	0.081652	ppm	0.000124	0.15	535.729000	Y 377.433
P (213.618 nm)	2.656130 o	ppm	0.005174	0.19	5491.910000	Y 242.219
Pb (220.353 nm)	0.064730	ppm	0.000606	0.94	157.094000	Y 242.219
S (181.972 nm)	4.917579	ppm	0.004781	0.10	2430.481094	Y 377.433
Sb (206.834 nm)	-0.003447 u	ppm	0.000209	6.07	-59.116000	Y 377.433
Se (196.026 nm)	-0.005919 u	ppm	0.002329	39.35	-8.486940	Y 242.219
Si (288.158 nm)	3.208450	ppm	0.010814	0.34	27219.700000	Y 377.433
Sn (189.925 nm)	0.032919	ppm	0.000282	0.86	70.697800	Y 377.433
Sr (421.552 nm)	0.703988	ppm	0.004091	0.58	145245.011575	Y_R 488.368
Th (288.505 nm)	0.069002	ppm	0.000949	1.38	285.920000	Y 377.433
Ti (336.122 nm)	2.885410 o	ppm	0.006390	0.22	403014.000000	Y 377.433
Tl (190.794 nm)	0.004260	ppm	0.000418	9.81	-13.015700	Y 377.433
U (409.013 nm)	-0.051101 u	ppm	0.003853	7.54	-329.354000	Y 377.433
V (292.401 nm)	0.249659	ppm	0.000011	0.00	8837.000000	Y 377.433
Zn (206.200 nm)	0.291336	ppm	0.001158	0.40	1455.500000	Y 377.433
Zr (343.823 nm)	0.094589	ppm	0.000199	0.21	12497.800000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.133904	21422.865486	0.002772	0.24
Y 377.433	1.130721	1147489.001620	0.002447	0.22
Y_R 377.433	1.232120	94678.100000	0.004636	0.38
Y_R 488.368	1.266030	55547.000000	0.004715	0.37
Y_R2 488.368	1.245680	107555.846751	0.006465	0.52

Sample Name: 280-115973-B-3-A

Date: 10/29/2018 8:06:03 PM Rack:Tube: 2:17

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000255	ppm	0.000107	41.92	-448.931000	Y 377.433
Al (167.019 nm)	112.499000 o	ppm	1.115800	0.99	59520.700000	Y_R 377.433
Al H (396.152 nm)	145.566888 o	ppm	0.354406	0.24	367556.427779	Y_R 377.433
As (188.980 nm)	0.053159	ppm	0.001147	2.16	60.051500	Y 242.219
B (249.678 nm)	0.077419	ppm	0.000672	0.87	1736.540000	Y 242.219
Ba (493.408 nm)	1.120400 o	ppm	0.004555	0.41	128942.000000	Y_R 488.368
Be (234.861 nm)	0.004522	ppm	0.000075	1.66	5330.110000	Y_R 488.368
Bi (223.061 nm)	-0.012777 u	ppm	0.001476	11.55	-2.006420	Y 377.433
Ca (315.887 nm)	40.559239 o	ppm	0.210975	0.52	31140.728201	Y_R 377.433
Cd (214.439 nm)	0.000451	ppm	0.000052	11.54	149.369000	Y 377.433
Co (228.615 nm)	0.043909	ppm	0.000178	0.41	835.999000	Y 242.219
Cr (205.560 nm)	0.156346	ppm	0.000194	0.12	2245.380000	Y 377.433
Cu (324.754 nm)	0.089939	ppm	0.000536	0.60	4588.670000	Y 377.433
Fe (238.204 nm)	136.418801 o	ppm	0.323897	0.24	492299.794823	Y_R 377.433
Fe H (259.940 nm)	139.952000	ppm	0.968057	0.69	255679.000000	Y_R 377.433
K (766.491 nm)	27.235600	ppm	0.017936	0.07	29904.200000	Y_R2 488.368
Li (670.783 nm)	0.124260	ppm	0.001356	1.09	2652.140000	Y_R2 488.368
Mg (279.078 nm)	38.074600	ppm	0.061421	0.16	209268.000000	Y 377.433
Mn (257.610 nm)	1.858800 o	ppm	0.000338	0.02	419564.000000	Y 377.433
Mo (202.032 nm)	0.002144	ppm	0.000365	17.01	15.485200	Y 377.433
Na (589.592 nm)	6.198320	ppm	0.016098	0.26	42067.900000	Y_R2 488.368
Na H (589.593 nm)	6.147147 u	ppm	0.054977	0.89	26810.160815	Y_R 488.368
Ni (231.604 nm)	0.111354	ppm	0.000465	0.42	730.938000	Y 377.433
P (213.618 nm)	4.216680 o	ppm	0.020309	0.48	8702.750000	Y 242.219
Pb (220.353 nm)	0.077084	ppm	0.000763	0.99	184.724000	Y 242.219
S (181.972 nm)	12.779263 o	ppm	0.000513	0.00	6259.886627	Y 377.433
Sb (206.834 nm)	-0.003661 u	ppm	0.001486	40.58	-67.033400	Y 377.433
Se (196.026 nm)	0.001296	ppm	0.000728	56.16	-6.086060	Y 242.219
Si (288.158 nm)	3.488110	ppm	0.009761	0.28	29503.500000	Y 377.433
Sn (189.925 nm)	0.035571	ppm	0.000484	1.36	75.755700	Y 377.433
Sr (421.552 nm)	0.397681	ppm	0.000898	0.23	82111.885557	Y_R 488.368
Th (288.505 nm)	0.093694	ppm	0.001126	1.20	348.679000	Y 377.433
Ti (336.122 nm)	3.280230 o	ppm	0.005091	0.16	457948.000000	Y 377.433
Tl (190.794 nm)	0.004220	ppm	0.002067	48.98	-15.449800	Y 377.433
U (409.013 nm)	-0.072961 u	ppm	0.002326	3.19	-391.258000	Y 377.433
V (292.401 nm)	0.315049	ppm	0.000863	0.27	11138.100000	Y 377.433
Zn (206.200 nm)	0.366562	ppm	0.000402	0.11	1831.680000	Y 377.433
Zr (343.823 nm)	0.114444	ppm	0.000309	0.27	15129.100000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.158252	21882.875484	0.000249	0.02
Y 377.433	1.150843	1167909.535621	0.001178	0.10
Y_R 377.433	1.257080	96596.500000	0.008416	0.67
Y_R 488.368	1.292090	56690.200000	0.006160	0.48
Y_R2 488.368	1.265367	109255.726966	0.001147	0.09

Sample Name: 280-115973-B-4-A

Date: 10/29/2018 8:09:26 PM Rack:Tube: 2:18

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000196 u	ppm	0.000020	10.24	-459.610000	Y 377.433
Al (167.019 nm)	77.656000 o	ppm	0.306525	0.39	41089.800000	Y_R 377.433
Al H (396.152 nm)	87.646217	ppm	0.480092	0.55	221386.841025	Y_R 377.433
As (188.980 nm)	0.036293	ppm	0.001662	4.58	40.128100	Y 242.219
B (249.678 nm)	0.048731	ppm	0.000086	0.18	1108.420000	Y 242.219
Ba (493.408 nm)	0.743304	ppm	0.001120	0.15	85770.000000	Y_R 488.368
Be (234.861 nm)	0.002739	ppm	0.000032	1.18	3710.460000	Y_R 488.368
Bi (223.061 nm)	-0.011180 u	ppm	0.001486	13.30	-3.979720	Y 377.433
Ca (315.887 nm)	136.900561 o	ppm	0.535443	0.39	105263.146798	Y_R 377.433
Cd (214.439 nm)	0.000331	ppm	0.000021	6.27	108.644000	Y 377.433
Co (228.615 nm)	0.034412	ppm	0.000233	0.68	637.764000	Y 242.219
Cr (205.560 nm)	0.105811	ppm	0.000117	0.11	1518.270000	Y 377.433
Cu (324.754 nm)	0.060928	ppm	0.000114	0.19	2949.500000	Y 377.433
Fe (238.204 nm)	99.443093 o	ppm	0.618060	0.62	358868.631799	Y_R 377.433
Fe H (259.940 nm)	100.741000	ppm	0.623695	0.62	184088.000000	Y_R 377.433
K (766.491 nm)	17.002800	ppm	0.043558	0.26	18409.800000	Y_R2 488.368
Li (670.783 nm)	0.096140	ppm	0.002128	2.21	1738.530000	Y_R2 488.368
Mg (279.078 nm)	35.132300	ppm	0.033659	0.10	193141.000000	Y 377.433
Mn (257.610 nm)	1.472470 o	ppm	0.001268	0.09	332375.000000	Y 377.433
Mo (202.032 nm)	0.001690	ppm	0.000353	20.90	11.697400	Y 377.433
Na (589.592 nm)	4.919220	ppm	0.004871	0.10	33232.800000	Y_R2 488.368
Na H (589.593 nm)	4.822242 u	ppm	0.017794	0.37	21591.340741	Y_R 488.368
Ni (231.604 nm)	0.071810	ppm	0.000649	0.90	470.991000	Y 377.433
P (213.618 nm)	3.239370 o	ppm	0.002574	0.08	6691.930000	Y 242.219
Pb (220.353 nm)	0.058501	ppm	0.001247	2.13	147.889000	Y 242.219
S (181.972 nm)	5.844555	ppm	0.007572	0.13	2881.209394	Y 377.433
Sb (206.834 nm)	-0.002228 u	ppm	0.000919	41.22	-52.071000	Y 377.433
Se (196.026 nm)	-0.003913 u	ppm	0.001591	40.66	-5.561680	Y 242.219
Si (288.158 nm)	2.661960	ppm	0.016417	0.62	22756.700000	Y 377.433
Sn (189.925 nm)	0.032494	ppm	0.001594	4.91	69.887200	Y 377.433
Sr (421.552 nm)	0.479238	ppm	0.001906	0.40	98921.647272	Y_R 488.368
Th (288.505 nm)	0.080459	ppm	0.001616	2.01	306.489000	Y 377.433
Ti (336.122 nm)	2.276560 o	ppm	0.001918	0.08	318074.000000	Y 377.433
Tl (190.794 nm)	0.003634	ppm	0.000615	16.92	-11.506900	Y 377.433
U (409.013 nm)	-0.066204 u	ppm	0.000029	0.04	-409.789000	Y 377.433
V (292.401 nm)	0.209821	ppm	0.000220	0.10	7429.820000	Y 377.433
Zn (206.200 nm)	0.252201	ppm	0.000188	0.07	1259.810000	Y 377.433
Zr (343.823 nm)	0.077037	ppm	0.000077	0.10	10210.200000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.138772	21514.831455	0.000133	0.01
Y 377.433	1.140740	1157657.078475	0.001887	0.17
Y_R 377.433	1.245430	95700.900000	0.005432	0.44
Y_R 488.368	1.277980	56071.400000	0.001581	0.12
Y_R2 488.368	1.269452	109608.477195	0.005195	0.41

Sample Name: CCVH-5380945

Date: 10/29/2018 8:12:50 PM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.001920 u	ppm	0.000014	0.73	-760.669000	Y 377.433
Al (167.019 nm)	49.887200 o	ppm	0.239600	0.48	26389.600000	Y_R 377.433
Al H (396.152 nm)	49.645748	ppm	0.307662	0.62	125400.696303	Y_R 377.433
As (188.980 nm)	0.002105	ppm	0.002580	> 100.00	-0.488327	Y 242.219
B (249.678 nm)	-0.001413 u	ppm	0.000330	23.32	-14.907800	Y 242.219
Ba (493.408 nm)	-0.000473 u	ppm	0.000051	10.88	567.206000	Y_R 488.368
Be (234.861 nm)	-0.000368 u	ppm	0.000092	25.06	1407.000000	Y_R 488.368
Bi (223.061 nm)	1.024430	ppm	0.000052	0.01	2499.720000	Y 377.433
Ca (315.887 nm)	0.009482	ppm	0.009562	> 100.00	-57.163440	Y_R 377.433
Cd (214.439 nm)	-0.000244 u	ppm	0.000011	4.62	32.446300	Y 377.433
Co (228.615 nm)	0.003142	ppm	0.000252	8.02	20.202600	Y 242.219
Cr (205.560 nm)	0.000024 u	ppm	0.000080	> 100.00	-11.738500	Y 377.433
Cu (324.754 nm)	-0.006458 u	ppm	0.000002	0.04	-350.817000	Y 377.433
Fe (238.204 nm)	52.262413 o	ppm	0.295940	0.57	188611.638424	Y_R 377.433
Fe H (259.940 nm)	52.833000	ppm	0.280955	0.53	96616.100000	Y_R 377.433
K (766.491 nm)	0.172521	ppm	0.014213	8.24	-495.355000	Y_R2 488.368
Li (670.783 nm)	0.011904	ppm	0.000525	4.41	-998.257000	Y_R2 488.368
Mg (279.078 nm)	-0.017332 u	ppm	0.001631	9.41	-409.939000	Y 377.433
Mn (257.610 nm)	0.001473	ppm	0.000022	1.47	393.810000	Y 377.433
Mo (202.032 nm)	0.000153	ppm	0.000121	79.44	-1.130570	Y 377.433
Na (589.592 nm)	230.432000 o	ppm	0.118570	0.05	1460790.000000	Y_R2 488.368
Na H (589.593 nm)	235.331618	ppm	3.352079	1.42	867261.131377	Y_R 488.368
Ni (231.604 nm)	0.003892	ppm	0.000964	24.77	25.161800	Y 377.433
P (213.618 nm)	-0.008346 u	ppm	0.001585	18.99	9.732370	Y 242.219
Pb (220.353 nm)	-0.004690 u	ppm	0.001031	21.98	8.235190	Y 242.219
S (181.972 nm)	5.180277	ppm	0.015685	0.30	2554.295486	Y 377.433
Sb (206.834 nm)	-0.004163 u	ppm	0.000245	5.88	-76.627900	Y 377.433
Se (196.026 nm)	-0.004215 u	ppm	0.003387	80.35	0.582893	Y 242.219
Si (288.158 nm)	-0.001579 u	ppm	0.000569	36.05	1004.730000	Y 377.433
Sn (189.925 nm)	0.000550	ppm	0.000240	43.61	8.944760	Y 377.433
Sr (421.552 nm)	0.000298	ppm	0.000032	10.89	207.120805	Y_R 488.368
Th (288.505 nm)	5.076620	ppm	0.002424	0.05	12772.800000	Y 377.433
Ti (336.122 nm)	0.002248	ppm	0.000093	4.16	27.643400	Y 377.433
Tl (190.794 nm)	-0.002578 u	ppm	0.001208	46.85	-14.017100	Y 377.433
U (409.013 nm)	10.467700	ppm	0.018856	0.18	46391.100000	Y 377.433
V (292.401 nm)	0.002306	ppm	0.000208	9.01	-66.595500	Y 377.433
Zn (206.200 nm)	0.000778	ppm	0.000185	23.74	2.547250	Y 377.433
Zr (343.823 nm)	-0.004615 u	ppm	0.000094	2.04	-431.840000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.100763	20796.722781	0.002074	0.19
Y 377.433	1.096651	1112913.741915	0.000592	0.05
Y_R 377.433	1.191160	91531.000000	0.005972	0.50
Y_R 488.368	1.226800	53825.700000	0.015245	1.24
Y_R2 488.368	1.211421	104597.880239	0.000198	0.02

Sample Name: CCV-5391053

Date: 10/29/2018 8:16:12 PM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.493755	ppm	0.000856	0.17	21457.900000	Y 377.433
Al (167.019 nm)	0.563265 Q	ppm	0.002715	0.48	300.262000 Q	Y_R 377.433
Al H (396.152 nm)	0.495253 u	ppm	0.003103	0.63	1370.585625	Y_R 377.433
As (188.980 nm)	1.017080	ppm	0.000984	0.10	1217.570000	Y 242.219
B (249.678 nm)	0.500614	ppm	0.001269	0.25	11984.300000	Y 242.219
Ba (493.408 nm)	0.497687	ppm	0.000492	0.10	57547.300000	Y_R 488.368
Be (234.861 nm)	0.456307	ppm	0.000847	0.19	131025.000000	Y_R 488.368
Bi (223.061 nm)	-0.003192 u	ppm	0.000440	13.80	0.062131	Y 377.433
Ca (315.887 nm)	5.244905	ppm	0.008257	0.16	3971.101995	Y_R 377.433
Cd (214.439 nm)	0.500384	ppm	0.001371	0.27	28581.800000	Y 377.433
Co (228.615 nm)	0.507335	ppm	0.001100	0.22	8763.630000	Y 242.219
Cr (205.560 nm)	0.508307	ppm	0.000657	0.13	7407.810000	Y 377.433
Cu (324.754 nm)	0.501021	ppm	0.000949	0.19	26402.200000	Y 377.433
Fe (238.204 nm)	2.645963	ppm	0.007268	0.27	9564.883804	Y_R 377.433
Fe H (259.940 nm)	2.608340 u	ppm	0.005772	0.22	4914.810000	Y_R 377.433
K (766.491 nm)	48.605600	ppm	0.150948	0.31	53908.900000	Y_R2 488.368
Li (670.783 nm)	0.967260	ppm	0.000270	0.03	30040.700000	Y_R2 488.368
Mg (279.078 nm)	19.345400	ppm	0.014288	0.07	106451.000000	Y 377.433
Mn (257.610 nm)	0.505033	ppm	0.000006	0.00	114039.000000	Y 377.433
Mo (202.032 nm)	0.506985	ppm	0.000527	0.10	4229.090000	Y 377.433
Na (589.592 nm)	4.724410	ppm	0.003799	0.08	31521.500000	Y_R2 488.368
Na H (589.593 nm)	4.729931 u	ppm	0.014392	0.30	21021.006492	Y_R 488.368
Ni (231.604 nm)	0.508556	ppm	0.000019	0.00	3323.260000	Y 377.433
P (213.618 nm)	0.976027	ppm	0.001432	0.15	2035.090000	Y 242.219
Pb (220.353 nm)	1.002850	ppm	0.002499	0.25	2799.590000	Y 242.219
S (181.972 nm)	0.000687 u	ppm	0.003360	> 100.00	32.543202	Y 377.433
Sb (206.834 nm)	1.016280	ppm	0.005061	0.50	2679.740000	Y 377.433
Se (196.026 nm)	1.012390	ppm	0.008165	0.81	964.785000	Y 242.219
Si (288.158 nm)	4.968140	ppm	0.016846	0.34	41590.300000	Y 377.433
Sn (189.925 nm)	0.997042	ppm	0.002111	0.21	1910.010000	Y 377.433
Sr (421.552 nm)	0.485403	ppm	0.000344	0.07	100192.485844	Y_R 488.368
Th (288.505 nm)	0.001374 u	ppm	0.002765	> 100.00	97.058200	Y 377.433
Ti (336.122 nm)	0.508110	ppm	0.000234	0.05	70691.200000	Y 377.433
Tl (190.794 nm)	1.019580	ppm	0.004579	0.45	2167.660000	Y 377.433
U (409.013 nm)	0.006265	ppm	0.003969	63.36	-183.155000	Y 377.433
V (292.401 nm)	0.502031	ppm	0.000037	0.01	17539.800000	Y 377.433
Zn (206.200 nm)	0.495782	ppm	0.000721	0.15	2477.850000	Y 377.433
Zr (343.823 nm)	0.507771	ppm	0.000423	0.08	65366.400000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.110578	20982.160429	0.000955	0.09
Y 377.433	1.112954	1129458.890261	0.000462	0.04
Y_R 377.433	1.192230	91613.200000	0.000520	0.04
Y_R 488.368	1.226080	53793.900000	0.002490	0.20
Y_R2 488.368	1.204728	104019.926791	0.003587	0.30

Sample Name: CCB

Date: 10/29/2018 8:19:34 PM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000162 u	ppm	0.000228	> 100.00	-440.563000	Y 377.433
Al (167.019 nm)	-0.001254 u	ppm	0.000266	21.20	0.340686	Y_R 377.433
Al H (396.152 nm)	-0.025329 u	ppm	0.003136	12.38	13.886718	Y_R 377.433
As (188.980 nm)	0.000095 u	ppm	0.000576	> 100.00	-2.458410	Y 242.219
B (249.678 nm)	0.000275	ppm	0.000027	9.85	99.752000	Y 242.219
Ba (493.408 nm)	-0.001202 u	ppm	0.000167	13.93	435.710000	Y_R 488.368
Be (234.861 nm)	0.000067	ppm	0.000004	5.38	-40.517400	Y_R 488.368
Bi (223.061 nm)	0.003899	ppm	0.000773	19.82	16.837100	Y 377.433
Ca (315.887 nm)	0.010063	ppm	0.006785	67.42	-56.717195	Y_R 377.433
Cd (214.439 nm)	0.000069	ppm	0.000022	31.40	2.309250	Y 377.433
Co (228.615 nm)	0.000261	ppm	0.000116	44.26	-29.694300	Y 242.219
Cr (205.560 nm)	0.000086	ppm	0.000034	40.12	2.932310	Y 377.433
Cu (324.754 nm)	0.000515	ppm	0.000109	21.07	-285.618000	Y 377.433
Fe (238.204 nm)	0.000481 u	ppm	0.002316	> 100.00	18.353943	Y_R 377.433
Fe H (259.940 nm)	-0.077634 u	ppm	0.001950	2.51	10.699200	Y_R 377.433
K (766.491 nm)	0.130537	ppm	0.011548	8.85	-542.514000	Y_R2 488.368
Li (670.783 nm)	0.011615 Z	ppm	0.000186	1.60	-1007.640000 Z	Y_R2 488.368
Mg (279.078 nm)	0.001906	ppm	0.000392	20.55	44.933100	Y 377.433
Mn (257.610 nm)	0.000034	ppm	0.000028	83.56	69.152200	Y 377.433
Mo (202.032 nm)	0.000602	ppm	0.000118	19.53	2.619700	Y 377.433
Na (589.592 nm)	-0.023809 u	ppm	0.003215	13.50	466.054000	Y_R2 488.368
Na H (589.593 nm)	-0.332386 u	ppm	0.002331	0.70	1964.032929	Y_R 488.368
Ni (231.604 nm)	-0.001189 u	ppm	0.000080	6.74	-10.112700	Y 377.433
P (213.618 nm)	-0.000578 u	ppm	0.001000	> 100.00	25.714500	Y 242.219
Pb (220.353 nm)	-0.000353 u	ppm	0.000248	70.32	2.834070	Y 242.219
S (181.972 nm)	-0.009349 u	ppm	0.000421	4.50	26.501170	Y 377.433
Sb (206.834 nm)	0.001275	ppm	0.000674	52.85	-16.784400	Y 377.433
Se (196.026 nm)	-0.001950 u	ppm	0.000795	40.80	11.633300	Y 242.219
Si (288.158 nm)	-0.022243 u	ppm	0.000884	3.97	835.973000	Y 377.433
Sn (189.925 nm)	-0.001563 u	ppm	0.002082	> 100.00	4.914270	Y 377.433
Sr (421.552 nm)	-0.000215 u	ppm	0.000020	9.32	101.296384	Y_R 488.368
Th (288.505 nm)	0.002289	ppm	0.001103	48.17	83.129300	Y 377.433
Ti (336.122 nm)	0.000453	ppm	0.000085	18.71	-223.309000	Y 377.433
Tl (190.794 nm)	0.001028	ppm	0.000754	73.36	-4.981060	Y 377.433
U (409.013 nm)	0.006225	ppm	0.003215	51.65	-146.512000	Y 377.433
V (292.401 nm)	-0.000078 u	ppm	0.000148	> 100.00	21.074800	Y 377.433
Zn (206.200 nm)	0.000270	ppm	0.000007	2.50	0.006943	Y 377.433
Zr (343.823 nm)	0.000097	ppm	0.000098	> 100.00	25.891800	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.109657	20964.762204	0.002531	0.23
Y 377.433	1.115989	1132538.158316	0.002499	0.22
Y_R 377.433	1.189480	91401.600000	0.005304	0.45
Y_R 488.368	1.224930	53743.700000	0.001415	0.12
Y_R2 488.368	1.206412	104165.378784	0.008696	0.72

Sample Name: CCVL-5398386

Date: 10/29/2018 8:22:58 PM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.008806	ppm	0.000005	0.06	-42.702700	Y 377.433
Al (167.019 nm)	0.113513	ppm	0.001361	1.20	61.040500	Y_R 377.433
Al H (396.152 nm)	0.072086 u	ppm	0.003276	4.54	261.374096	Y_R 377.433
As (188.980 nm)	0.013932	ppm	0.002913	20.91	14.141000	Y 242.219
B (249.678 nm)	0.098683	ppm	0.000177	0.18	2434.130000	Y 242.219
Ba (493.408 nm)	0.008971	ppm	0.000114	1.27	1600.120000	Y_R 488.368
Be (234.861 nm)	0.000960	ppm	0.000008	0.87	218.296000	Y_R 488.368
Bi (223.061 nm)	0.103189	ppm	0.000307	0.30	257.615000	Y 377.433
Ca (315.887 nm)	0.229695	ppm	0.002069	0.90	112.264648	Y_R 377.433
Cd (214.439 nm)	0.005198	ppm	0.000031	0.61	295.383000	Y 377.433
Co (228.615 nm)	0.010910	ppm	0.000295	2.71	154.927000	Y 242.219
Cr (205.560 nm)	0.009983	ppm	0.000147	1.47	147.170000	Y 377.433
Cu (324.754 nm)	0.015668	ppm	0.000135	0.86	521.882000	Y 377.433
Fe (238.204 nm)	0.108115	ppm	0.000260	0.24	406.765679	Y_R 377.433
Fe H (259.940 nm)	0.028138 u	ppm	0.004100	14.57	203.820000	Y_R 377.433
K (766.491 nm)	3.213870	ppm	0.011644	0.36	2920.950000	Y_R2 488.368
Li (670.783 nm)	0.033475 Q	ppm	0.001431	4.27	-297.430000 Q	Y_R2 488.368
Mg (279.078 nm)	0.191607	ppm	0.000011	0.01	1087.420000	Y 377.433
Mn (257.610 nm)	0.010349	ppm	0.000033	0.32	2396.940000	Y 377.433
Mo (202.032 nm)	0.019289	ppm	0.000549	2.84	158.589000	Y 377.433
Na (589.592 nm)	0.951618	ppm	0.000132	0.01	6667.400000	Y_R2 488.368
Na H (589.593 nm)	0.631892 u	ppm	0.017303	2.74	5514.510400	Y_R 488.368
Ni (231.604 nm)	0.040940	ppm	0.000167	0.41	265.299000	Y 377.433
P (213.618 nm)	2.736360 o	ppm	0.024541	0.90	5656.980000	Y 242.219
Pb (220.353 nm)	0.009341	ppm	0.000837	8.96	29.872100	Y 242.219
S (181.972 nm)	0.089857	ppm	0.000801	0.89	74.846041	Y 377.433
Sb (206.834 nm)	0.022136	ppm	0.000088	0.40	38.503300	Y 377.433
Se (196.026 nm)	0.016251	ppm	0.002601	16.01	28.727300	Y 242.219
Si (288.158 nm)	0.457359	ppm	0.005407	1.18	4752.670000	Y 377.433
Sn (189.925 nm)	0.096410	ppm	0.000377	0.39	191.823000	Y 377.433
Sr (421.552 nm)	0.009437	ppm	0.000079	0.84	2090.676098	Y_R 488.368
Th (288.505 nm)	0.016866	ppm	0.003121	18.50	120.205000	Y 377.433
Ti (336.122 nm)	0.010796	ppm	0.000005	0.05	1221.880000	Y 377.433
Tl (190.794 nm)	0.017645	ppm	0.001676	9.50	30.437400	Y 377.433
U (409.013 nm)	0.062344	ppm	0.001430	2.29	101.823000	Y 377.433
V (292.401 nm)	0.009657	ppm	0.000320	3.31	359.332000	Y 377.433
Zn (206.200 nm)	0.020806	ppm	0.000062	0.30	102.696000	Y 377.433
Zr (343.823 nm)	0.014989	ppm	0.000066	0.44	1942.650000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.134588	21435.789078	0.000926	0.08
Y 377.433	1.141623	1158552.866042	0.000393	0.03
Y_R 377.433	1.215840	93427.400000	0.000316	0.03
Y_R 488.368	1.252470	54951.900000	0.009635	0.77
Y_R2 488.368	1.242307	107264.645165	0.001905	0.15

Sample Name: 280-115959-B-1-A

Date: 10/29/2018 8:26:22 PM Rack:Tube: 2:19

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000495	ppm	0.000241	48.66	-417.313000	Y 377.433
Al (167.019 nm)	2.722820	ppm	0.003984	0.15	1461.300000	Y_R 377.433
Al H (396.152 nm)	2.737845	ppm	0.012346	0.45	7727.959270	Y_R 377.433
As (188.980 nm)	0.014662	ppm	0.001112	7.59	14.727800	Y 242.219
B (249.678 nm)	0.136075	ppm	0.000341	0.25	3271.870000	Y 242.219
Ba (493.408 nm)	0.505681	ppm	0.001805	0.36	58869.200000	Y_R 488.368
Be (234.861 nm)	-0.000307 u	ppm	0.000015	4.83	880.994000	Y_R 488.368
Bi (223.061 nm)	-0.003489 u	ppm	0.001078	30.90	4.353030	Y 377.433
Ca (315.887 nm)	1690.647812 o	ppm	9.808969	0.58	1300674.436369	Y_R 377.433
Cd (214.439 nm)	0.001023	ppm	0.000067	6.59	88.277000	Y 377.433
Co (228.615 nm)	0.002571	ppm	0.000574	22.33	14.853700	Y 242.219
Cr (205.560 nm)	0.022836	ppm	0.000403	1.76	325.608000	Y 377.433
Cu (324.754 nm)	0.054552	ppm	0.000329	0.60	1630.020000	Y 377.433
Fe (238.204 nm)	34.237418 o	ppm	0.068382	0.20	123566.338466	Y_R 377.433
Fe H (259.940 nm)	35.306100	ppm	0.088858	0.25	64615.100000	Y_R 377.433
K (766.491 nm)	0.486088	ppm	0.080199	16.50	-143.128000	Y_R2 488.368
Li (670.783 nm)	0.018872	ppm	0.001028	5.45	-771.873000	Y_R2 488.368
Mg (279.078 nm)	85.718800 o	ppm	0.047551	0.06	471525.000000	Y 377.433
Mn (257.610 nm)	4.309740 o	ppm	0.000741	0.02	972701.000000	Y 377.433
Mo (202.032 nm)	0.000785	ppm	0.000072	9.11	4.148940	Y 377.433
Na (589.592 nm)	4.017900	ppm	0.002267	0.06	27065.800000	Y_R2 488.368
Na H (589.593 nm)	4.040870 u	ppm	0.015074	0.37	18501.251737	Y_R 488.368
Ni (231.604 nm)	0.024509	ppm	0.000176	0.72	159.229000	Y 377.433
P (213.618 nm)	2.315540 o	ppm	0.009134	0.39	4791.140000	Y 242.219
Pb (220.353 nm)	0.006886	ppm	0.000841	12.22	25.167400	Y 242.219
S (181.972 nm)	8.325432	ppm	0.009365	0.11	4096.086165	Y 377.433
Sb (206.834 nm)	-0.005412 u	ppm	0.000490	9.06	-42.136000	Y 377.433
Se (196.026 nm)	0.001706	ppm	0.000602	35.27	12.105100	Y 242.219
Si (288.158 nm)	2.094290	ppm	0.000510	0.02	18120.800000	Y 377.433
Sn (189.925 nm)	0.039629	ppm	0.001548	3.91	83.497900	Y 377.433
Sr (421.552 nm)	4.617070 o	ppm	0.005156	0.11	951772.966706	Y_R 488.368
Th (288.505 nm)	-0.012693 u	ppm	0.002233	17.59	129.663000	Y 377.433
Ti (336.122 nm)	0.139980	ppm	0.000077	0.05	24461.000000	Y 377.433
Tl (190.794 nm)	0.002489	ppm	0.000260	10.43	-3.314920	Y 377.433
U (409.013 nm)	0.138304	ppm	0.000621	0.45	155.255000	Y 377.433
V (292.401 nm)	0.030744	ppm	0.000309	1.00	1098.450000	Y 377.433
Zn (206.200 nm)	0.052065	ppm	0.000292	0.56	259.011000	Y 377.433
Zr (343.823 nm)	0.006178	ppm	0.000080	1.29	906.014000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.997470	18845.206210	0.002079	0.21
Y 377.433	1.020423	1035555.871740	0.003171	0.31
Y_R 377.433	1.142040	87756.300000	0.001790	0.16
Y_R 488.368	1.169040	51291.200000	0.003742	0.32
Y_R2 488.368	1.153983	99638.515817	0.000423	0.04

Sample Name: MB 280-434661/1-A

Date: 10/29/2018 8:29:44 PM Rack:Tube: 2:20

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000152 u	ppm	0.000178	> 100.00	-440.195000	Y 377.433
Al (167.019 nm)	0.005954	ppm	0.003297	55.38	4.155590	Y_R 377.433
Al H (396.152 nm)	-0.023733 u	ppm	0.006084	25.63	17.896906	Y_R 377.433
As (188.980 nm)	0.002395	ppm	0.000558	23.31	0.301349	Y 242.219
B (249.678 nm)	-0.000699 u	ppm	0.000180	25.74	76.616900	Y 242.219
Ba (493.408 nm)	-0.000926 u	ppm	0.000151	16.33	467.364000	Y_R 488.368
Be (234.861 nm)	0.000084	ppm	0.000017	19.90	-35.125500	Y_R 488.368
Bi (223.061 nm)	0.001652	ppm	0.002184	> 100.00	11.390600	Y 377.433
Ca (315.887 nm)	0.065376	ppm	0.011694	17.89	-14.160688	Y_R 377.433
Cd (214.439 nm)	0.000035	ppm	0.000028	79.85	0.372215	Y 377.433
Co (228.615 nm)	0.000574	ppm	0.000056	9.80	-24.273500	Y 242.219
Cr (205.560 nm)	0.000156	ppm	0.000141	90.31	3.963110	Y 377.433
Cu (324.754 nm)	0.000731	ppm	0.000006	0.77	-273.976000	Y 377.433
Fe (238.204 nm)	0.012391	ppm	0.000474	3.82	61.332396	Y_R 377.433
Fe H (259.940 nm)	-0.069172 u	ppm	0.000121	0.18	26.148400	Y_R 377.433
K (766.491 nm)	0.155575	ppm	0.029529	18.98	-514.390000	Y_R2 488.368
Li (670.783 nm)	0.012647	ppm	0.000193	1.52	-974.090000	Y_R2 488.368
Mg (279.078 nm)	0.002198	ppm	0.000124	5.65	46.460200	Y 377.433
Mn (257.610 nm)	0.000356	ppm	0.000001	0.31	141.768000	Y 377.433
Mo (202.032 nm)	0.000278	ppm	0.000152	54.48	-0.083313	Y 377.433
Na (589.592 nm)	-0.002424 u	ppm	0.006382	> 100.00	602.516000	Y_R2 488.368
Na H (589.593 nm)	-0.363442 u	ppm	0.003383	0.93	1850.470703	Y_R 488.368
Ni (231.604 nm)	0.000628	ppm	0.000053	8.47	1.766550	Y 377.433
P (213.618 nm)	-0.002586 u	ppm	0.001379	53.33	21.583100	Y 242.219
Pb (220.353 nm)	-0.000318 u	ppm	0.000084	26.32	2.942090	Y 242.219
S (181.972 nm)	-0.003523 u	ppm	0.003651	> 100.00	29.339343	Y 377.433
Sb (206.834 nm)	0.001391	ppm	0.001842	> 100.00	-16.488900	Y 377.433
Se (196.026 nm)	-0.003998 u	ppm	0.003044	76.14	9.707040	Y 242.219
Si (288.158 nm)	-0.020531 u	ppm	0.000947	4.61	849.952000	Y 377.433
Sn (189.925 nm)	-0.000057 u	ppm	0.001548	> 100.00	7.787310	Y 377.433
Sr (421.552 nm)	-0.000101 u	ppm	0.000013	12.40	124.845012	Y_R 488.368
Th (288.505 nm)	0.001723 u	ppm	0.004511	> 100.00	81.789400	Y 377.433
Ti (336.122 nm)	0.000964	ppm	0.000083	8.59	-151.771000	Y 377.433
Tl (190.794 nm)	0.002253	ppm	0.003035	> 100.00	-2.366220	Y 377.433
U (409.013 nm)	0.002848	ppm	0.002089	73.34	-161.515000	Y 377.433
V (292.401 nm)	-0.000208 u	ppm	0.000103	49.71	16.582400	Y 377.433
Zn (206.200 nm)	0.001595	ppm	0.000292	18.31	6.633380	Y 377.433
Zr (343.823 nm)	-0.000141 u	ppm	0.000019	13.32	-4.682540	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.124252	21240.506916	0.001035	0.09
Y 377.433	1.131461	1148239.642272	0.000587	0.05
Y_R 377.433	1.211880	93122.700000	0.006835	0.56
Y_R 488.368	1.244090	54584.300000	0.004494	0.36
Y_R2 488.368	1.221384	105458.064442	0.001582	0.13

Sample Name: LCS 280-434661/2-A

Date: 10/29/2018 8:33:07 PM Rack:Tube: 2:21

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.049945	ppm	0.000441	0.88	1758.640000	Y 377.433
Al (167.019 nm)	2.149470	ppm	0.005310	0.25	1137.240000	Y_R 377.433
Al H (396.152 nm)	1.961845	ppm	0.004989	0.25	5134.071632	Y_R 377.433
As (188.980 nm)	0.987693	ppm	0.006043	0.61	1182.330000	Y 242.219
B (249.678 nm)	1.049130	ppm	0.001230	0.12	24996.100000	Y 242.219
Ba (493.408 nm)	1.973060 o	ppm	0.007883	0.40	226407.000000	Y_R 488.368
Be (234.861 nm)	0.045125	ppm	0.000543	1.20	12873.700000	Y_R 488.368
Bi (223.061 nm)	1.965210	ppm	0.000961	0.05	4772.830000	Y 377.433
Ca (315.887 nm)	51.007568 o	ppm	0.216175	0.42	39179.442556	Y_R 377.433
Cd (214.439 nm)	0.097210	ppm	0.000291	0.30	5552.150000	Y 377.433
Co (228.615 nm)	0.483712	ppm	0.000883	0.18	8372.140000	Y 242.219
Cr (205.560 nm)	0.200005	ppm	0.000376	0.19	2915.440000	Y 377.433
Cu (324.754 nm)	0.243419	ppm	0.000018	0.01	12689.100000	Y 377.433
Fe (238.204 nm)	1.057659	ppm	0.003375	0.32	3833.305039	Y_R 377.433
Fe H (259.940 nm)	0.981520 u	ppm	0.006087	0.62	1944.520000	Y_R 377.433
K (766.491 nm)	48.107100	ppm	0.080935	0.17	53348.900000	Y_R2 488.368
Li (670.783 nm)	0.952870	ppm	0.001225	0.13	29573.200000	Y_R2 488.368
Mg (279.078 nm)	47.286800 o	ppm	0.055303	0.12	260112.000000	Y 377.433
Mn (257.610 nm)	0.490853	ppm	0.000027	0.01	110839.000000	Y 377.433
Mo (202.032 nm)	1.024560	ppm	0.000072	0.01	8548.950000	Y 377.433
Na (589.592 nm)	46.455200 o	ppm	0.017839	0.04	298813.000000	Y_R2 488.368
Na H (589.593 nm)	47.311365	ppm	0.163546	0.35	178755.035995	Y_R 488.368
Ni (231.604 nm)	0.477880	ppm	0.000668	0.14	3123.790000	Y 377.433
P (213.618 nm)	9.852760 o	ppm	0.007075	0.07	20299.000000	Y 242.219
Pb (220.353 nm)	0.487612	ppm	0.003113	0.64	1364.700000	Y 242.219
S (181.972 nm)	2.058526	ppm	0.009894	0.48	1034.854164	Y 377.433
Sb (206.834 nm)	0.519540	ppm	0.002168	0.42	1348.730000	Y 377.433
Se (196.026 nm)	2.032550	ppm	0.005128	0.25	1923.820000	Y 242.219
Si (288.158 nm)	10.002900	ppm	0.013519	0.14	82707.300000	Y 377.433
Sn (189.925 nm)	2.000890	ppm	0.006168	0.31	3825.110000	Y 377.433
Sr (421.552 nm)	0.953996	ppm	0.004600	0.48	196774.330516	Y_R 488.368
Th (288.505 nm)	1.000820	ppm	0.000232	0.02	2605.610000	Y 377.433
Ti (336.122 nm)	1.024420	ppm	0.000056	0.01	142939.000000	Y 377.433
Tl (190.794 nm)	1.991250	ppm	0.000465	0.02	4238.260000	Y 377.433
U (409.013 nm)	2.074050	ppm	0.006715	0.32	8996.050000	Y 377.433
V (292.401 nm)	0.500958	ppm	0.000305	0.06	17542.800000	Y 377.433
Zn (206.200 nm)	0.475682	ppm	0.000091	0.02	2377.340000	Y 377.433
Zr (343.823 nm)	0.505695	ppm	0.000424	0.08	65094.700000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.093169	20653.244872	0.003589	0.33
Y 377.433	1.101382	1117715.462657	0.002293	0.21
Y_R 377.433	1.193460	91707.400000	0.009918	0.83
Y_R 488.368	1.227810	53870.000000	0.012019	0.98
Y_R2 488.368	1.212496	104690.699254	0.000010	0.00

Sample Name: 280-115941-A-1-A

Date: 10/29/2018 8:36:30 PM Rack:Tube: 2:22

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001073	ppm	0.000059	5.48	-385.847000	Y 377.433
Al (167.019 nm)	0.005025	ppm	0.002862	56.94	3.673130	Y_R 377.433
Al H (396.152 nm)	0.037275 u	ppm	0.006854	18.39	373.942538	Y_R 377.433
As (188.980 nm)	-0.001866 u	ppm	0.001414	75.77	-4.810980	Y 242.219
B (249.678 nm)	0.631869	ppm	0.001059	0.17	15080.700000	Y 242.219
Ba (493.408 nm)	0.464559	ppm	0.002027	0.44	53849.800000	Y_R 488.368
Be (234.861 nm)	-0.000076 u	ppm	0.000013	16.85	-80.847400	Y_R 488.368
Bi (223.061 nm)	0.001139 u	ppm	0.002189	> 100.00	10.149300	Y 377.433
Ca (315.887 nm)	461.382481 o	ppm	3.152936	0.68	354910.796534	Y_R 377.433
Cd (214.439 nm)	0.001100	ppm	0.000139	12.62	61.237000	Y 377.433
Co (228.615 nm)	0.003444	ppm	0.000050	1.45	25.398700	Y 242.219
Cr (205.560 nm)	0.000396	ppm	0.000160	40.50	7.447470	Y 377.433
Cu (324.754 nm)	-0.001917 u	ppm	0.000221	11.54	-681.813000	Y 377.433
Fe (238.204 nm)	0.024639	ppm	0.001153	4.68	105.531821	Y_R 377.433
Fe H (259.940 nm)	-0.061844 u	ppm	0.000328	0.53	39.527700	Y_R 377.433
K (766.491 nm)	20.665800	ppm	0.019180	0.09	22524.500000	Y_R2 488.368
Li (670.783 nm)	0.053397	ppm	0.000393	0.74	349.837000	Y_R2 488.368
Mg (279.078 nm)	40.849200	ppm	0.015524	0.04	224751.000000	Y 377.433
Mn (257.610 nm)	6.892890 o	ppm	0.001667	0.02	1555680.000000	Y 377.433
Mo (202.032 nm)	0.001570	ppm	0.000221	14.10	10.696900	Y 377.433
Na (589.592 nm)	246.376000 o	ppm	0.793983	0.32	1562720.000000	Y_R2 488.368
Na H (589.593 nm)	253.968027	ppm	0.383410	0.15	936128.104922	Y_R 488.368
Ni (231.604 nm)	0.018994	ppm	0.000024	0.13	121.837000	Y 377.433
P (213.618 nm)	0.177299	ppm	0.000881	0.50	391.699000	Y 242.219
Pb (220.353 nm)	0.000957	ppm	0.000470	49.17	6.401020	Y 242.219
S (181.972 nm)	107.810166 o	ppm	0.133228	0.12	52559.542145	Y 377.433
Sb (206.834 nm)	-0.002756 u	ppm	0.000618	22.43	-27.431500	Y 377.433
Se (196.026 nm)	-0.003632 u	ppm	0.000074	2.04	15.278900	Y 242.219
Si (288.158 nm)	16.478400 o	ppm	0.077355	0.47	135590.000000	Y 377.433
Sn (189.925 nm)	0.000815	ppm	0.000926	> 100.00	9.450990	Y 377.433
Sr (421.552 nm)	1.700181 o	ppm	0.005471	0.32	350571.172535	Y_R 488.368
Th (288.505 nm)	0.000923	ppm	0.000194	21.06	211.074000	Y 377.433
Ti (336.122 nm)	-0.000751 u	ppm	0.000001	0.11	1029.380000	Y 377.433
Tl (190.794 nm)	0.005401	ppm	0.001463	27.08	4.359960	Y 377.433
U (409.013 nm)	-0.011354 u	ppm	0.004927	43.40	-310.918000	Y 377.433
V (292.401 nm)	0.000323	ppm	0.000274	84.92	37.237600	Y 377.433
Zn (206.200 nm)	0.002987	ppm	0.000088	2.95	13.590900	Y 377.433
Zr (343.823 nm)	-0.000181 u	ppm	0.000033	18.01	-9.866910	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.026756	19398.511420	0.001768	0.17
Y 377.433	1.043104	1058572.364083	0.000565	0.05
Y_R 377.433	1.152380	88551.000000	0.011306	0.98
Y_R 488.368	1.181510	51838.300000	0.009844	0.83
Y_R2 488.368	1.158899	100062.970981	0.010269	0.89

Sample Name: 280-115941-A-2-A

Date: 10/29/2018 8:39:52 PM Rack:Tube: 2:23

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000474	ppm	0.000394	83.13	-415.874000	Y 377.433
Al (167.019 nm)	0.000655 u	ppm	0.001573	> 100.00	1.369030	Y_R 377.433
Al H (396.152 nm)	0.019089 u	ppm	0.002253	11.80	241.862629	Y_R 377.433
As (188.980 nm)	0.002327	ppm	0.000634	27.23	0.219318	Y 242.219
B (249.678 nm)	0.291223	ppm	0.001134	0.39	7000.810000	Y 242.219
Ba (493.408 nm)	0.110383	ppm	0.000247	0.22	13267.200000	Y_R 488.368
Be (234.861 nm)	0.000082	ppm	0.000016	19.81	-36.252400	Y_R 488.368
Bi (223.061 nm)	-0.000761 u	ppm	0.000919	> 100.00	5.543490	Y 377.433
Ca (315.887 nm)	262.016371 o	ppm	0.957503	0.37	201523.879852	Y_R 377.433
Cd (214.439 nm)	0.000237	ppm	0.000003	1.18	11.957500	Y 377.433
Co (228.615 nm)	0.002755	ppm	0.000603	21.89	13.458500	Y 242.219
Cr (205.560 nm)	0.000112	ppm	0.000006	5.66	3.290870	Y 377.433
Cu (324.754 nm)	-0.001486 u	ppm	0.000185	12.45	-552.831000	Y 377.433
Fe (238.204 nm)	0.031585	ppm	0.000859	2.72	130.597708	Y_R 377.433
Fe H (259.940 nm)	-0.049371 u	ppm	0.000574	1.16	62.302000	Y_R 377.433
K (766.491 nm)	23.047800	ppm	0.039722	0.17	25200.100000	Y_R2 488.368
Li (670.783 nm)	0.053651	ppm	0.000606	1.13	358.108000	Y_R2 488.368
Mg (279.078 nm)	22.130600	ppm	0.010340	0.05	121774.000000	Y 377.433
Mn (257.610 nm)	0.370396	ppm	0.000454	0.12	83654.000000	Y 377.433
Mo (202.032 nm)	0.014946	ppm	0.000213	1.42	122.338000	Y 377.433
Na (589.592 nm)	37.597800 o	ppm	0.055271	0.15	239079.000000	Y_R2 488.368
Na H (589.593 nm)	38.253044	ppm	0.198609	0.52	143745.422264	Y_R 488.368
Ni (231.604 nm)	0.030098	ppm	0.000346	1.15	194.406000	Y 377.433
P (213.618 nm)	0.010229	ppm	0.001823	17.83	47.949500	Y 242.219
Pb (220.353 nm)	0.000820	ppm	0.000658	80.23	6.390900	Y 242.219
S (181.972 nm)	83.357663 o	ppm	0.024891	0.03	40634.191315	Y 377.433
Sb (206.834 nm)	-0.001769 u	ppm	0.001597	90.24	-25.330700	Y 377.433
Se (196.026 nm)	0.002304	ppm	0.001191	51.70	15.907100	Y 242.219
Si (288.158 nm)	8.448990	ppm	0.014344	0.17	70016.900000	Y 377.433
Sn (189.925 nm)	0.000673	ppm	0.000382	56.69	9.179840	Y 377.433
Sr (421.552 nm)	1.185516 o	ppm	0.005536	0.47	244493.145269	Y_R 488.368
Th (288.505 nm)	0.000047 u	ppm	0.001703	> 100.00	87.366600	Y 377.433
Ti (336.122 nm)	-0.000239 u	ppm	0.000012	5.13	487.079000	Y 377.433
Tl (190.794 nm)	0.003294	ppm	0.001232	37.40	-0.173525	Y 377.433
U (409.013 nm)	0.179322	ppm	0.003716	2.07	573.745000	Y 377.433
V (292.401 nm)	0.000548	ppm	0.000144	26.22	36.137000	Y 377.433
Zn (206.200 nm)	0.011024	ppm	0.000001	0.01	53.783300	Y 377.433
Zr (343.823 nm)	-0.000247 u	ppm	0.000122	49.25	-18.355600	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.067650	20171.116694	0.001873	0.18
Y 377.433	1.080697	1096723.510641	0.003226	0.30
Y_R 377.433	1.180280	90694.900000	0.002625	0.22
Y_R 488.368	1.214370	53280.100000	0.001872	0.15
Y_R2 488.368	1.208122	104313.039103	0.004507	0.37

Sample Name: 280-115941-A-3-A

Date: 10/29/2018 8:43:15 PM Rack:Tube: 2:24

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000581	ppm	0.000111	19.08	-411.246000	Y 377.433
Al (167.019 nm)	0.000916 u	ppm	0.001708	> 100.00	1.506710	Y_R 377.433
Al H (396.152 nm)	0.017303 u	ppm	0.006175	35.69	237.028275	Y_R 377.433
As (188.980 nm)	-0.000516 u	ppm	0.001972	> 100.00	-3.191450	Y 242.219
B (249.678 nm)	0.289778	ppm	0.000284	0.10	6966.540000	Y 242.219
Ba (493.408 nm)	0.111894	ppm	0.001346	1.20	13440.000000	Y_R 488.368
Be (234.861 nm)	0.000080	ppm	0.000003	3.99	-36.766800	Y_R 488.368
Bi (223.061 nm)	0.001211	ppm	0.000166	13.72	10.323800	Y 377.433
Ca (315.887 nm)	261.315277 o	ppm	1.541981	0.59	200984.477229	Y_R 377.433
Cd (214.439 nm)	0.000268	ppm	0.000071	26.58	13.719400	Y 377.433
Co (228.615 nm)	0.002644	ppm	0.000004	0.17	11.549800	Y 242.219
Cr (205.560 nm)	0.000091 u	ppm	0.000172	> 100.00	2.974890	Y 377.433
Cu (324.754 nm)	-0.001200 u	ppm	0.000098	8.15	-536.451000	Y 377.433
Fe (238.204 nm)	0.031812	ppm	0.000638	2.01	131.417879	Y_R 377.433
Fe H (259.940 nm)	-0.051402 u	ppm	0.000763	1.48	58.593300	Y_R 377.433
K (766.491 nm)	22.989300	ppm	0.063619	0.28	25134.500000	Y_R2 488.368
Li (670.783 nm)	0.052223	ppm	0.001036	1.98	311.694000	Y_R2 488.368
Mg (279.078 nm)	22.065500	ppm	0.093294	0.42	121415.000000	Y 377.433
Mn (257.610 nm)	0.378811	ppm	0.000759	0.20	85553.000000	Y 377.433
Mo (202.032 nm)	0.014589	ppm	0.000083	0.57	119.360000	Y 377.433
Na (589.592 nm)	37.580900 o	ppm	0.051627	0.14	238976.000000	Y_R2 488.368
Na H (589.593 nm)	38.504618	ppm	0.391006	1.02	144670.611312	Y_R 488.368
Ni (231.604 nm)	0.029535	ppm	0.000106	0.36	190.728000	Y 377.433
P (213.618 nm)	0.012376	ppm	0.001127	9.10	52.368400	Y 242.219
Pb (220.353 nm)	-0.000489 u	ppm	0.000693	> 100.00	2.760540	Y 242.219
S (181.972 nm)	82.940492 o	ppm	0.147708	0.18	40431.012892	Y 377.433
Sb (206.834 nm)	-0.000132 u	ppm	0.000079	59.68	-21.012400	Y 377.433
Se (196.026 nm)	0.002319	ppm	0.001277	55.07	15.927700	Y 242.219
Si (288.158 nm)	8.427100	ppm	0.124872	1.48	69838.100000	Y 377.433
Sn (189.925 nm)	0.000289	ppm	0.000232	80.33	8.446670	Y 377.433
Sr (421.552 nm)	1.191991 o	ppm	0.011505	0.97	245827.703340	Y_R 488.368
Th (288.505 nm)	-0.002718 u	ppm	0.002016	74.17	80.836800	Y 377.433
Ti (336.122 nm)	-0.000113 u	ppm	0.000092	81.28	502.572000	Y 377.433
Tl (190.794 nm)	0.002504	ppm	0.000016	0.63	-1.857850	Y 377.433
U (409.013 nm)	0.183114	ppm	0.004765	2.60	590.714000	Y 377.433
V (292.401 nm)	0.000381	ppm	0.000083	21.80	30.468300	Y 377.433
Zn (206.200 nm)	0.012195	ppm	0.000213	1.74	59.638600	Y 377.433
Zr (343.823 nm)	-0.000326 u	ppm	0.000003	0.80	-28.421100	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.060141	20029.261266	0.006833	0.64
Y 377.433	1.071711	1087603.559826	0.008523	0.80
Y_R 377.433	1.179970	90670.900000	0.002453	0.21
Y_R 488.368	1.205540	52892.900000	0.005566	0.46
Y_R2 488.368	1.184870	102305.348985	0.010680	0.90

Sample Name: 280-115941-A-4-A

Date: 10/29/2018 8:46:37 PM Rack:Tube: 2:25

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000522	ppm	0.000322	61.82	-410.430000	Y 377.433
Al (167.019 nm)	0.004788	ppm	0.001436	29.98	6.074970	Y_R 377.433
Al H (396.152 nm)	0.014645 u	ppm	0.006848	46.76	202.545485	Y_R 377.433
As (188.980 nm)	0.028403	ppm	0.003184	11.21	31.468900	Y 242.219
B (249.678 nm)	0.523637	ppm	0.000051	0.01	12508.000000	Y 242.219
Ba (493.408 nm)	0.305986	ppm	0.002254	0.74	35644.100000	Y_R 488.368
Be (234.861 nm)	-0.000016 u	ppm	0.000008	52.54	55.479300	Y_R 488.368
Bi (223.061 nm)	-0.001100 u	ppm	0.000584	53.12	5.349660	Y 377.433
Ca (315.887 nm)	200.276557 o	ppm	1.412976	0.71	154022.929894	Y_R 377.433
Cd (214.439 nm)	0.000080	ppm	0.000025	31.83	6.633760	Y 377.433
Co (228.615 nm)	0.008504	ppm	0.000321	3.77	112.966000	Y 242.219
Cr (205.560 nm)	-0.000021 u	ppm	0.000170	> 100.00	0.321361	Y 377.433
Cu (324.754 nm)	-0.001288 u	ppm	0.000035	2.73	-499.475000	Y 377.433
Fe (238.204 nm)	3.978682	ppm	0.023532	0.59	14374.157487	Y_R 377.433
Fe H (259.940 nm)	3.961950 u	ppm	0.024316	0.61	7386.250000	Y_R 377.433
K (766.491 nm)	9.052730	ppm	0.034808	0.38	9479.670000	Y_R2 488.368
Li (670.783 nm)	0.029890	ppm	0.000669	2.24	-413.874000	Y_R2 488.368
Mg (279.078 nm)	15.608400	ppm	0.033803	0.22	85891.700000	Y 377.433
Mn (257.610 nm)	1.792720 o	ppm	0.002714	0.15	404650.000000	Y 377.433
Mo (202.032 nm)	0.001831	ppm	0.000243	13.27	12.873900	Y 377.433
Na (589.592 nm)	78.279000 o	ppm	0.250229	0.32	497241.000000	Y_R2 488.368
Na H (589.593 nm)	82.036734	ppm	0.451678	0.55	304691.373929	Y_R 488.368
Ni (231.604 nm)	0.000554	ppm	0.000374	67.58	1.441700	Y 377.433
P (213.618 nm)	0.363846	ppm	0.002578	0.71	775.519000	Y 242.219
Pb (220.353 nm)	-0.000592 u	ppm	0.001141	> 100.00	2.462610	Y 242.219
S (181.972 nm)	47.388075 o	ppm	0.034389	0.07	23117.186166	Y 377.433
Sb (206.834 nm)	0.001354	ppm	0.000339	25.04	-17.507300	Y 377.433
Se (196.026 nm)	-0.003242 u	ppm	0.001055	32.53	11.046700	Y 242.219
Si (288.158 nm)	15.688600 o	ppm	0.283844	1.81	129140.000000	Y 377.433
Sn (189.925 nm)	-0.000623 u	ppm	0.001752	> 100.00	6.708230	Y 377.433
Sr (421.552 nm)	0.646364	ppm	0.005190	0.80	133368.143800	Y_R 488.368
Th (288.505 nm)	-0.000723 u	ppm	0.000776	> 100.00	109.751000	Y 377.433
Ti (336.122 nm)	0.000139	ppm	0.000001	1.03	349.813000	Y 377.433
Tl (190.794 nm)	0.002764	ppm	0.000036	1.31	-1.353010	Y 377.433
U (409.013 nm)	-0.006715 u	ppm	0.002947	43.88	-237.867000	Y 377.433
V (292.401 nm)	0.000055 u	ppm	0.000094	> 100.00	24.345700	Y 377.433
Zn (206.200 nm)	0.001273	ppm	0.000169	13.26	5.022510	Y 377.433
Zr (343.823 nm)	-0.000217 u	ppm	0.000091	41.85	-3.217490	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.060302	20032.305528	0.001625	0.15
Y 377.433	1.066937	1082759.026010	0.002741	0.26
Y_R 377.433	1.164330	89469.200000	0.004335	0.37
Y_R 488.368	1.196490	52495.800000	0.003811	0.32
Y_R2 488.368	1.177532	101671.746904	0.001842	0.16

Sample Name: 280-115941-A-4-ASD@5

Date: 10/29/2018 8:50:00 PM Rack:Tube: 2:26

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000003 u	ppm	0.000079	> 100.00	-433.264000	Y 377.433
Al (167.019 nm)	0.006194	ppm	0.003959	63.92	4.795720	Y_R 377.433
Al H (396.152 nm)	-0.012794 u	ppm	0.001297	10.14	63.515148	Y_R 377.433
As (188.980 nm)	0.006797	ppm	0.004615	67.91	5.574450	Y 242.219
B (249.678 nm)	0.096922	ppm	0.001818	1.88	2390.990000	Y 242.219
Ba (493.408 nm)	0.061703	ppm	0.000470	0.76	7645.600000	Y_R 488.368
Be (234.861 nm)	0.000030	ppm	0.000006	18.19	-26.508500	Y_R 488.368
Bi (223.061 nm)	-0.000028 u	ppm	0.000075	> 100.00	7.445700	Y 377.433
Ca (315.887 nm)	41.081489 o	ppm	0.018994	0.05	31542.531627	Y_R 377.433
Cd (214.439 nm)	0.000042	ppm	0.000027	64.21	1.557120	Y 377.433
Co (228.615 nm)	0.001825	ppm	0.000051	2.80	-2.633540	Y 242.219
Cr (205.560 nm)	-0.000037 u	ppm	0.000303	> 100.00	0.931490	Y 377.433
Cu (324.754 nm)	0.000136 u	ppm	0.000372	> 100.00	-327.885000	Y 377.433
Fe (238.204 nm)	0.815583	ppm	0.002543	0.31	2959.745863	Y_R 377.433
Fe H (259.940 nm)	0.745093 u	ppm	0.003836	0.51	1512.850000	Y_R 377.433
K (766.491 nm)	1.972920	ppm	0.023762	1.20	1527.010000	Y_R2 488.368
Li (670.783 nm)	0.015907	ppm	0.000149	0.93	-868.203000	Y_R2 488.368
Mg (279.078 nm)	3.050420	ppm	0.072266	2.37	16813.800000	Y 377.433
Mn (257.610 nm)	0.351799	ppm	0.008000	2.27	79456.900000	Y 377.433
Mo (202.032 nm)	0.000854	ppm	0.000099	11.59	4.723530	Y 377.433
Na (589.592 nm)	16.399900 o	ppm	0.052204	0.32	104660.000000	Y_R2 488.368
Na H (589.593 nm)	16.306906	ppm	0.006269	0.04	63118.594195	Y_R 488.368
Ni (231.604 nm)	-0.000492 u	ppm	0.000432	87.67	-5.526610	Y 377.433
P (213.618 nm)	0.063544	ppm	0.001108	1.74	157.647000	Y 242.219
Pb (220.353 nm)	-0.000508 u	ppm	0.000935	> 100.00	2.467710	Y 242.219
S (181.972 nm)	8.738361	ppm	0.209976	2.40	4288.186868	Y 377.433
Sb (206.834 nm)	0.001089	ppm	0.001090	> 100.00	-17.474500	Y 377.433
Se (196.026 nm)	-0.004567 u	ppm	0.001926	42.18	9.291140	Y 242.219
Si (288.158 nm)	2.910630	ppm	0.058431	2.01	24787.500000	Y 377.433
Sn (189.925 nm)	-0.000673 u	ppm	0.000133	19.71	6.612930	Y 377.433
Sr (421.552 nm)	0.131576	ppm	0.000007	0.01	27264.829588	Y_R 488.368
Th (288.505 nm)	-0.001809 u	ppm	0.002172	> 100.00	79.730100	Y 377.433
Ti (336.122 nm)	0.000356	ppm	0.000055	15.58	-110.398000	Y 377.433
Tl (190.794 nm)	0.000446	ppm	0.000018	4.13	-6.241970	Y 377.433
U (409.013 nm)	-0.001218 u	ppm	0.001147	94.12	-186.526000	Y 377.433
V (292.401 nm)	-0.000379 u	ppm	0.000265	69.86	11.127600	Y 377.433
Zn (206.200 nm)	0.000303	ppm	0.000093	30.83	0.171176	Y 377.433
Zr (343.823 nm)	-0.000120 u	ppm	0.000022	17.94	0.252487	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.098325	20750.662457	0.001026	0.09
Y 377.433	1.102222	1118567.329761	0.001010	0.09
Y_R 377.433	1.181560	90793.600000	0.004225	0.36
Y_R 488.368	1.209570	53069.500000	0.004796	0.40
Y_R2 488.368	1.190079	102755.125164	0.010209	0.86

Sample Name: 280-115941-A-4-B MS

Date: 10/29/2018 8:53:22 PM Rack:Tube: 2:27

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.052287	ppm	0.000028	0.05	1860.180000	Y 377.433
Al (167.019 nm)	2.142770	ppm	0.003708	0.17	1136.200000	Y_R 377.433
Al H (396.152 nm)	2.039790	ppm	0.000015	0.00	5418.230055	Y_R 377.433
As (188.980 nm)	1.059060	ppm	0.001518	0.14	1267.920000	Y 242.219
B (249.678 nm)	1.606830 o	ppm	0.002021	0.13	38218.900000	Y 242.219
Ba (493.408 nm)	2.296480 o	ppm	0.007853	0.34	263473.000000	Y_R 488.368
Be (234.861 nm)	0.046118	ppm	0.000299	0.65	13277.100000	Y_R 488.368
Bi (223.061 nm)	2.021610	ppm	0.001761	0.09	4910.220000	Y 377.433
Ca (315.887 nm)	249.923735 o	ppm	0.999576	0.40	192220.184411	Y_R 377.433
Cd (214.439 nm)	0.096701	ppm	0.000244	0.25	5526.700000	Y 377.433
Co (228.615 nm)	0.490894	ppm	0.000151	0.03	8496.330000	Y 242.219
Cr (205.560 nm)	0.201375	ppm	0.001297	0.64	2934.360000	Y 377.433
Cu (324.754 nm)	0.249754	ppm	0.000197	0.08	12913.000000	Y 377.433
Fe (238.204 nm)	4.971895	ppm	0.028900	0.58	17958.283341	Y_R 377.433
Fe H (259.940 nm)	4.976620	ppm	0.026220	0.53	9238.860000	Y_R 377.433
K (766.491 nm)	58.675800	ppm	0.188067	0.32	65220.600000	Y_R2 488.368
Li (670.783 nm)	1.002760	ppm	0.001559	0.16	31194.000000	Y_R2 488.368
Mg (279.078 nm)	63.287800 o	ppm	0.030692	0.05	348128.000000	Y 377.433
Mn (257.610 nm)	2.247470 o	ppm	0.001282	0.06	507279.000000	Y 377.433
Mo (202.032 nm)	1.027430	ppm	0.001425	0.14	8572.970000	Y 377.433
Na (589.592 nm)	125.263000 o	ppm	0.699593	0.56	798823.000000	Y_R2 488.368
Na H (589.593 nm)	128.523268	ppm	0.478664	0.37	477250.691852	Y_R 488.368
Ni (231.604 nm)	0.477209	ppm	0.001023	0.21	3119.540000	Y 377.433
P (213.618 nm)	10.562200 o	ppm	0.013549	0.13	21758.700000	Y 242.219
Pb (220.353 nm)	0.491183	ppm	0.001447	0.29	1375.010000	Y 242.219
S (181.972 nm)	50.004097 o	ppm	0.001286	0.00	24392.454315	Y 377.433
Sb (206.834 nm)	0.528940	ppm	0.000548	0.10	1372.630000	Y 377.433
Se (196.026 nm)	2.082970	ppm	0.002946	0.14	1971.810000	Y 242.219
Si (288.158 nm)	25.808500 o	ppm	0.003358	0.01	211784.000000	Y 377.433
Sn (189.925 nm)	2.004380	ppm	0.001992	0.10	3831.760000	Y 377.433
Sr (421.552 nm)	1.607705 o	ppm	0.011374	0.71	331510.725451	Y_R 488.368
Th (288.505 nm)	1.009630	ppm	0.001205	0.12	2661.510000	Y 377.433
Ti (336.122 nm)	1.021010	ppm	0.000908	0.09	143076.000000	Y 377.433
Tl (190.794 nm)	1.974500	ppm	0.001865	0.09	4202.450000	Y 377.433
U (409.013 nm)	2.107350	ppm	0.012292	0.58	9110.400000	Y 377.433
V (292.401 nm)	0.509258	ppm	0.000115	0.02	17832.900000	Y 377.433
Zn (206.200 nm)	0.472059	ppm	0.000425	0.09	2359.220000	Y 377.433
Zr (343.823 nm)	0.503751	ppm	0.000173	0.03	64855.800000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.048818	19815.324415	0.000221	0.02
Y 377.433	1.059082	1074788.021987	0.000541	0.05
Y_R 377.433	1.158960	89056.400000	0.008387	0.72
Y_R 488.368	1.194870	52424.500000	0.009151	0.77
Y_R2 488.368	1.174472	101407.527310	0.000916	0.08

Sample Name: 280-115941-A-4-C MSD

Date: 10/29/2018 8:56:46 PM Rack:Tube: 2:28

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.052810	ppm	0.000139	0.26	1882.870000	Y 377.433
Al (167.019 nm)	2.155980	ppm	0.012786	0.59	1143.190000	Y_R 377.433
Al H (396.152 nm)	2.063005	ppm	0.011139	0.54	5478.397382	Y_R 377.433
As (188.980 nm)	1.081910	ppm	0.001483	0.14	1295.330000	Y 242.219
B (249.678 nm)	1.613230 o	ppm	0.001681	0.10	38371.200000	Y 242.219
Ba (493.408 nm)	2.325340 o	ppm	0.003543	0.15	266776.000000	Y_R 488.368
Be (234.861 nm)	0.047297	ppm	0.000106	0.22	13614.700000	Y_R 488.368
Bi (223.061 nm)	2.052370	ppm	0.004375	0.21	4984.810000	Y 377.433
Ca (315.887 nm)	250.575079 o	ppm	0.888694	0.35	192721.312232	Y_R 377.433
Cd (214.439 nm)	0.098665	ppm	0.000096	0.10	5638.870000	Y 377.433
Co (228.615 nm)	0.502006	ppm	0.001685	0.34	8689.110000	Y 242.219
Cr (205.560 nm)	0.206534	ppm	0.000080	0.04	3009.540000	Y 377.433
Cu (324.754 nm)	0.253998	ppm	0.000156	0.06	13141.000000	Y 377.433
Fe (238.204 nm)	4.977005	ppm	0.013250	0.27	17976.722310	Y_R 377.433
Fe H (259.940 nm)	4.978120	ppm	0.017794	0.36	9241.600000	Y_R 377.433
K (766.491 nm)	58.962500	ppm	0.341649	0.58	65542.700000	Y_R2 488.368
Li (670.783 nm)	1.011780	ppm	0.005317	0.53	31487.100000	Y_R2 488.368
Mg (279.078 nm)	64.307100 o	ppm	0.122124	0.19	353735.000000	Y 377.433
Mn (257.610 nm)	2.252890 o	ppm	0.003787	0.17	508504.000000	Y 377.433
Mo (202.032 nm)	1.043840	ppm	0.000740	0.07	8709.870000	Y 377.433
Na (589.592 nm)	124.268000 o	ppm	0.078687	0.06	792573.000000	Y_R2 488.368
Na H (589.593 nm)	128.980716	ppm	0.182158	0.14	478957.637875	Y_R 488.368
Ni (231.604 nm)	0.488933	ppm	0.001927	0.39	3196.230000	Y 377.433
P (213.618 nm)	10.715100 o	ppm	0.044833	0.42	22073.200000	Y 242.219
Pb (220.353 nm)	0.497417	ppm	0.000432	0.09	1392.370000	Y 242.219
S (181.972 nm)	49.762966 o	ppm	0.089243	0.18	24275.019375	Y 377.433
Sb (206.834 nm)	0.535222	ppm	0.000317	0.06	1389.270000	Y 377.433
Se (196.026 nm)	2.112960	ppm	0.010873	0.51	1999.990000	Y 242.219
Si (288.158 nm)	25.756300 o	ppm	0.005273	0.02	211358.000000	Y 377.433
Sn (189.925 nm)	2.041730	ppm	0.001990	0.10	3903.010000	Y 377.433
Sr (421.552 nm)	1.620851 o	ppm	0.002694	0.17	334220.232117	Y_R 488.368
Th (288.505 nm)	1.026700	ppm	0.005632	0.55	2704.350000	Y 377.433
Ti (336.122 nm)	1.034260	ppm	0.000585	0.06	144927.000000	Y 377.433
Tl (190.794 nm)	2.013990	ppm	0.002242	0.11	4286.670000	Y 377.433
U (409.013 nm)	2.127610	ppm	0.013949	0.66	9199.870000	Y 377.433
V (292.401 nm)	0.517877	ppm	0.000432	0.08	18134.500000	Y 377.433
Zn (206.200 nm)	0.482825	ppm	0.001801	0.37	2413.060000	Y 377.433
Zr (343.823 nm)	0.510006	ppm	0.000290	0.06	65660.800000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.039979	19648.337002	0.002225	0.21
Y 377.433	1.047579	1063113.842432	0.002515	0.24
Y_R 377.433	1.136520	87332.500000	0.005393	0.47
Y_R 488.368	1.171470	51397.900000	0.001090	0.09
Y_R2 488.368	1.163842	100489.724545	0.004804	0.41

Sample Name: CCVH-5380945

Date: 10/29/2018 9:00:08 PM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.001820 u	ppm	0.000260	14.31	-757.820000	Y 377.433
Al (167.019 nm)	50.057700 o	ppm	0.044752	0.09	26479.900000	Y_R 377.433
Al H (396.152 nm)	49.714014	ppm	0.219560	0.44	125573.028785	Y_R 377.433
As (188.980 nm)	0.000148 u	ppm	0.000900	> 100.00	-2.839060	Y 242.219
B (249.678 nm)	0.000721	ppm	0.000436	60.47	35.140000	Y 242.219
Ba (493.408 nm)	-0.000265 u	ppm	0.000066	24.81	591.425000	Y_R 488.368
Be (234.861 nm)	-0.000360 u	ppm	0.000060	16.54	1421.610000	Y_R 488.368
Bi (223.061 nm)	1.034190	ppm	0.001325	0.13	2523.460000	Y 377.433
Ca (315.887 nm)	0.012410	ppm	0.000531	4.28	-54.910834	Y_R 377.433
Cd (214.439 nm)	-0.000283 u	ppm	0.000096	33.77	30.561400	Y 377.433
Co (228.615 nm)	0.003481	ppm	0.000076	2.20	26.052800	Y 242.219
Cr (205.560 nm)	-0.000298 u	ppm	0.000342	> 100.00	-16.548900	Y 377.433
Cu (324.754 nm)	-0.006193 u	ppm	0.000022	0.36	-334.225000	Y 377.433
Fe (238.204 nm)	52.324592 o	ppm	0.275777	0.53	188836.020989	Y_R 377.433
Fe H (259.940 nm)	53.142000	ppm	0.220986	0.42	97180.300000	Y_R 377.433
K (766.491 nm)	0.191087	ppm	0.024090	12.61	-474.499000	Y_R2 488.368
Li (670.783 nm)	0.011122	ppm	0.000249	2.24	-1023.640000	Y_R2 488.368
Mg (279.078 nm)	-0.017792 u	ppm	0.000745	4.19	-414.802000	Y 377.433
Mn (257.610 nm)	0.001524	ppm	0.000000	0.02	405.431000	Y 377.433
Mo (202.032 nm)	0.000070	ppm	0.000074	> 100.00	-1.824050	Y 377.433
Na (589.592 nm)	228.577000 o	ppm	0.008499	0.00	1449040.000000	Y_R2 488.368
Na H (589.593 nm)	236.703069	ppm	2.061358	0.87	872296.607082	Y_R 488.368
Ni (231.604 nm)	0.003483	ppm	0.000383	10.99	22.505700	Y 377.433
P (213.618 nm)	-0.007749 u	ppm	0.000467	6.03	10.959800	Y 242.219
Pb (220.353 nm)	-0.004027 u	ppm	0.000653	16.22	10.237000	Y 242.219
S (181.972 nm)	5.237462	ppm	0.019802	0.38	2582.149194	Y 377.433
Sb (206.834 nm)	-0.006676 u	ppm	0.002677	40.10	-83.581400	Y 377.433
Se (196.026 nm)	-0.002187 u	ppm	0.005763	> 100.00	2.415770	Y 242.219
Si (288.158 nm)	0.002381	ppm	0.002088	87.70	1037.070000	Y 377.433
Sn (189.925 nm)	0.001762	ppm	0.000743	42.20	11.257000	Y 377.433
Sr (421.552 nm)	0.000349	ppm	0.000005	1.40	217.622405	Y_R 488.368
Th (288.505 nm)	5.090150	ppm	0.004326	0.08	12807.300000	Y 377.433
Ti (336.122 nm)	0.002044	ppm	0.000050	2.45	-0.898790	Y 377.433
Tl (190.794 nm)	-0.001196 u	ppm	0.000189	15.77	-11.075100	Y 377.433
U (409.013 nm)	10.476000	ppm	0.029117	0.28	46428.600000	Y 377.433
V (292.401 nm)	0.002931	ppm	0.000132	4.49	-45.470500	Y 377.433
Zn (206.200 nm)	0.001264	ppm	0.000137	10.87	4.976840	Y 377.433
Zr (343.823 nm)	-0.004681 u	ppm	0.000068	1.45	-439.190000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.082669	20454.885068	0.000510	0.05
Y 377.433	1.072350	1088252.155465	0.000176	0.02
Y_R 377.433	1.163920	89437.600000	0.002167	0.19
Y_R 488.368	1.196890	52513.500000	0.007784	0.65
Y_R2 488.368	1.187590	102540.219531	0.003657	0.31

Sample Name: CCV-5391053

Date: 10/29/2018 9:03:31 PM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.496886	ppm	0.001084	0.22	21596.900000	Y 377.433
Al (167.019 nm)	0.563195 Q	ppm	0.001933	0.34	300.224000 Q	Y_R 377.433
Al H (396.152 nm)	0.494238 u	ppm	0.001846	0.37	1368.471875	Y_R 377.433
As (188.980 nm)	1.019170	ppm	0.000747	0.07	1220.080000	Y 242.219
B (249.678 nm)	0.502844	ppm	0.000005	0.00	12037.300000	Y 242.219
Ba (493.408 nm)	0.498487	ppm	0.002249	0.45	57638.900000	Y_R 488.368
Be (234.861 nm)	0.456971	ppm	0.001402	0.31	131215.000000	Y_R 488.368
Bi (223.061 nm)	-0.000411 u	ppm	0.000977	> 100.00	6.807580	Y 377.433
Ca (315.887 nm)	5.263336	ppm	0.015651	0.30	3985.284576	Y_R 377.433
Cd (214.439 nm)	0.502597	ppm	0.001668	0.33	28708.200000	Y 377.433
Co (228.615 nm)	0.508352	ppm	0.000203	0.04	8781.350000	Y 242.219
Cr (205.560 nm)	0.512319	ppm	0.001342	0.26	7466.290000	Y 377.433
Cu (324.754 nm)	0.505335	ppm	0.001275	0.25	26632.200000	Y 377.433
Fe (238.204 nm)	2.630620	ppm	0.012365	0.47	9509.517376	Y_R 377.433
Fe H (259.940 nm)	2.604010 u	ppm	0.013059	0.50	4906.900000	Y_R 377.433
K (766.491 nm)	48.186000	ppm	0.033500	0.07	53437.600000	Y_R2 488.368
Li (670.783 nm)	0.964313	ppm	0.001534	0.16	29945.000000	Y_R2 488.368
Mg (279.078 nm)	19.404000	ppm	0.041377	0.21	106774.000000	Y 377.433
Mn (257.610 nm)	0.506684	ppm	0.000958	0.19	114412.000000	Y 377.433
Mo (202.032 nm)	0.510713	ppm	0.001028	0.20	4260.210000	Y 377.433
Na (589.592 nm)	4.709030	ppm	0.001069	0.02	31426.300000	Y_R2 488.368
Na H (589.593 nm)	4.716211 u	ppm	0.028478	0.60	20971.694099	Y_R 488.368
Ni (231.604 nm)	0.514728	ppm	0.000134	0.03	3363.630000	Y 377.433
P (213.618 nm)	0.988215	ppm	0.002709	0.27	2060.160000	Y 242.219
Pb (220.353 nm)	1.006970	ppm	0.002225	0.22	2811.070000	Y 242.219
S (181.972 nm)	-0.005651 u	ppm	0.004980	88.13	29.464166	Y 377.433
Sb (206.834 nm)	1.022490	ppm	0.003070	0.30	2696.300000	Y 377.433
Se (196.026 nm)	1.017010	ppm	0.002000	0.20	969.134000	Y 242.219
Si (288.158 nm)	4.975600	ppm	0.013805	0.28	41651.200000	Y 377.433
Sn (189.925 nm)	1.009440	ppm	0.001180	0.12	1933.670000	Y 377.433
Sr (421.552 nm)	0.485135	ppm	0.001419	0.29	100137.163268	Y_R 488.368
Th (288.505 nm)	0.001794	ppm	0.001855	> 100.00	98.205800	Y 377.433
Ti (336.122 nm)	0.508996	ppm	0.000658	0.13	70814.900000	Y 377.433
Tl (190.794 nm)	1.028670	ppm	0.003323	0.32	2187.040000	Y 377.433
U (409.013 nm)	0.004167	ppm	0.004679	> 100.00	-192.718000	Y 377.433
V (292.401 nm)	0.502400	ppm	0.000792	0.16	17551.400000	Y 377.433
Zn (206.200 nm)	0.499289	ppm	0.001358	0.27	2495.390000	Y 377.433
Zr (343.823 nm)	0.508429	ppm	0.000265	0.05	65451.100000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.100116	20784.502551	0.001597	0.15
Y 377.433	1.099043	1115341.480017	0.002791	0.25
Y_R 377.433	1.181610	90797.200000	0.002086	0.18
Y_R 488.368	1.215060	53310.700000	0.003484	0.29
Y_R2 488.368	1.194293	103118.969899	0.000439	0.04

Sample Name: CCB

Date: 10/29/2018 9:06:54 PM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000023 u	ppm	0.000230	> 100.00	-432.304000	Y 377.433
Al (167.019 nm)	-0.000241 u	ppm	0.002323	> 100.00	0.875060	Y_R 377.433
Al H (396.152 nm)	-0.026602 u	ppm	0.009018	33.90	10.702423	Y_R 377.433
As (188.980 nm)	-0.000649 u	ppm	0.000921	> 100.00	-3.350380	Y 242.219
B (249.678 nm)	0.001241	ppm	0.000033	2.64	122.646000	Y 242.219
Ba (493.408 nm)	-0.001046 u	ppm	0.000060	5.71	453.565000	Y_R 488.368
Be (234.861 nm)	0.000066	ppm	0.000005	8.08	-40.932300	Y_R 488.368
Bi (223.061 nm)	0.004215	ppm	0.001498	35.54	17.604000	Y 377.433
Ca (315.887 nm)	0.015265	ppm	0.002701	17.70	-52.715041	Y_R 377.433
Cd (214.439 nm)	0.000031 u	ppm	0.000076	> 100.00	0.179620	Y 377.433
Co (228.615 nm)	0.000223	ppm	0.000057	25.41	-30.350600	Y 242.219
Cr (205.560 nm)	-0.000023 u	ppm	0.000122	> 100.00	1.345050	Y 377.433
Cu (324.754 nm)	0.000530	ppm	0.000322	60.70	-283.143000	Y 377.433
Fe (238.204 nm)	-0.000245 u	ppm	0.000470	> 100.00	15.733722	Y_R 377.433
Fe H (259.940 nm)	-0.078911 u	ppm	0.001577	2.00	8.367610	Y_R 377.433
K (766.491 nm)	0.161911	ppm	0.074665	46.11	-507.272000	Y_R2 488.368
Li (670.783 nm)	0.010521 Z	ppm	0.000632	6.00	-1043.190000 Z	Y_R2 488.368
Mg (279.078 nm)	0.002009	ppm	0.001398	69.60	45.532700	Y 377.433
Mn (257.610 nm)	0.000023	ppm	0.000002	10.55	66.588000	Y 377.433
Mo (202.032 nm)	0.000856	ppm	0.000026	3.05	4.736770	Y 377.433
Na (589.592 nm)	-0.014820 u	ppm	0.006253	42.19	523.390000	Y_R2 488.368
Na H (589.593 nm)	-0.271580 u	ppm	0.000179	0.07	2187.482145	Y_R 488.368
Ni (231.604 nm)	-0.000508 u	ppm	0.000159	31.28	-5.660700	Y 377.433
P (213.618 nm)	-0.002115 u	ppm	0.002001	94.63	22.552700	Y 242.219
Pb (220.353 nm)	0.001293	ppm	0.000804	62.13	7.422560	Y 242.219
S (181.972 nm)	-0.010587 u	ppm	0.003627	34.26	25.897950	Y 377.433
Sb (206.834 nm)	0.001041	ppm	0.001060	> 100.00	-17.402900	Y 377.433
Se (196.026 nm)	-0.002228 u	ppm	0.003046	> 100.00	11.372300	Y 242.219
Si (288.158 nm)	-0.019463 u	ppm	0.000073	0.38	858.679000	Y 377.433
Sn (189.925 nm)	-0.001055 u	ppm	0.000146	13.85	5.883330	Y 377.433
Sr (421.552 nm)	-0.000145 u	ppm	0.000031	21.26	115.704734	Y_R 488.368
Th (288.505 nm)	0.001748	ppm	0.000117	6.71	81.773300	Y 377.433
Ti (336.122 nm)	0.000425	ppm	0.000016	3.82	-227.194000	Y 377.433
Tl (190.794 nm)	0.000972	ppm	0.000126	12.91	-5.101460	Y 377.433
U (409.013 nm)	0.003362	ppm	0.002016	59.97	-159.246000	Y 377.433
V (292.401 nm)	-0.000134 u	ppm	0.000381	> 100.00	19.862300	Y 377.433
Zn (206.200 nm)	0.000631	ppm	0.000089	14.13	1.813120	Y 377.433
Zr (343.823 nm)	0.000036 u	ppm	0.000068	> 100.00	18.036300	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.091079	20613.774428	0.000252	0.02
Y 377.433	1.087737	1103868.164018	0.001022	0.09
Y_R 377.433	1.159650	89109.900000	0.006462	0.56
Y_R 488.368	1.201500	52715.800000	0.011609	0.97
Y_R2 488.368	1.174178	101382.205731	0.004716	0.40

Sample Name: CCVL-5398386

Date: 10/29/2018 9:10:18 PM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.009015	ppm	0.000258	2.86	-33.507700	Y 377.433
Al (167.019 nm)	0.110378	ppm	0.000748	0.68	59.384600	Y_R 377.433
Al H (396.152 nm)	0.077345 u	ppm	0.001495	1.93	274.661106	Y_R 377.433
As (188.980 nm)	0.015000	ppm	0.003081	20.54	15.421300	Y 242.219
B (249.678 nm)	0.099589	ppm	0.000278	0.28	2455.620000	Y 242.219
Ba (493.408 nm)	0.009363	ppm	0.000074	0.79	1644.980000	Y_R 488.368
Be (234.861 nm)	0.000983	ppm	0.000015	1.55	225.045000	Y_R 488.368
Bi (223.061 nm)	0.106969	ppm	0.000617	0.58	266.781000	Y 377.433
Ca (315.887 nm)	0.223578	ppm	0.001964	0.88	107.558027	Y_R 377.433
Cd (214.439 nm)	0.005236	ppm	0.000008	0.16	297.591000	Y 377.433
Co (228.615 nm)	0.010675	ppm	0.000242	2.27	150.870000	Y 242.219
Cr (205.560 nm)	0.010164	ppm	0.000083	0.82	149.810000	Y 377.433
Cu (324.754 nm)	0.016066	ppm	0.000781	4.86	543.353000	Y 377.433
Fe (238.204 nm)	0.108068	ppm	0.000245	0.23	406.594945	Y_R 377.433
Fe H (259.940 nm)	0.027599 u	ppm	0.004258	15.43	202.835000	Y_R 377.433
K (766.491 nm)	3.107860	ppm	0.028137	0.91	2801.880000	Y_R2 488.368
Li (670.783 nm)	0.031096 Q	ppm	0.000801	2.58	-374.712000 Q	Y_R2 488.368
Mg (279.078 nm)	0.193894	ppm	0.000178	0.09	1099.940000	Y 377.433
Mn (257.610 nm)	0.010427	ppm	0.000006	0.06	2414.540000	Y 377.433
Mo (202.032 nm)	0.019331	ppm	0.000067	0.35	158.936000	Y 377.433
Na (589.592 nm)	0.970617	ppm	0.007606	0.78	6787.620000	Y_R2 488.368
Na H (589.593 nm)	0.665223 u	ppm	0.007113	1.07	5636.807471	Y_R 488.368
Ni (231.604 nm)	0.042849	ppm	0.000082	0.19	277.774000	Y 377.433
P (213.618 nm)	2.789510 o	ppm	0.003006	0.11	5766.340000	Y 242.219
Pb (220.353 nm)	0.009125	ppm	0.000424	4.64	29.277400	Y 242.219
S (181.972 nm)	0.087777	ppm	0.002687	3.06	73.833128	Y 377.433
Sb (206.834 nm)	0.020510	ppm	0.000626	3.05	34.198000	Y 377.433
Se (196.026 nm)	0.015195	ppm	0.000389	2.56	27.735500	Y 242.219
Si (288.158 nm)	0.467532	ppm	0.003427	0.73	4835.750000	Y 377.433
Sn (189.925 nm)	0.098384	ppm	0.002477	2.52	195.589000	Y 377.433
Sr (421.552 nm)	0.009506	ppm	0.000005	0.05	2104.887566	Y_R 488.368
Th (288.505 nm)	0.017204	ppm	0.000771	4.48	121.094000	Y 377.433
Ti (336.122 nm)	0.010774	ppm	0.000024	0.22	1218.780000	Y 377.433
Tl (190.794 nm)	0.015582	ppm	0.001124	7.21	26.031900	Y 377.433
U (409.013 nm)	0.063145	ppm	0.000216	0.34	105.373000	Y 377.433
V (292.401 nm)	0.009798	ppm	0.000125	1.27	364.273000	Y 377.433
Zn (206.200 nm)	0.021291	ppm	0.000689	3.24	105.121000	Y 377.433
Zr (343.823 nm)	0.015032	ppm	0.000020	0.13	1948.220000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.111511	20999.788079	0.000116	0.01
Y 377.433	1.107763	1124191.016289	0.000044	0.00
Y_R 377.433	1.179630	90644.600000	0.000571	0.05
Y_R 488.368	1.219830	53519.700000	0.001394	0.11
Y_R2 488.368	1.197367	103384.367121	0.005842	0.49

Sample Name: 280-115941-A-6-A

Date: 10/29/2018 9:13:42 PM Rack:Tube: 2:29

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000450	ppm	0.000175	38.83	-412.854000	Y 377.433
Al (167.019 nm)	26.743200 o	ppm	0.157468	0.59	14129.500000	Y_R 377.433
Al H (396.152 nm)	26.393498	ppm	0.087681	0.33	66816.950769	Y_R 377.433
As (188.980 nm)	0.005020	ppm	0.000495	9.86	3.448870	Y 242.219
B (249.678 nm)	0.281924	ppm	0.000861	0.31	6783.480000	Y 242.219
Ba (493.408 nm)	0.010061	ppm	0.000190	1.89	1784.210000	Y_R 488.368
Be (234.861 nm)	0.004946	ppm	0.000086	1.75	1365.590000	Y_R 488.368
Bi (223.061 nm)	-0.000281 u	ppm	0.002016	> 100.00	6.727160	Y 377.433
Ca (315.887 nm)	258.422387 o	ppm	1.106329	0.43	198758.772993	Y_R 377.433
Cd (214.439 nm)	0.013709	ppm	0.000021	0.15	781.614000	Y 377.433
Co (228.615 nm)	0.087135	ppm	0.000046	0.05	1473.900000	Y 242.219
Cr (205.560 nm)	0.000278	ppm	0.000014	4.93	5.660080	Y 377.433
Cu (324.754 nm)	0.002871	ppm	0.000054	1.90	-299.331000	Y 377.433
Fe (238.204 nm)	0.160550	ppm	0.002117	1.32	595.982473	Y_R 377.433
Fe H (259.940 nm)	0.072557 u	ppm	0.000026	0.04	284.920000	Y_R 377.433
K (766.491 nm)	31.852100	ppm	0.144033	0.45	35089.900000	Y_R2 488.368
Li (670.783 nm)	0.150503	ppm	0.002685	1.78	3504.770000	Y_R2 488.368
Mg (279.078 nm)	21.467700	ppm	0.064356	0.30	118131.000000	Y 377.433
Mn (257.610 nm)	1.030900	ppm	0.003784	0.37	232719.000000	Y 377.433
Mo (202.032 nm)	0.000145	ppm	0.000133	91.90	-1.195870	Y 377.433
Na (589.592 nm)	122.657000 o	ppm	0.208411	0.17	777877.000000	Y_R2 488.368
Na H (589.593 nm)	125.876098	ppm	1.999630	1.59	465380.364926	Y_R 488.368
Ni (231.604 nm)	0.161365	ppm	0.000538	0.33	1052.490000	Y 377.433
P (213.618 nm)	-0.001250 u	ppm	0.000622	49.74	24.333300	Y 242.219
Pb (220.353 nm)	0.003528	ppm	0.001192	33.79	5.338990	Y 242.219
S (181.972 nm)	338.083054 bo	ppm	0.003181	0.00	164708.696809	Y 377.433
Sb (206.834 nm)	-0.001383 u	ppm	0.001782	> 100.00	-25.732200	Y 377.433
Se (196.026 nm)	-0.001009 u	ppm	0.003651	> 100.00	13.646300	Y 242.219
Si (288.158 nm)	4.674960	ppm	0.010247	0.22	39196.000000	Y 377.433
Sn (189.925 nm)	-0.000466 u	ppm	0.000278	59.67	7.006150	Y 377.433
Sr (421.552 nm)	0.517221	ppm	0.007118	1.38	106750.399669	Y_R 488.368
Th (288.505 nm)	0.002922	ppm	0.000707	24.20	104.415000	Y 377.433
Ti (336.122 nm)	-0.000121 u	ppm	0.000034	28.14	491.090000	Y 377.433
Tl (190.794 nm)	0.002762	ppm	0.000215	7.80	-0.959193	Y 377.433
U (409.013 nm)	-0.057217 u	ppm	0.002313	4.04	-476.856000	Y 377.433
V (292.401 nm)	0.000246	ppm	0.000214	87.06	33.263500	Y 377.433
Zn (206.200 nm)	0.298015	ppm	0.001817	0.61	1488.900000	Y 377.433
Zr (343.823 nm)	0.003806	ppm	0.000056	1.46	503.688000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.147072	21671.645723	0.001145	0.10
Y 377.433	1.154241	1171358.104744	0.002575	0.22
Y_R 377.433	1.250640	96101.700000	0.001248	0.10
Y_R 488.368	1.280760	56193.100000	0.021326	1.67
Y_R2 488.368	1.261986	108963.797964	0.000628	0.05

Sample Name: 280-115941-A-7-A

Date: 10/29/2018 9:17:05 PM Rack:Tube: 2:30

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000180	ppm	0.000033	18.56	-425.475000	Y 377.433
Al (167.019 nm)	0.008072	ppm	0.000218	2.70	5.270730	Y_R 377.433
Al H (396.152 nm)	-0.019276 u	ppm	0.002759	14.31	29.157475	Y_R 377.433
As (188.980 nm)	0.001975	ppm	0.002475	> 100.00	-0.202926	Y 242.219
B (249.678 nm)	-0.000067 u	ppm	0.000183	> 100.00	91.614100	Y 242.219
Ba (493.408 nm)	-0.000642 u	ppm	0.000065	10.15	499.874000	Y_R 488.368
Be (234.861 nm)	0.000080	ppm	0.000025	31.05	-36.445400	Y_R 488.368
Bi (223.061 nm)	0.001829	ppm	0.000769	42.03	11.819200	Y 377.433
Ca (315.887 nm)	0.122074	ppm	0.006523	5.34	29.461390	Y_R 377.433
Cd (214.439 nm)	0.000055	ppm	0.000053	96.86	1.531480	Y 377.433
Co (228.615 nm)	0.000194	ppm	0.000065	33.59	-30.857200	Y 242.219
Cr (205.560 nm)	0.000246	ppm	0.000048	19.64	5.279090	Y 377.433
Cu (324.754 nm)	0.000623	ppm	0.000169	27.18	-278.935000	Y 377.433
Fe (238.204 nm)	0.005940	ppm	0.000037	0.62	38.054259	Y_R 377.433
Fe H (259.940 nm)	-0.073006 u	ppm	0.003512	4.81	19.148800	Y_R 377.433
K (766.491 nm)	0.185942	ppm	0.063473	34.14	-480.279000	Y_R2 488.368
Li (670.783 nm)	0.012729	ppm	0.000604	4.74	-971.428000	Y_R2 488.368
Mg (279.078 nm)	0.006046	ppm	0.000186	3.08	67.646200	Y 377.433
Mn (257.610 nm)	0.000265	ppm	0.000001	0.46	121.275000	Y 377.433
Mo (202.032 nm)	0.000065	ppm	0.000078	> 100.00	-1.862800	Y 377.433
Na (589.592 nm)	0.332328	ppm	0.001719	0.52	2723.810000	Y_R2 488.368
Na H (589.593 nm)	0.052321 u	ppm	0.007147	13.66	3377.082522	Y_R 488.368
Ni (231.604 nm)	-0.000057 u	ppm	0.000212	> 100.00	-2.712730	Y 377.433
P (213.618 nm)	-0.004961 u	ppm	0.000129	2.60	16.696400	Y 242.219
Pb (220.353 nm)	-0.000775 u	ppm	0.000274	35.29	1.662720	Y 242.219
S (181.972 nm)	0.025974	ppm	0.001349	5.19	43.706915	Y 377.433
Sb (206.834 nm)	0.000091 u	ppm	0.001081	> 100.00	-19.921900	Y 377.433
Se (196.026 nm)	-0.002944 u	ppm	0.000292	9.92	10.698500	Y 242.219
Si (288.158 nm)	0.233939	ppm	0.001879	0.80	2928.100000	Y 377.433
Sn (189.925 nm)	-0.000768 u	ppm	0.000273	35.54	6.430600	Y 377.433
Sr (421.552 nm)	0.000076	ppm	0.000038	49.46	161.327187	Y_R 488.368
Th (288.505 nm)	0.003976	ppm	0.001361	34.22	87.320900	Y 377.433
Ti (336.122 nm)	0.000865	ppm	0.000060	6.93	-165.381000	Y 377.433
Tl (190.794 nm)	0.000800	ppm	0.000131	16.33	-5.466710	Y 377.433
U (409.013 nm)	0.001285	ppm	0.000419	32.57	-168.459000	Y 377.433
V (292.401 nm)	-0.000184 u	ppm	0.000136	74.00	17.727700	Y 377.433
Zn (206.200 nm)	0.002552	ppm	0.000087	3.43	11.418400	Y 377.433
Zr (343.823 nm)	-0.000222 u	ppm	0.000126	56.47	-15.211900	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.117494	21112.819597	0.000585	0.05
Y 377.433	1.115665	1132209.770890	0.000550	0.05
Y_R 377.433	1.188980	91363.600000	0.000965	0.08
Y_R 488.368	1.218850	53476.900000	0.000242	0.02
Y_R2 488.368	1.213465	104774.382764	0.003203	0.26

Sample Name: 280-115955-A-1-A

Date: 10/29/2018 9:20:28 PM Rack:Tube: 2:31

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000672	ppm	0.000019	2.80	-404.005000	Y 377.433
Al (167.019 nm)	0.002002	ppm	0.000851	42.50	3.210570	Y_R 377.433
Al H (396.152 nm)	0.029018 u	ppm	0.003728	12.85	411.010585	Y_R 377.433
As (188.980 nm)	0.001247	ppm	0.000734	58.87	-1.092210	Y 242.219
B (249.678 nm)	1.625110 o	ppm	0.001983	0.12	38637.000000	Y 242.219
Ba (493.408 nm)	0.003064	ppm	0.000352	11.48	1061.830000	Y_R 488.368
Be (234.861 nm)	0.000067	ppm	0.000005	7.23	13.817500	Y_R 488.368
Bi (223.061 nm)	0.000115 u	ppm	0.000338	> 100.00	7.948060	Y 377.433
Ca (315.887 nm)	594.186228 o	ppm	2.794229	0.47	457086.422565	Y_R 377.433
Cd (214.439 nm)	0.000048	ppm	0.000047	98.46	2.798640	Y 377.433
Co (228.615 nm)	-0.000697 u	ppm	0.000263	37.75	-46.275100	Y 242.219
Cr (205.560 nm)	0.000373	ppm	0.000265	71.04	6.646560	Y 377.433
Cu (324.754 nm)	-0.000979 u	ppm	0.000039	3.93	-707.641000	Y 377.433
Fe (238.204 nm)	1.781903	ppm	0.007209	0.40	6446.823922	Y_R 377.433
Fe H (259.940 nm)	1.747900 u	ppm	0.003964	0.23	3343.800000	Y_R 377.433
K (766.491 nm)	8.638960	ppm	0.048563	0.56	9014.890000	Y_R2 488.368
Li (670.783 nm)	0.205135	ppm	0.000682	0.33	5279.740000	Y_R2 488.368
Mg (279.078 nm)	108.148000 o	ppm	0.428121	0.40	594966.000000	Y 377.433
Mn (257.610 nm)	0.035638	ppm	0.000007	0.02	8104.410000	Y 377.433
Mo (202.032 nm)	0.000076	ppm	0.000077	> 100.00	-1.768770	Y 377.433
Na (589.592 nm)	29.459300 o	ppm	0.033420	0.11	187301.000000	Y_R2 488.368
Na H (589.593 nm)	29.952071	ppm	0.598092	2.00	113165.708374	Y_R 488.368
Ni (231.604 nm)	-0.001879 u	ppm	0.000399	21.25	-14.549000	Y 377.433
P (213.618 nm)	0.000392 u	ppm	0.002891	> 100.00	27.711800	Y 242.219
Pb (220.353 nm)	0.000712	ppm	0.000523	73.45	5.895100	Y 242.219
S (181.972 nm)	566.431202 bo	ppm	0.479638	0.08	275931.434794	Y 377.433
Sb (206.834 nm)	-0.003446 u	ppm	0.000592	17.18	-29.699500	Y 377.433
Se (196.026 nm)	-0.004503 u	ppm	0.000227	5.04	8.931920	Y 242.219
Si (288.158 nm)	9.159940	ppm	0.137993	1.51	75822.800000	Y 377.433
Sn (189.925 nm)	0.000534 u	ppm	0.001266	> 100.00	8.915090	Y 377.433
Sr (421.552 nm)	12.320674 bo	ppm	0.197639	1.60	2539567.889614	Y_R 488.368
Th (288.505 nm)	0.002369	ppm	0.002650	> 100.00	84.030400	Y 377.433
Ti (336.122 nm)	-0.001411 u	ppm	0.000007	0.47	1345.480000	Y 377.433
Tl (190.794 nm)	0.003997	ppm	0.000089	2.22	1.310550	Y 377.433
U (409.013 nm)	-0.021525 u	ppm	0.000408	1.90	-379.292000	Y 377.433
V (292.401 nm)	0.000510	ppm	0.000650	> 100.00	43.788400	Y 377.433
Zn (206.200 nm)	0.001826	ppm	0.000169	9.23	7.789100	Y 377.433
Zr (343.823 nm)	-0.000388 u	ppm	0.000062	15.87	-31.405600	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.036003	19573.210225	0.001338	0.13
Y 377.433	1.048422	1063969.510274	0.002648	0.25
Y_R 377.433	1.153810	88660.900000	0.013907	1.21
Y_R 488.368	1.185640	52019.600000	0.031512	2.66
Y_R2 488.368	1.182541	102104.256803	0.010889	0.92

Sample Name: 280-115955-A-2-A

Date: 10/29/2018 9:23:51 PM Rack:Tube: 2:32

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001026	ppm	0.000010	0.98	-388.375000	Y 377.433
Al (167.019 nm)	0.079011	ppm	0.001272	1.61	43.761100	Y_R 377.433
Al H (396.152 nm)	0.107358 u	ppm	0.005216	4.86	596.701137	Y_R 377.433
As (188.980 nm)	-0.000969 u	ppm	0.000382	39.43	-3.748510	Y 242.219
B (249.678 nm)	2.266770 o	ppm	0.006156	0.27	53856.800000	Y 242.219
Ba (493.408 nm)	0.002671	ppm	0.000077	2.88	1010.420000	Y_R 488.368
Be (234.861 nm)	0.000063	ppm	0.000004	6.19	6.290050	Y_R 488.368
Bi (223.061 nm)	-0.000651 u	ppm	0.000606	92.96	6.056930	Y 377.433
Ca (315.887 nm)	566.530853 o	ppm	3.193660	0.56	435809.121872	Y_R 377.433
Cd (214.439 nm)	0.000073	ppm	0.000023	30.83	4.038340	Y 377.433
Co (228.615 nm)	-0.000743 u	ppm	0.000083	11.11	-46.658600	Y 242.219
Cr (205.560 nm)	0.000451	ppm	0.000030	6.56	7.844130	Y 377.433
Cu (324.754 nm)	-0.003039 u	ppm	0.000311	10.22	-800.954000	Y 377.433
Fe (238.204 nm)	1.576090	ppm	0.005892	0.37	5704.123324	Y_R 377.433
Fe H (259.940 nm)	1.519350 u	ppm	0.007819	0.51	2926.500000	Y_R 377.433
K (766.491 nm)	12.070600	ppm	0.013043	0.11	12869.600000	Y_R2 488.368
Li (670.783 nm)	0.324343	ppm	0.000567	0.17	9152.740000	Y_R2 488.368
Mg (279.078 nm)	137.118000 o	ppm	0.293367	0.21	754333.000000	Y 377.433
Mn (257.610 nm)	0.031291	ppm	0.000008	0.02	7123.310000	Y 377.433
Mo (202.032 nm)	0.000466	ppm	0.000323	69.27	1.481890	Y 377.433
Na (589.592 nm)	34.306600 o	ppm	0.014666	0.04	218016.000000	Y_R2 488.368
Na H (589.593 nm)	35.371347	ppm	0.318071	0.90	133063.604361	Y_R 488.368
Ni (231.604 nm)	-0.000020 u	ppm	0.000050	> 100.00	-2.409370	Y 377.433
P (213.618 nm)	0.006734	ppm	0.001519	22.56	40.759100	Y 242.219
Pb (220.353 nm)	0.000934 u	ppm	0.001508	> 100.00	6.481140	Y 242.219
S (181.972 nm)	597.250279 bo	ppm	1.455970	0.24	290942.943642	Y 377.433
Sb (206.834 nm)	-0.003501 u	ppm	0.001246	35.60	-29.803200	Y 377.433
Se (196.026 nm)	-0.000861 u	ppm	0.000202	23.47	12.394300	Y 242.219
Si (288.158 nm)	7.584380	ppm	0.054185	0.71	62956.000000	Y 377.433
Sn (189.925 nm)	0.000192 u	ppm	0.000355	> 100.00	8.261470	Y 377.433
Sr (421.552 nm)	11.281618 bo	ppm	0.057786	0.51	2325407.237917	Y_R 488.368
Th (288.505 nm)	0.006284	ppm	0.001661	26.43	93.637700	Y 377.433
Ti (336.122 nm)	0.012720	ppm	0.000033	0.26	3233.880000	Y 377.433
Tl (190.794 nm)	0.002729	ppm	0.001303	47.76	-1.444490	Y 377.433
U (409.013 nm)	-0.023850 u	ppm	0.005852	24.54	-384.651000	Y 377.433
V (292.401 nm)	0.001217	ppm	0.000109	8.96	69.093300	Y 377.433
Zn (206.200 nm)	0.002484	ppm	0.000201	8.09	11.078500	Y 377.433
Zr (343.823 nm)	-0.000204 u	ppm	0.000040	19.73	-8.275390	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.026556	19394.730035	0.010195	0.99
Y 377.433	1.037364	1052748.039818	0.012203	1.18
Y_R 377.433	1.146280	88082.200000	0.016809	1.47
Y_R 488.368	1.162790	51017.100000	0.005649	0.49
Y_R2 488.368	1.158732	100048.551358	0.012980	1.12

Sample Name: 280-115955-A-3-A

Date: 10/29/2018 9:27:14 PM Rack:Tube: 2:33

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001053	ppm	0.000223	21.20	-386.982000	Y 377.433
Al (167.019 nm)	0.004546	ppm	0.004971	> 100.00	4.593480	Y_R 377.433
Al H (396.152 nm)	0.029619 u	ppm	0.014253	48.12	418.185861	Y_R 377.433
As (188.980 nm)	-0.005067 u	ppm	0.002396	47.28	-8.667330	Y 242.219
B (249.678 nm)	1.649400 o	ppm	0.000892	0.05	39213.000000	Y 242.219
Ba (493.408 nm)	0.003368	ppm	0.000041	1.22	1099.660000	Y_R 488.368
Be (234.861 nm)	0.000081	ppm	0.000026	32.03	19.550200	Y_R 488.368
Bi (223.061 nm)	0.001617 u	ppm	0.002481	> 100.00	11.600700	Y 377.433
Ca (315.887 nm)	607.952829 o	ppm	0.497763	0.08	467678.074679	Y_R 377.433
Cd (214.439 nm)	0.000072	ppm	0.000036	49.43	4.225680	Y 377.433
Co (228.615 nm)	-0.000474 u	ppm	0.000371	78.19	-42.426100	Y 242.219
Cr (205.560 nm)	0.000291	ppm	0.000030	10.21	5.435350	Y 377.433
Cu (324.754 nm)	-0.003813 u	ppm	0.000184	4.83	-864.295000	Y 377.433
Fe (238.204 nm)	1.840482	ppm	0.002514	0.14	6658.212937	Y_R 377.433
Fe H (259.940 nm)	1.807430 u	ppm	0.000390	0.02	3452.490000	Y_R 377.433
K (766.491 nm)	8.883410	ppm	0.067901	0.76	9289.470000	Y_R2 488.368
Li (670.783 nm)	0.207828	ppm	0.000739	0.36	5367.220000	Y_R2 488.368
Mg (279.078 nm)	111.688000 o	ppm	0.588429	0.53	614439.000000	Y 377.433
Mn (257.610 nm)	0.036444	ppm	0.000122	0.33	8286.250000	Y 377.433
Mo (202.032 nm)	0.000290	ppm	0.000132	45.54	0.011536	Y 377.433
Na (589.592 nm)	30.275700 o	ppm	0.022142	0.07	192476.000000	Y_R2 488.368
Na H (589.593 nm)	30.644536	ppm	0.027345	0.09	115708.924777	Y_R 488.368
Ni (231.604 nm)	-0.000779 u	ppm	0.000494	63.44	-7.351840	Y 377.433
P (213.618 nm)	0.002473	ppm	0.001451	58.67	31.991900	Y 242.219
Pb (220.353 nm)	-0.002076 u	ppm	0.001660	79.98	-1.883460	Y 242.219
S (181.972 nm)	577.301065 bo	ppm	2.539528	0.44	281225.986890	Y 377.433
Sb (206.834 nm)	-0.003733 u	ppm	0.000053	1.41	-30.464200	Y 377.433
Se (196.026 nm)	0.002145 u	ppm	0.004445	> 100.00	15.167900	Y 242.219
Si (288.158 nm)	9.452100	ppm	0.049219	0.52	78208.800000	Y 377.433
Sn (189.925 nm)	0.001064	ppm	0.001255	> 100.00	9.925330	Y 377.433
Sr (421.552 nm)	12.514220 bo	ppm	0.042833	0.34	2579459.640732	Y_R 488.368
Th (288.505 nm)	0.004016	ppm	0.003175	79.06	88.006400	Y 377.433
Ti (336.122 nm)	-0.001437 u	ppm	0.000117	8.13	1381.460000	Y 377.433
Tl (190.794 nm)	0.003810	ppm	0.000956	25.10	0.909098	Y 377.433
U (409.013 nm)	-0.022731 u	ppm	0.002776	12.21	-387.000000	Y 377.433
V (292.401 nm)	0.000296	ppm	0.000013	4.51	37.240300	Y 377.433
Zn (206.200 nm)	0.001864	ppm	0.000473	25.37	7.978810	Y 377.433
Zr (343.823 nm)	-0.000345 u	ppm	0.000022	6.52	-25.671800	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.002411	18938.553455	0.013543	1.35
Y 377.433	1.007392	1022331.699197	0.010611	1.05
Y_R 377.433	1.120050	86066.900000	0.001398	0.12
Y_R 488.368	1.153950	50629.200000	0.002209	0.19
Y_R2 488.368	1.119713	96679.535066	0.004995	0.45

Sample Name: 280-115955-A-4-A

Date: 10/29/2018 9:30:36 PM Rack:Tube: 2:34

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001024	ppm	0.000238	23.23	-388.477000	Y 377.433
Al (167.019 nm)	-0.000781 u	ppm	0.000328	42.04	2.064210	Y_R 377.433
Al H (396.152 nm)	0.024712 u	ppm	0.003974	16.08	393.273804	Y_R 377.433
As (188.980 nm)	0.001254	ppm	0.000056	4.46	-1.088090	Y 242.219
B (249.678 nm)	2.588870 o	ppm	0.010737	0.41	61495.800000	Y 242.219
Ba (493.408 nm)	0.003251	ppm	0.000184	5.65	1080.100000	Y_R 488.368
Be (234.861 nm)	0.000089	ppm	0.000011	12.60	35.299300	Y_R 488.368
Bi (223.061 nm)	-0.000899 u	ppm	0.001046	> 100.00	5.569710	Y 377.433
Ca (315.887 nm)	578.282916 o	ppm	2.505247	0.43	444850.842199	Y_R 377.433
Cd (214.439 nm)	0.000036 u	ppm	0.000070	> 100.00	2.589220	Y 377.433
Co (228.615 nm)	-0.000557 u	ppm	0.000248	44.48	-43.869600	Y 242.219
Cr (205.560 nm)	-0.000003 u	ppm	0.000261	> 100.00	1.036300	Y 377.433
Cu (324.754 nm)	-0.003194 u	ppm	0.000227	7.09	-815.668000	Y 377.433
Fe (238.204 nm)	2.280081	ppm	0.010172	0.45	8244.559254	Y_R 377.433
Fe H (259.940 nm)	2.268020 u	ppm	0.001161	0.05	4293.450000	Y_R 377.433
K (766.491 nm)	10.324400	ppm	0.026826	0.26	10908.100000	Y_R2 488.368
Li (670.783 nm)	0.282149	ppm	0.001078	0.38	7781.860000	Y_R2 488.368
Mg (279.078 nm)	140.508000 o	ppm	0.718807	0.51	772983.000000	Y 377.433
Mn (257.610 nm)	0.034855	ppm	0.000062	0.18	7927.590000	Y 377.433
Mo (202.032 nm)	0.001060	ppm	0.000351	33.10	6.443400	Y 377.433
Na (589.592 nm)	56.809000 o	ppm	0.234223	0.41	360608.000000	Y_R2 488.368
Na H (589.593 nm)	59.732501	ppm	0.087365	0.15	222512.071538	Y_R 488.368
Ni (231.604 nm)	-0.000615 u	ppm	0.000257	41.75	-6.266290	Y 377.433
P (213.618 nm)	0.003522	ppm	0.001131	32.12	34.150700	Y 242.219
Pb (220.353 nm)	0.000486 u	ppm	0.000956	> 100.00	5.321300	Y 242.219
S (181.972 nm)	617.053662 bo	ppm	1.321886	0.21	300588.888062	Y 377.433
Sb (206.834 nm)	-0.002424 u	ppm	0.002480	> 100.00	-27.136400	Y 377.433
Se (196.026 nm)	-0.003336 u	ppm	0.002146	64.34	9.934160	Y 242.219
Si (288.158 nm)	8.016360	ppm	0.003174	0.04	66483.700000	Y 377.433
Sn (189.925 nm)	0.000838	ppm	0.000435	51.93	9.495390	Y 377.433
Sr (421.552 nm)	11.615368 bo	ppm	0.018723	0.16	2394196.737926	Y_R 488.368
Th (288.505 nm)	0.002406	ppm	0.000810	33.66	84.115000	Y 377.433
Ti (336.122 nm)	-0.001342 u	ppm	0.000002	0.18	1306.260000	Y 377.433
Tl (190.794 nm)	0.002983	ppm	0.001312	43.98	-0.868625	Y 377.433
U (409.013 nm)	-0.018473 u	ppm	0.003528	19.10	-362.276000	Y 377.433
V (292.401 nm)	0.000624	ppm	0.000385	61.69	47.995000	Y 377.433
Zn (206.200 nm)	0.000965	ppm	0.000335	34.73	3.483020	Y 377.433
Zr (343.823 nm)	-0.000454 u	ppm	0.000001	0.12	-38.403200	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.064113	20104.289101	0.008664	0.81
Y 377.433	1.080403	1096425.404778	0.012365	1.14
Y_R 377.433	1.203230	92458.300000	0.015724	1.31
Y_R 488.368	1.218100	53444.000000	0.021814	1.79
Y_R2 488.368	1.195523	103225.148638	0.001646	0.14

Sample Name: 280-115955-A-5-A

Date: 10/29/2018 9:33:59 PM Rack:Tube: 2:35

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001078	ppm	0.000170	15.79	-386.208000	Y 377.433
Al (167.019 nm)	0.000986 u	ppm	0.004715	> 100.00	2.529360	Y_R 377.433
Al H (396.152 nm)	0.032946 u	ppm	0.002626	7.97	408.000241	Y_R 377.433
As (188.980 nm)	0.000093 u	ppm	0.000722	> 100.00	-2.474620	Y 242.219
B (249.678 nm)	2.631440 o	ppm	0.006396	0.24	62506.600000	Y 242.219
Ba (493.408 nm)	0.003610	ppm	0.000125	3.47	1117.420000	Y_R 488.368
Be (234.861 nm)	0.000060	ppm	0.000006	10.88	4.772810	Y_R 488.368
Bi (223.061 nm)	0.001318 u	ppm	0.002102	> 100.00	10.829200	Y 377.433
Ca (315.887 nm)	564.720961 o	ppm	0.542689	0.10	434416.639418	Y_R 377.433
Cd (214.439 nm)	0.000009 u	ppm	0.000029	> 100.00	0.353162	Y 377.433
Co (228.615 nm)	-0.000790 u	ppm	0.000622	78.77	-47.887500	Y 242.219
Cr (205.560 nm)	0.000179	ppm	0.000190	> 100.00	3.886200	Y 377.433
Cu (324.754 nm)	-0.003242 u	ppm	0.000619	19.09	-811.221000	Y 377.433
Fe (238.204 nm)	1.556110	ppm	0.007032	0.45	5632.022266	Y_R 377.433
Fe H (259.940 nm)	1.501590 u	ppm	0.008581	0.57	2894.080000	Y_R 377.433
K (766.491 nm)	10.713500	ppm	0.027617	0.26	11345.200000	Y_R2 488.368
Li (670.783 nm)	0.272737	ppm	0.002100	0.77	7476.080000	Y_R2 488.368
Mg (279.078 nm)	164.240000 o	ppm	0.739404	0.45	903534.000000	Y 377.433
Mn (257.610 nm)	0.028488	ppm	0.000037	0.13	6490.700000	Y 377.433
Mo (202.032 nm)	0.000412	ppm	0.000085	20.73	1.031140	Y 377.433
Na (589.592 nm)	50.213400 o	ppm	0.318470	0.63	318814.000000	Y_R2 488.368
Na H (589.593 nm)	52.109720	ppm	0.380568	0.73	194523.457746	Y_R 488.368
Ni (231.604 nm)	-0.001032 u	ppm	0.000484	46.92	-9.020900	Y 377.433
P (213.618 nm)	0.000981 u	ppm	0.001550	> 100.00	28.921800	Y 242.219
Pb (220.353 nm)	-0.000849 u	ppm	0.000513	60.35	1.538970	Y 242.219
S (181.972 nm)	641.112355 bo	ppm	1.225483	0.19	312307.508672	Y 377.433
Sb (206.834 nm)	-0.004327 u	ppm	0.001248	28.85	-31.997400	Y 377.433
Se (196.026 nm)	-0.000926 u	ppm	0.003826	> 100.00	12.329400	Y 242.219
Si (288.158 nm)	7.777530	ppm	0.014256	0.18	64533.400000	Y 377.433
Sn (189.925 nm)	0.000019 u	ppm	0.002008	> 100.00	7.932770	Y 377.433
Sr (421.552 nm)	11.034221 bo	ppm	0.085388	0.77	2274416.079571	Y_R 488.368
Th (288.505 nm)	0.001734	ppm	0.002079	> 100.00	82.411900	Y 377.433
Ti (336.122 nm)	-0.001352 u	ppm	0.000056	4.11	1262.600000	Y 377.433
Tl (190.794 nm)	0.003967	ppm	0.001979	49.88	1.252020	Y 377.433
U (409.013 nm)	-0.024712 u	ppm	0.006150	24.89	-388.100000	Y 377.433
V (292.401 nm)	0.000587	ppm	0.000296	50.42	46.432700	Y 377.433
Zn (206.200 nm)	0.000217	ppm	0.000187	86.11	-0.260396	Y 377.433
Zr (343.823 nm)	-0.000443 u	ppm	0.000004	0.79	-39.166400	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	0.999764	18888.547077	0.008543	0.85
Y 377.433	1.006964	1021896.931862	0.012923	1.28
Y_R 377.433	1.152300	88544.500000	0.005384	0.47
Y_R 488.368	1.176110	51601.400000	0.008855	0.75
Y_R2 488.368	1.190036	102751.397625	0.000073	0.01

Sample Name: 280-115955-A-6-A

Date: 10/29/2018 9:37:21 PM Rack:Tube: 2:36

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000440	ppm	0.000039	8.84	-414.014000	Y 377.433
Al (167.019 nm)	0.003115	ppm	0.000896	28.76	2.659480	Y_R 377.433
Al H (396.152 nm)	-0.026257 u	ppm	0.001065	4.06	11.546735	Y_R 377.433
As (188.980 nm)	0.000791 u	ppm	0.001168	> 100.00	-1.623290	Y 242.219
B (249.678 nm)	0.001889	ppm	0.000320	16.92	138.004000	Y 242.219
Ba (493.408 nm)	-0.000937 u	ppm	0.000084	8.93	466.121000	Y_R 488.368
Be (234.861 nm)	0.000052	ppm	0.000016	31.31	-44.396200	Y_R 488.368
Bi (223.061 nm)	0.001128	ppm	0.000419	37.17	10.122600	Y 377.433
Ca (315.887 nm)	0.054611	ppm	0.010442	19.12	-22.443235	Y_R 377.433
Cd (214.439 nm)	0.000018 u	ppm	0.000034	> 100.00	-0.574003	Y 377.433
Co (228.615 nm)	0.000601	ppm	0.000243	40.38	-23.819400	Y 242.219
Cr (205.560 nm)	0.000142 u	ppm	0.000258	> 100.00	3.755670	Y 377.433
Cu (324.754 nm)	0.001013	ppm	0.000398	39.26	-258.474000	Y 377.433
Fe (238.204 nm)	0.017029	ppm	0.001962	11.52	78.070707	Y_R 377.433
Fe H (259.940 nm)	-0.064050 u	ppm	0.001838	2.87	35.500100	Y_R 377.433
K (766.491 nm)	0.191345	ppm	0.015393	8.04	-474.209000	Y_R2 488.368
Li (670.783 nm)	0.013553	ppm	0.000717	5.29	-944.684000	Y_R2 488.368
Mg (279.078 nm)	0.004674	ppm	0.000328	7.01	60.088400	Y 377.433
Mn (257.610 nm)	0.000167	ppm	0.000006	3.88	99.196100	Y 377.433
Mo (202.032 nm)	0.000497	ppm	0.000108	21.84	1.737850	Y 377.433
Na (589.592 nm)	0.035231	ppm	0.008423	23.91	841.110000	Y_R2 488.368
Na H (589.593 nm)	-0.348855 u	ppm	0.001830	0.52	1904.022460	Y_R 488.368
Ni (231.604 nm)	0.000125	ppm	0.000065	51.70	-1.522570	Y 377.433
P (213.618 nm)	-0.005300 u	ppm	0.002294	43.29	15.998900	Y 242.219
Pb (220.353 nm)	0.000075 u	ppm	0.000570	> 100.00	4.033680	Y 242.219
S (181.972 nm)	0.107052	ppm	0.009907	9.25	83.198775	Y 377.433
Sb (206.834 nm)	0.001319 u	ppm	0.002090	> 100.00	-16.675600	Y 377.433
Se (196.026 nm)	-0.005499 u	ppm	0.000969	17.63	8.295350	Y 242.219
Si (288.158 nm)	-0.011479 u	ppm	0.000155	1.35	923.880000	Y 377.433
Sn (189.925 nm)	-0.001656 u	ppm	0.000861	52.01	4.736580	Y 377.433
Sr (421.552 nm)	0.000017	ppm	0.000020	> 100.00	149.113527	Y_R 488.368
Th (288.505 nm)	0.003516	ppm	0.001991	56.63	86.187600	Y 377.433
Ti (336.122 nm)	0.000757	ppm	0.000092	12.16	-180.630000	Y 377.433
Tl (190.794 nm)	0.000325	ppm	0.000215	66.28	-6.482030	Y 377.433
U (409.013 nm)	0.002583	ppm	0.000489	18.95	-162.670000	Y 377.433
V (292.401 nm)	-0.000086 u	ppm	0.000096	> 100.00	21.012400	Y 377.433
Zn (206.200 nm)	0.001204	ppm	0.000207	17.20	4.676500	Y 377.433
Zr (343.823 nm)	-0.000197 u	ppm	0.000048	24.53	-11.877400	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.123199	21220.611352	0.001139	0.10
Y 377.433	1.120158	1136769.332770	0.001078	0.10
Y_R 377.433	1.199510	92172.600000	0.007161	0.60
Y_R 488.368	1.227600	53860.700000	0.003032	0.25
Y_R2 488.368	1.215962	104989.919360	0.000731	0.06

Sample Name: 280-116042-A-1-A

Date: 10/29/2018 9:40:44 PM Rack:Tube: 2:37

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001457	ppm	0.000404	27.73	-368.530000	Y 377.433
Al (167.019 nm)	0.002442	ppm	0.001908	78.15	2.355840	Y_R 377.433
Al H (396.152 nm)	0.026473 u	ppm	0.000177	0.67	314.152796	Y_R 377.433
As (188.980 nm)	0.003173	ppm	0.003966	> 100.00	1.233410	Y 242.219
B (249.678 nm)	0.414431	ppm	0.000071	0.02	9923.170000	Y 242.219
Ba (493.408 nm)	0.482970	ppm	0.002238	0.46	55940.000000	Y_R 488.368
Be (234.861 nm)	-0.000016 u	ppm	0.000006	39.36	-61.614700	Y_R 488.368
Bi (223.061 nm)	-0.001511 u	ppm	0.000312	20.68	3.736010	Y 377.433
Ca (315.887 nm)	387.385619 o	ppm	0.800865	0.21	297979.603119	Y_R 377.433
Cd (214.439 nm)	0.000305	ppm	0.000021	6.89	15.924200	Y 377.433
Co (228.615 nm)	0.003845	ppm	0.000004	0.09	32.327800	Y 242.219
Cr (205.560 nm)	0.000257	ppm	0.000057	22.30	5.410110	Y 377.433
Cu (324.754 nm)	-0.000653 u	ppm	0.000100	15.36	-566.098000	Y 377.433
Fe (238.204 nm)	0.097734	ppm	0.001880	1.92	369.302408	Y_R 377.433
Fe H (259.940 nm)	0.014377 u	ppm	0.004295	29.87	178.694000	Y_R 377.433
K (766.491 nm)	15.667200	ppm	0.057864	0.37	16909.600000	Y_R2 488.368
Li (670.783 nm)	0.049055	ppm	0.000591	1.20	208.771000	Y_R2 488.368
Mg (279.078 nm)	30.878400	ppm	0.004312	0.01	169901.000000	Y 377.433
Mn (257.610 nm)	4.961350 o	ppm	0.000546	0.01	1119760.000000	Y 377.433
Mo (202.032 nm)	0.001774	ppm	0.000204	11.50	12.398000	Y 377.433
Na (589.592 nm)	356.341000 o	ppm	0.343184	0.10	2259570.000000	Y_R2 488.368
Na H (589.593 nm)	365.143436	ppm	0.546001	0.15	1344353.641470	Y_R 488.368
Ni (231.604 nm)	0.005410	ppm	0.000718	13.27	33.039600	Y 377.433
P (213.618 nm)	0.214307	ppm	0.003307	1.54	467.842000	Y 242.219
Pb (220.353 nm)	0.001270 u	ppm	0.002234	> 100.00	7.247270	Y 242.219
S (181.972 nm)	56.456308 o	ppm	0.041812	0.07	27541.521607	Y 377.433
Sb (206.834 nm)	-0.002177 u	ppm	0.000514	23.61	-25.875300	Y 377.433
Se (196.026 nm)	-0.001990 u	ppm	0.000130	6.51	15.375200	Y 242.219
Si (288.158 nm)	16.692900 o	ppm	0.009256	0.06	137342.000000	Y 377.433
Sn (189.925 nm)	0.000321 u	ppm	0.000661	> 100.00	8.507760	Y 377.433
Sr (421.552 nm)	1.295226 o	ppm	0.005048	0.39	267105.505585	Y_R 488.368
Th (288.505 nm)	0.005562	ppm	0.001771	31.83	186.187000	Y 377.433
Ti (336.122 nm)	-0.000450 u	ppm	0.000038	8.49	842.495000	Y 377.433
Tl (190.794 nm)	0.002699	ppm	0.001314	48.66	-1.408120	Y 377.433
U (409.013 nm)	-0.010151 u	ppm	0.001297	12.78	-291.586000	Y 377.433
V (292.401 nm)	0.000700	ppm	0.000071	10.21	52.864800	Y 377.433
Zn (206.200 nm)	0.002213	ppm	0.000376	16.99	9.723170	Y 377.433
Zr (343.823 nm)	-0.000414 u	ppm	0.000073	17.73	-39.624600	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.041595	19678.872448	0.003078	0.30
Y 377.433	1.052368	1067973.943345	0.004114	0.39
Y_R 377.433	1.181990	90826.300000	0.001953	0.17
Y_R 488.368	1.210340	53103.200000	0.000561	0.05
Y_R2 488.368	1.178512	101756.425371	0.001142	0.10

Sample Name: 280-116042-A-4-A

Date: 10/29/2018 9:44:07 PM Rack:Tube: 2:38

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000916	ppm	0.000020	2.13	-393.079000	Y 377.433
Al (167.019 nm)	0.002603	ppm	0.000087	3.36	6.422130	Y_R 377.433
Al H (396.152 nm)	0.011641 u	ppm	0.000038	0.33	193.952135	Y_R 377.433
As (188.980 nm)	0.012147	ppm	0.002608	21.47	11.946000	Y 242.219
B (249.678 nm)	0.391535	ppm	0.001005	0.26	9371.280000	Y 242.219
Ba (493.408 nm)	0.255903	ppm	0.003227	1.26	29913.500000	Y_R 488.368
Be (234.861 nm)	-0.000017 u	ppm	0.000006	33.66	125.795000	Y_R 488.368
Bi (223.061 nm)	-0.000480 u	ppm	0.000679	> 100.00	7.224080	Y 377.433
Ca (315.887 nm)	197.885097 o	ppm	0.357707	0.18	152183.004972	Y_R 377.433
Cd (214.439 nm)	-0.000011 u	ppm	0.000009	76.98	3.576400	Y 377.433
Co (228.615 nm)	0.007128	ppm	0.000086	1.21	89.146300	Y 242.219
Cr (205.560 nm)	0.000050	ppm	0.000028	55.74	0.727663	Y 377.433
Cu (324.754 nm)	-0.000335 u	ppm	0.000279	83.32	-440.032000	Y 377.433
Fe (238.204 nm)	6.234785 o	ppm	0.007589	0.12	22515.567131	Y_R 377.433
Fe H (259.940 nm)	6.334250	ppm	0.002015	0.03	11717.700000	Y_R 377.433
K (766.491 nm)	10.488800	ppm	0.032077	0.31	11092.800000	Y_R2 488.368
Li (670.783 nm)	0.033961	ppm	0.000575	1.69	-281.638000	Y_R2 488.368
Mg (279.078 nm)	14.049400	ppm	0.029589	0.21	77311.500000	Y 377.433
Mn (257.610 nm)	0.906080	ppm	0.001382	0.15	204549.000000	Y 377.433
Mo (202.032 nm)	0.003497	ppm	0.000556	15.91	26.780400	Y 377.433
Na (589.592 nm)	50.707100 o	ppm	0.111623	0.22	322432.000000	Y_R2 488.368
Na H (589.593 nm)	51.914763	ppm	0.523742	1.01	194044.985015	Y_R 488.368
Ni (231.604 nm)	0.006012	ppm	0.000812	13.51	37.210000	Y 377.433
P (213.618 nm)	0.353246	ppm	0.000587	0.17	753.709000	Y 242.219
Pb (220.353 nm)	0.000951 u	ppm	0.001776	> 100.00	6.972490	Y 242.219
S (181.972 nm)	47.652386 o	ppm	0.003394	0.01	23243.920593	Y 377.433
Sb (206.834 nm)	-0.001558 u	ppm	0.000580	37.22	-25.761600	Y 377.433
Se (196.026 nm)	-0.003610 u	ppm	0.001118	30.97	9.600130	Y 242.219
Si (288.158 nm)	14.657100 o	ppm	0.034786	0.24	120716.000000	Y 377.433
Sn (189.925 nm)	0.000570 u	ppm	0.001488	> 100.00	8.984070	Y 377.433
Sr (421.552 nm)	0.653778	ppm	0.006244	0.96	134896.195086	Y_R 488.368
Th (288.505 nm)	-0.001262 u	ppm	0.002046	> 100.00	91.594900	Y 377.433
Ti (336.122 nm)	0.000176	ppm	0.000103	58.63	346.738000	Y 377.433
Tl (190.794 nm)	0.001422	ppm	0.001305	91.76	-4.286490	Y 377.433
U (409.013 nm)	0.004774	ppm	0.000600	12.56	-184.156000	Y 377.433
V (292.401 nm)	0.000379	ppm	0.000243	64.20	37.714500	Y 377.433
Zn (206.200 nm)	0.021303	ppm	0.000137	0.64	105.183000	Y 377.433
Zr (343.823 nm)	-0.000259 u	ppm	0.000049	19.09	-1.847990	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.082865	20458.581716	0.000082	0.01
Y 377.433	1.086609	1102722.839006	0.001136	0.10
Y_R 377.433	1.199020	92135.000000	0.000344	0.03
Y_R 488.368	1.239980	54404.100000	0.011581	0.93
Y_R2 488.368	1.189574	102711.543090	0.000619	0.05

Sample Name: CCVH-5380945

Date: 10/29/2018 9:47:31 PM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.001016 u	ppm	0.000115	11.32	-726.621000	Y 377.433
Al (167.019 nm)	49.203500 o	ppm	0.267555	0.54	26028.700000	Y_R 377.433
Al H (396.152 nm)	49.507266	ppm	0.226226	0.46	125051.132751	Y_R 377.433
As (188.980 nm)	0.002248 u	ppm	0.003188	> 100.00	-0.320563	Y 242.219
B (249.678 nm)	0.000013 u	ppm	0.000157	> 100.00	18.118000	Y 242.219
Ba (493.408 nm)	-0.000615 u	ppm	0.000222	36.10	551.461000	Y_R 488.368
Be (234.861 nm)	-0.000455 u	ppm	0.000021	4.71	1398.480000	Y_R 488.368
Bi (223.061 nm)	1.041570	ppm	0.001974	0.19	2541.370000	Y 377.433
Ca (315.887 nm)	0.015798	ppm	0.004022	25.46	-52.303846	Y_R 377.433
Cd (214.439 nm)	-0.000214 u	ppm	0.000003	1.31	34.657100	Y 377.433
Co (228.615 nm)	0.003255	ppm	0.000118	3.62	22.145000	Y 242.219
Cr (205.560 nm)	0.000094	ppm	0.000073	78.00	-10.868000	Y 377.433
Cu (324.754 nm)	-0.004998 u	ppm	0.000187	3.75	-270.857000	Y 377.433
Fe (238.204 nm)	51.777028 o	ppm	0.156319	0.30	186860.072698	Y_R 377.433
Fe H (259.940 nm)	53.136600	ppm	0.157176	0.30	97170.400000	Y_R 377.433
K (766.491 nm)	0.160983	ppm	0.008798	5.47	-508.314000	Y_R2 488.368
Li (670.783 nm)	0.014460	ppm	0.000349	2.41	-915.200000	Y_R2 488.368
Mg (279.078 nm)	-0.016987 u	ppm	0.001628	9.58	-415.334000	Y 377.433
Mn (257.610 nm)	0.001529	ppm	0.000045	2.96	406.589000	Y 377.433
Mo (202.032 nm)	-0.000329 u	ppm	0.000054	16.35	-5.154150	Y 377.433
Na (589.592 nm)	229.234000 o	ppm	0.287008	0.13	1453200.000000	Y_R2 488.368
Na H (589.593 nm)	236.158267	ppm	1.430178	0.61	870295.951568	Y_R 488.368
Ni (231.604 nm)	0.003528	ppm	0.000112	3.17	22.800700	Y 377.433
P (213.618 nm)	-0.005922 u	ppm	0.001101	18.60	14.720700	Y 242.219
Pb (220.353 nm)	-0.004819 u	ppm	0.000121	2.51	8.534170	Y 242.219
S (181.972 nm)	5.267867	ppm	0.009317	0.18	2596.959269	Y 377.433
Sb (206.834 nm)	-0.002808 u	ppm	0.000208	7.39	-73.912400	Y 377.433
Se (196.026 nm)	-0.002329 u	ppm	0.001943	83.44	2.257500	Y 242.219
Si (288.158 nm)	0.002572	ppm	0.001561	60.67	1038.630000	Y 377.433
Sn (189.925 nm)	0.000426 u	ppm	0.002199	> 100.00	8.707850	Y 377.433
Sr (421.552 nm)	0.000306	ppm	0.000014	4.73	208.827219	Y_R 488.368
Th (288.505 nm)	5.102460	ppm	0.028890	0.57	12841.200000	Y 377.433
Ti (336.122 nm)	0.002060	ppm	0.000074	3.61	1.403660	Y 377.433
Tl (190.794 nm)	-0.002553 u	ppm	0.000429	16.79	-13.974900	Y 377.433
U (409.013 nm)	10.513500	ppm	0.003175	0.03	46595.000000	Y 377.433
V (292.401 nm)	0.003467	ppm	0.000312	8.99	-31.845200	Y 377.433
Zn (206.200 nm)	0.001492	ppm	0.000027	1.79	6.115350	Y 377.433
Zr (343.823 nm)	-0.004674 u	ppm	0.000182	3.90	-437.939000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.097097	20727.461700	0.000137	0.01
Y 377.433	1.080541	1096564.468345	0.000399	0.04
Y_R 377.433	1.185340	91083.600000	0.006017	0.51
Y_R 488.368	1.213240	53230.900000	0.003552	0.29
Y_R2 488.368	1.208263	104325.189235	0.001231	0.10

Sample Name: CCV-5391053

Date: 10/29/2018 9:50:54 PM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.499463	ppm	0.000238	0.05	21712.000000	Y 377.433
Al (167.019 nm)	0.556977 Q	ppm	0.001885	0.34	296.949000 Q	Y_R 377.433
Al H (396.152 nm)	0.490343 u	ppm	0.004870	0.99	1359.175340	Y_R 377.433
As (188.980 nm)	1.021000	ppm	0.004593	0.45	1222.270000	Y 242.219
B (249.678 nm)	0.502756	ppm	0.000674	0.13	12035.300000	Y 242.219
Ba (493.408 nm)	0.498978	ppm	0.002221	0.45	57694.900000	Y_R 488.368
Be (234.861 nm)	0.453054	ppm	0.005535	1.22	130090.000000	Y_R 488.368
Bi (223.061 nm)	-0.001615 u	ppm	0.000287	17.80	3.889090	Y 377.433
Ca (315.887 nm)	5.306900	ppm	0.031734	0.60	4018.802983	Y_R 377.433
Cd (214.439 nm)	0.502721	ppm	0.002523	0.50	28715.300000	Y 377.433
Co (228.615 nm)	0.506540	ppm	0.000148	0.03	8750.160000	Y 242.219
Cr (205.560 nm)	0.513989	ppm	0.003868	0.75	7490.660000	Y 377.433
Cu (324.754 nm)	0.511851	ppm	0.000712	0.14	26979.400000	Y 377.433
Fe (238.204 nm)	2.612412	ppm	0.015742	0.60	9443.812034	Y_R 377.433
Fe H (259.940 nm)	2.622770 u	ppm	0.029316	1.12	4941.160000	Y_R 377.433
K (766.491 nm)	48.272600	ppm	0.114259	0.24	53534.900000	Y_R2 488.368
Li (670.783 nm)	0.965239	ppm	0.000102	0.01	29975.100000	Y_R2 488.368
Mg (279.078 nm)	19.461900	ppm	0.035869	0.18	107092.000000	Y 377.433
Mn (257.610 nm)	0.507564	ppm	0.001806	0.36	114611.000000	Y 377.433
Mo (202.032 nm)	0.513228	ppm	0.000997	0.19	4281.200000	Y 377.433
Na (589.592 nm)	4.721710	ppm	0.001013	0.02	31508.900000	Y_R2 488.368
Na H (589.593 nm)	4.689504 u	ppm	0.036959	0.79	20874.738929	Y_R 488.368
Ni (231.604 nm)	0.520167	ppm	0.002607	0.50	3399.180000	Y 377.433
P (213.618 nm)	0.991575	ppm	0.010742	1.08	2067.080000	Y 242.219
Pb (220.353 nm)	1.006160	ppm	0.003251	0.32	2808.770000	Y 242.219
S (181.972 nm)	0.038642	ppm	0.001651	4.27	51.049976	Y 377.433
Sb (206.834 nm)	1.024880	ppm	0.000465	0.05	2702.700000	Y 377.433
Se (196.026 nm)	1.023800	ppm	0.002383	0.23	975.517000	Y 242.219
Si (288.158 nm)	4.970180	ppm	0.018244	0.37	41606.900000	Y 377.433
Sn (189.925 nm)	1.024960	ppm	0.005429	0.53	1963.270000	Y 377.433
Sr (421.552 nm)	0.487833	ppm	0.002353	0.48	100693.252933	Y_R 488.368
Th (288.505 nm)	0.003555	ppm	0.001704	47.94	102.821000	Y 377.433
Ti (336.122 nm)	0.509566	ppm	0.000485	0.10	70894.600000	Y 377.433
Tl (190.794 nm)	1.024180	ppm	0.002915	0.28	2177.440000	Y 377.433
U (409.013 nm)	0.003502	ppm	0.000367	10.48	-196.164000	Y 377.433
V (292.401 nm)	0.501763	ppm	0.001403	0.28	17527.900000	Y 377.433
Zn (206.200 nm)	0.499681	ppm	0.001141	0.23	2497.350000	Y 377.433
Zr (343.823 nm)	0.510435	ppm	0.000990	0.19	65709.300000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.114121	21049.102688	0.002808	0.25
Y 377.433	1.108423	1124859.997345	0.004686	0.42
Y_R 377.433	1.207470	92784.100000	0.013297	1.10
Y_R 488.368	1.240430	54423.700000	0.013445	1.08
Y_R2 488.368	1.226822	105927.619471	0.000899	0.07

Sample Name: CCB

Date: 10/29/2018 9:54:17 PM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000418	ppm	0.000226	53.99	-414.893000	Y 377.433
Al (167.019 nm)	-0.001464 u	ppm	0.000314	21.43	0.230058	Y_R 377.433
Al H (396.152 nm)	-0.027807 u	ppm	0.002564	9.22	7.630406	Y_R 377.433
As (188.980 nm)	-0.000871 u	ppm	0.001321	> 100.00	-3.617840	Y 242.219
B (249.678 nm)	0.000718	ppm	0.000353	49.18	110.263000	Y 242.219
Ba (493.408 nm)	-0.001208 u	ppm	0.000124	10.28	435.015000	Y_R 488.368
Be (234.861 nm)	0.000068	ppm	0.000012	17.84	-40.259700	Y_R 488.368
Bi (223.061 nm)	0.003250	ppm	0.000347	10.69	15.264900	Y 377.433
Ca (315.887 nm)	0.011044	ppm	0.009770	88.46	-55.962042	Y_R 377.433
Cd (214.439 nm)	0.000112	ppm	0.000056	49.72	4.805970	Y 377.433
Co (228.615 nm)	0.000447	ppm	0.000061	13.69	-26.480000	Y 242.219
Cr (205.560 nm)	-0.000121 u	ppm	0.000109	90.04	-0.076510	Y 377.433
Cu (324.754 nm)	0.001130	ppm	0.000790	69.86	-251.953000	Y 377.433
Fe (238.204 nm)	0.000762	ppm	0.000530	69.55	19.368713	Y_R 377.433
Fe H (259.940 nm)	-0.081038 u	ppm	0.001584	1.95	4.483410	Y_R 377.433
K (766.491 nm)	0.139993	ppm	0.015806	11.29	-531.892000	Y_R2 488.368
Li (670.783 nm)	0.014388 Z	ppm	0.000282	1.96	-917.556000 Z	Y_R2 488.368
Mg (279.078 nm)	0.001488	ppm	0.000235	15.78	42.611800	Y 377.433
Mn (257.610 nm)	0.000028	ppm	0.000032	> 100.00	67.694400	Y 377.433
Mo (202.032 nm)	0.000618	ppm	0.000135	21.81	2.748820	Y 377.433
Na (589.592 nm)	-0.012818 u	ppm	0.001213	9.46	535.935000	Y_R2 488.368
Na H (589.593 nm)	-0.334705 u	ppm	0.009159	2.74	1955.636346	Y_R 488.368
Ni (231.604 nm)	0.000532	ppm	0.000023	4.28	1.139770	Y 377.433
P (213.618 nm)	-0.003896 u	ppm	0.000795	20.42	18.888400	Y 242.219
Pb (220.353 nm)	-0.000945 u	ppm	0.000252	26.62	1.185350	Y 242.219
S (181.972 nm)	0.029751	ppm	0.006392	21.48	45.545944	Y 377.433
Sb (206.834 nm)	0.001661	ppm	0.001969	> 100.00	-15.776700	Y 377.433
Se (196.026 nm)	-0.005601 u	ppm	0.002721	48.59	8.202590	Y 242.219
Si (288.158 nm)	-0.021430 u	ppm	0.001034	4.82	842.618000	Y 377.433
Sn (189.925 nm)	-0.001818 u	ppm	0.000017	0.95	4.428380	Y 377.433
Sr (421.552 nm)	-0.000229 u	ppm	0.000102	44.43	98.501244	Y_R 488.368
Th (288.505 nm)	0.005224	ppm	0.001134	21.70	90.363800	Y 377.433
Ti (336.122 nm)	0.000424	ppm	0.000061	14.31	-227.263000	Y 377.433
Tl (190.794 nm)	0.001053	ppm	0.000892	84.69	-4.928160	Y 377.433
U (409.013 nm)	0.006978	ppm	0.005085	72.87	-143.154000	Y 377.433
V (292.401 nm)	-0.000193 u	ppm	0.000053	27.52	17.461600	Y 377.433
Zn (206.200 nm)	0.000250	ppm	0.000273	> 100.00	-0.096383	Y 377.433
Zr (343.823 nm)	-0.000041 u	ppm	0.000044	> 100.00	8.107680	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.125954	21272.662957	0.001567	0.14
Y 377.433	1.122126	1138766.490254	0.000763	0.07
Y_R 377.433	1.212090	93139.400000	0.007123	0.59
Y_R 488.368	1.248760	54788.900000	0.003851	0.31
Y_R2 488.368	1.219488	105294.377021	0.004780	0.39

Sample Name: CCVL-5398386

Date: 10/29/2018 9:57:42 PM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.009756	ppm	0.000083	0.85	-0.749360	Y 377.433
Al (167.019 nm)	0.111042	ppm	0.000936	0.84	59.734600	Y_R 377.433
Al H (396.152 nm)	0.074078 u	ppm	0.002816	3.80	266.429751	Y_R 377.433
As (188.980 nm)	0.016348	ppm	0.000475	2.90	17.038600	Y 242.219
B (249.678 nm)	0.099734	ppm	0.000052	0.05	2459.060000	Y 242.219
Ba (493.408 nm)	0.008926	ppm	0.000163	1.82	1595.030000	Y_R 488.368
Be (234.861 nm)	0.000972	ppm	0.000007	0.76	221.809000	Y_R 488.368
Bi (223.061 nm)	0.106473	ppm	0.001313	1.23	265.579000	Y 377.433
Ca (315.887 nm)	0.234082	ppm	0.007204	3.08	115.639946	Y_R 377.433
Cd (214.439 nm)	0.005263	ppm	0.000011	0.22	299.085000	Y 377.433
Co (228.615 nm)	0.010755	ppm	0.000016	0.15	152.264000	Y 242.219
Cr (205.560 nm)	0.010286	ppm	0.000055	0.53	151.592000	Y 377.433
Cu (324.754 nm)	0.016338	ppm	0.000040	0.25	558.177000	Y 377.433
Fe (238.204 nm)	0.105623	ppm	0.000311	0.29	397.771803	Y_R 377.433
Fe H (259.940 nm)	0.026112 u	ppm	0.000020	0.08	200.120000	Y_R 377.433
K (766.491 nm)	3.148610	ppm	0.036296	1.15	2847.650000	Y_R2 488.368
Li (670.783 nm)	0.034135 Q	ppm	0.000273	0.80	-275.965000 Q	Y_R2 488.368
Mg (279.078 nm)	0.193929	ppm	0.000624	0.32	1100.040000	Y 377.433
Mn (257.610 nm)	0.010454	ppm	0.000011	0.11	2420.640000	Y 377.433
Mo (202.032 nm)	0.019434	ppm	0.000070	0.36	159.798000	Y 377.433
Na (589.592 nm)	0.984056	ppm	0.001009	0.10	6872.130000	Y_R2 488.368
Na H (589.593 nm)	0.603221 u	ppm	0.006946	1.15	5408.838232	Y_R 488.368
Ni (231.604 nm)	0.042132	ppm	0.000187	0.44	273.091000	Y 377.433
P (213.618 nm)	2.795070 o	ppm	0.011290	0.40	5777.770000	Y 242.219
Pb (220.353 nm)	0.008285	ppm	0.001327	16.02	26.943700	Y 242.219
S (181.972 nm)	0.120695	ppm	0.002046	1.69	89.867611	Y 377.433
Sb (206.834 nm)	0.021759	ppm	0.000267	1.23	37.499300	Y 377.433
Se (196.026 nm)	0.015640	ppm	0.002125	13.58	28.153500	Y 242.219
Si (288.158 nm)	0.461344	ppm	0.001861	0.40	4785.220000	Y 377.433
Sn (189.925 nm)	0.100545	ppm	0.001448	1.44	199.711000	Y 377.433
Sr (421.552 nm)	0.009531	ppm	0.000177	1.86	2110.151309	Y_R 488.368
Th (288.505 nm)	0.018580	ppm	0.001004	5.40	124.560000	Y 377.433
Ti (336.122 nm)	0.010717	ppm	0.000036	0.34	1210.790000	Y 377.433
Tl (190.794 nm)	0.015288	ppm	0.000049	0.32	25.405100	Y 377.433
U (409.013 nm)	0.064698	ppm	0.001665	2.57	112.262000	Y 377.433
V (292.401 nm)	0.009917	ppm	0.000372	3.75	368.442000	Y 377.433
Zn (206.200 nm)	0.021128	ppm	0.000068	0.32	104.307000	Y 377.433
Zr (343.823 nm)	0.015103	ppm	0.000067	0.44	1957.320000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.145383	21639.728375	0.001940	0.17
Y 377.433	1.138020	1154895.863618	0.001716	0.15
Y_R 377.433	1.231390	94622.300000	0.000999	0.08
Y_R 488.368	1.274920	55937.000000	0.013787	1.08
Y_R2 488.368	1.224800	105753.080262	0.007191	0.59

Sample Name: 280-116064-A-1-A

Date: 10/29/2018 10:01:05 PM Rack:Tube: 2:39

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001245	ppm	0.000357	28.70	-378.772000	Y 377.433
Al (167.019 nm)	0.012314	ppm	0.002293	18.62	7.782320	Y_R 377.433
Al H (396.152 nm)	0.031838 u	ppm	0.001050	3.30	450.503786	Y_R 377.433
As (188.980 nm)	0.001213	ppm	0.001181	97.30	-1.120200	Y 242.219
B (249.678 nm)	9.474770 o	ppm	0.007140	0.08	224826.000000	Y 242.219
Ba (493.408 nm)	-0.000624 u	ppm	0.000132	21.22	655.482000	Y_R 488.368
Be (234.861 nm)	0.000114	ppm	0.000020	17.19	-14.099900	Y_R 488.368
Bi (223.061 nm)	0.000015 u	ppm	0.000729	> 100.00	7.487390	Y 377.433
Ca (315.887 nm)	672.371337 o	ppm	4.133013	0.61	517239.939309	Y_R 377.433
Cd (214.439 nm)	0.000056	ppm	0.000028	49.26	1.987060	Y 377.433
Co (228.615 nm)	-0.000747 u	ppm	0.000232	31.01	-47.152700	Y 242.219
Cr (205.560 nm)	0.000135	ppm	0.000083	61.30	3.543550	Y 377.433
Cu (324.754 nm)	0.000746	ppm	0.000136	18.23	-659.151000	Y 377.433
Fe (238.204 nm)	0.418508	ppm	0.000668	0.16	1526.855137	Y_R 377.433
Fe H (259.940 nm)	0.329625 u	ppm	0.003391	1.03	754.281000	Y_R 377.433
K (766.491 nm)	24.725600	ppm	0.072225	0.29	27084.800000	Y_R2 488.368
Li (670.783 nm)	0.795083	ppm	0.003900	0.49	24446.800000	Y_R2 488.368
Mg (279.078 nm)	193.166000 o	ppm	0.412179	0.21	1062660.000000	Y 377.433
Mn (257.610 nm)	0.016467	ppm	0.000046	0.28	3777.790000	Y 377.433
Mo (202.032 nm)	0.000221	ppm	0.000146	66.37	-0.564670	Y 377.433
Na (589.592 nm)	195.214000 o	ppm	1.202310	0.62	1237630.000000	Y_R2 488.368
Na H (589.593 nm)	203.169669	ppm	4.956870	2.44	749172.740286	Y_R 488.368
Ni (231.604 nm)	-0.001204 u	ppm	0.000202	16.77	-10.188200	Y 377.433
P (213.618 nm)	-0.000367 u	ppm	0.002133	> 100.00	26.148800	Y 242.219
Pb (220.353 nm)	0.000367 u	ppm	0.000977	> 100.00	4.828970	Y 242.219
S (181.972 nm)	641.653804 bo	ppm	0.340541	0.05	312571.213000	Y 377.433
Sb (206.834 nm)	-0.004993 u	ppm	0.000194	3.88	-33.491900	Y 377.433
Se (196.026 nm)	0.000658 u	ppm	0.003756	> 100.00	14.020300	Y 242.219
Si (288.158 nm)	8.094970	ppm	0.046627	0.58	67125.800000	Y 377.433
Sn (189.925 nm)	-0.000321 u	ppm	0.002589	> 100.00	7.282940	Y 377.433
Sr (421.552 nm)	13.351665 bo	ppm	0.291373	2.18	2752066.068278	Y_R 488.368
Th (288.505 nm)	0.003819	ppm	0.000434	11.38	87.361900	Y 377.433
Ti (336.122 nm)	-0.001093 u	ppm	0.000087	7.98	1617.660000	Y 377.433
Tl (190.794 nm)	0.003385	ppm	0.000668	19.74	0.039936	Y 377.433
U (409.013 nm)	-0.026276 u	ppm	0.004912	18.70	-415.455000	Y 377.433
V (292.401 nm)	0.000674	ppm	0.000219	32.47	50.026500	Y 377.433
Zn (206.200 nm)	0.004734	ppm	0.000092	1.95	22.326900	Y 377.433
Zr (343.823 nm)	-0.000381 u	ppm	0.000023	6.02	-34.428800	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.030634	19471.770314	0.007702	0.75
Y 377.433	1.040628	1056060.560034	0.007489	0.72
Y_R 377.433	1.147650	88187.100000	0.009742	0.85
Y_R 488.368	1.165490	51135.800000	0.014347	1.23
Y_R2 488.368	1.187480	102530.741498	0.022218	1.87

Sample Name: 280-116064-A-2-A

Date: 10/29/2018 10:04:28 PM Rack:Tube: 2:40

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001334	ppm	0.000027	2.03	-374.760000	Y 377.433
Al (167.019 nm)	0.001255 u	ppm	0.003685	> 100.00	1.673520	Y_R 377.433
Al H (396.152 nm)	0.020516 u	ppm	0.009466	46.14	444.849194	Y_R 377.433
As (188.980 nm)	-0.000366 u	ppm	0.002206	> 100.00	-3.011900	Y 242.219
B (249.678 nm)	14.871100 o	ppm	0.042878	0.29	352823.000000	Y 242.219
Ba (493.408 nm)	-0.001358 u	ppm	0.000083	6.08	583.094000	Y_R 488.368
Be (234.861 nm)	0.000114	ppm	0.000008	6.58	-26.635000	Y_R 488.368
Bi (223.061 nm)	-0.000340 u	ppm	0.000431	> 100.00	6.561620	Y 377.433
Ca (315.887 nm)	721.577299 o	ppm	1.318865	0.18	555097.681730	Y_R 377.433
Cd (214.439 nm)	0.000030	ppm	0.000005	15.04	0.131137	Y 377.433
Co (228.615 nm)	-0.000897 u	ppm	0.000077	8.63	-49.743100	Y 242.219
Cr (205.560 nm)	-0.000086 u	ppm	0.000220	> 100.00	0.433837	Y 377.433
Cu (324.754 nm)	-0.002956 u	ppm	0.000029	0.98	-887.798000	Y 377.433
Fe (238.204 nm)	0.012572	ppm	0.000173	1.38	61.986917	Y_R 377.433
Fe H (259.940 nm)	-0.071861 u	ppm	0.000764	1.06	21.239200	Y_R 377.433
K (766.491 nm)	42.516600	ppm	0.211645	0.50	47069.200000	Y_R2 488.368
Li (670.783 nm)	1.219580	ppm	0.000060	0.00	38238.500000	Y_R2 488.368
Mg (279.078 nm)	223.720000 o	ppm	0.127778	0.06	1230740.000000	Y 377.433
Mn (257.610 nm)	0.011717	ppm	0.000051	0.43	2705.830000	Y 377.433
Mo (202.032 nm)	0.000434	ppm	0.000194	44.69	1.214950	Y 377.433
Na (589.592 nm)	279.107000 o	ppm	0.738731	0.26	1769230.000000	Y_R2 488.368
Na H (589.593 nm)	288.932629	ppm	0.492846	0.17	1064071.629565	Y_R 488.368
Ni (231.604 nm)	-0.000851 u	ppm	0.000916	> 100.00	-7.903430	Y 377.433
P (213.618 nm)	0.001842	ppm	0.001844	> 100.00	30.693700	Y 242.219
Pb (220.353 nm)	-0.001120 u	ppm	0.000234	20.88	0.644735	Y 242.219
S (181.972 nm)	650.480362 bo	ppm	1.327848	0.20	316870.488417	Y 377.433
Sb (206.834 nm)	-0.002908 u	ppm	0.001672	57.48	-27.888900	Y 377.433
Se (196.026 nm)	-0.003895 u	ppm	0.001435	36.82	9.814910	Y 242.219
Si (288.158 nm)	7.719740	ppm	0.000488	0.01	64061.400000	Y 377.433
Sn (189.925 nm)	-0.000893 u	ppm	0.001183	> 100.00	6.191640	Y 377.433
Sr (421.552 nm)	14.393266 bo	ppm	0.054091	0.38	2966751.115315	Y_R 488.368
Th (288.505 nm)	0.004609	ppm	0.002869	62.24	89.226600	Y 377.433
Ti (336.122 nm)	-0.001396 u	ppm	0.000019	1.37	1736.570000	Y 377.433
Tl (190.794 nm)	0.002779	ppm	0.000025	0.89	-1.242960	Y 377.433
U (409.013 nm)	-0.024024 u	ppm	0.002804	11.67	-415.639000	Y 377.433
V (292.401 nm)	0.001073	ppm	0.000027	2.48	64.022300	Y 377.433
Zn (206.200 nm)	0.000086 u	ppm	0.000202	> 100.00	-0.916123	Y 377.433
Zr (343.823 nm)	-0.000443 u	ppm	0.000047	10.72	-43.585500	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.022506	19318.216852	0.003172	0.31
Y 377.433	1.038518	1053918.429999	0.003993	0.38
Y_R 377.433	1.206080	92677.000000	0.011411	0.95
Y_R 488.368	1.237370	54289.200000	0.002416	0.20
Y_R2 488.368	1.208936	104383.257264	0.000738	0.06

Sample Name: 280-116064-A-3-A

Date: 10/29/2018 10:07:51 PM Rack:Tube: 2:41

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000790	ppm	0.000134	16.99	-398.472000	Y 377.433
Al (167.019 nm)	0.000270 u	ppm	0.000880	> 100.00	1.149560	Y_R 377.433
Al H (396.152 nm)	-0.024020 u	ppm	0.001479	6.16	17.149870	Y_R 377.433
As (188.980 nm)	-0.000550 u	ppm	0.001108	> 100.00	-3.232760	Y 242.219
B (249.678 nm)	0.009527	ppm	0.000610	6.40	319.180000	Y 242.219
Ba (493.408 nm)	-0.000974 u	ppm	0.000345	35.42	461.869000	Y_R 488.368
Be (234.861 nm)	0.000065	ppm	0.000013	20.00	-40.919000	Y_R 488.368
Bi (223.061 nm)	0.002395	ppm	0.001214	50.68	13.191900	Y 377.433
Ca (315.887 nm)	0.045613	ppm	0.003588	7.87	-29.365702	Y_R 377.433
Cd (214.439 nm)	0.000078	ppm	0.000040	52.00	2.825210	Y 377.433
Co (228.615 nm)	0.000442	ppm	0.000212	47.93	-26.576000	Y 242.219
Cr (205.560 nm)	-0.000149 u	ppm	0.000245	> 100.00	-0.484315	Y 377.433
Cu (324.754 nm)	0.001872	ppm	0.000537	28.70	-212.767000	Y 377.433
Fe (238.204 nm)	0.006300	ppm	0.000028	0.44	39.353902	Y_R 377.433
Fe H (259.940 nm)	-0.072551 u	ppm	0.001255	1.73	19.978600	Y_R 377.433
K (766.491 nm)	0.236660	ppm	0.018912	7.99	-423.308000	Y_R2 488.368
Li (670.783 nm)	0.015906	ppm	0.000863	5.43	-868.221000	Y_R2 488.368
Mg (279.078 nm)	0.005719	ppm	0.001762	30.80	65.834000	Y 377.433
Mn (257.610 nm)	0.000109	ppm	0.000013	12.20	85.953800	Y 377.433
Mo (202.032 nm)	0.000080	ppm	0.000082	> 100.00	-1.739120	Y 377.433
Na (589.592 nm)	0.025404	ppm	0.001409	5.55	778.236000	Y_R2 488.368
Na H (589.593 nm)	-0.234587 u	ppm	0.029256	12.47	2323.292767	Y_R 488.368
Ni (231.604 nm)	-0.000001 u	ppm	0.000542	> 100.00	-2.344100	Y 377.433
P (213.618 nm)	-0.003387 u	ppm	0.003523	> 100.00	19.935600	Y 242.219
Pb (220.353 nm)	0.000411	ppm	0.000118	28.60	4.978010	Y 242.219
S (181.972 nm)	0.091830	ppm	0.011863	12.92	75.783819	Y 377.433
Sb (206.834 nm)	0.000004 u	ppm	0.000516	> 100.00	-20.156400	Y 377.433
Se (196.026 nm)	-0.001403 u	ppm	0.000512	36.46	12.145600	Y 242.219
Si (288.158 nm)	-0.021514 u	ppm	0.000678	3.15	841.928000	Y 377.433
Sn (189.925 nm)	-0.000025 u	ppm	0.000099	> 100.00	7.848720	Y 377.433
Sr (421.552 nm)	-0.000092 u	ppm	0.000081	88.73	126.734929	Y_R 488.368
Th (288.505 nm)	0.002127	ppm	0.001523	71.61	82.772600	Y 377.433
Ti (336.122 nm)	0.000638	ppm	0.000043	6.74	-197.286000	Y 377.433
Tl (190.794 nm)	0.001802	ppm	0.000954	52.97	-3.327280	Y 377.433
U (409.013 nm)	0.006635	ppm	0.003648	54.98	-144.671000	Y 377.433
V (292.401 nm)	-0.000034 u	ppm	0.000146	> 100.00	22.858100	Y 377.433
Zn (206.200 nm)	0.001175	ppm	0.000470	40.02	4.530710	Y 377.433
Zr (343.823 nm)	-0.000303 u	ppm	0.000059	19.64	-25.573600	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.143885	21611.429855	0.000835	0.07
Y 377.433	1.140293	1157203.084113	0.000407	0.04
Y_R 377.433	1.246520	95784.900000	0.001403	0.11
Y_R 488.368	1.267240	55599.900000	0.004517	0.36
Y_R2 488.368	1.264349	109167.792994	0.002073	0.16

Sample Name: 280-116064-A-4-A

Date: 10/29/2018 10:11:13 PM Rack:Tube: 2:42

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000655	ppm	0.000072	10.97	-404.426000	Y 377.433
Al (167.019 nm)	0.004699	ppm	0.001740	37.03	3.488830	Y_R 377.433
Al H (396.152 nm)	-0.023451 u	ppm	0.003746	15.97	18.613250	Y_R 377.433
As (188.980 nm)	0.001155	ppm	0.000107	9.27	-1.186410	Y 242.219
B (249.678 nm)	0.004783	ppm	0.000280	5.85	206.659000	Y 242.219
Ba (493.408 nm)	-0.001402 u	ppm	0.000120	8.57	412.863000	Y_R 488.368
Be (234.861 nm)	0.000081	ppm	0.000009	11.36	-36.266500	Y_R 488.368
Bi (223.061 nm)	0.001931	ppm	0.000018	0.92	12.067200	Y 377.433
Ca (315.887 nm)	0.062300	ppm	0.004483	7.20	-16.527735	Y_R 377.433
Cd (214.439 nm)	0.000074	ppm	0.000042	56.16	2.633930	Y 377.433
Co (228.615 nm)	0.000280	ppm	0.000065	23.21	-29.380700	Y 242.219
Cr (205.560 nm)	-0.000020 u	ppm	0.000044	> 100.00	1.390820	Y 377.433
Cu (324.754 nm)	0.001832	ppm	0.000351	19.15	-215.210000	Y 377.433
Fe (238.204 nm)	0.005508	ppm	0.000356	6.47	36.494588	Y_R 377.433
Fe H (259.940 nm)	-0.074152 u	ppm	0.000444	0.60	17.055900	Y_R 377.433
K (766.491 nm)	0.151472	ppm	0.034891	23.03	-518.998000	Y_R2 488.368
Li (670.783 nm)	0.016149	ppm	0.000554	3.43	-860.312000	Y_R2 488.368
Mg (279.078 nm)	-0.000184 u	ppm	0.001567	> 100.00	33.386200	Y 377.433
Mn (257.610 nm)	0.000090	ppm	0.000006	6.68	81.771200	Y 377.433
Mo (202.032 nm)	0.000326	ppm	0.000028	8.45	0.318219	Y 377.433
Na (589.592 nm)	0.030592	ppm	0.004302	14.06	810.829000	Y_R2 488.368
Na H (589.593 nm)	-0.331485 u	ppm	0.004161	1.26	1967.367064	Y_R 488.368
Ni (231.604 nm)	0.000460	ppm	0.000221	47.98	0.669282	Y 377.433
P (213.618 nm)	0.001868	ppm	0.000776	41.53	30.748300	Y 242.219
Pb (220.353 nm)	0.000295 u	ppm	0.000933	> 100.00	4.649810	Y 242.219
S (181.972 nm)	0.132119	ppm	0.003646	2.76	95.407949	Y 377.433
Sb (206.834 nm)	0.001575	ppm	0.000133	8.44	-15.998900	Y 377.433
Se (196.026 nm)	-0.003357 u	ppm	0.000470	14.01	10.310400	Y 242.219
Si (288.158 nm)	-0.015585 u	ppm	0.000819	5.25	890.350000	Y 377.433
Sn (189.925 nm)	-0.000612 u	ppm	0.000490	80.14	6.728360	Y 377.433
Sr (421.552 nm)	-0.000143 u	ppm	0.000063	43.95	116.226929	Y_R 488.368
Th (288.505 nm)	0.001290	ppm	0.000466	36.15	80.691600	Y 377.433
Ti (336.122 nm)	0.000865	ppm	0.000044	5.07	-165.557000	Y 377.433
Tl (190.794 nm)	0.001200	ppm	0.001419	> 100.00	-4.613330	Y 377.433
U (409.013 nm)	0.008895	ppm	0.006241	70.16	-134.623000	Y 377.433
V (292.401 nm)	-0.000141 u	ppm	0.000126	89.31	18.969900	Y 377.433
Zn (206.200 nm)	0.001325	ppm	0.000392	29.58	5.283080	Y 377.433
Zr (343.823 nm)	-0.000257 u	ppm	0.000012	4.71	-19.719700	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.203540	22738.486640	0.003561	0.30
Y 377.433	1.201951	1219774.996122	0.002752	0.23
Y_R 377.433	1.300140	99905.300000	0.006643	0.51
Y_R 488.368	1.318980	57869.800000	0.020758	1.57
Y_R2 488.368	1.272410	109863.824485	0.002184	0.17

Sample Name: 280-116064-A-5-A

Date: 10/29/2018 10:14:36 PM Rack:Tube: 2:43

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001564	ppm	0.000187	11.96	-364.618000	Y 377.433
Al (167.019 nm)	-0.002933 u	ppm	0.002333	79.56	0.111715	Y_R 377.433
Al H (396.152 nm)	0.022302 u	ppm	0.004415	19.80	414.569073	Y_R 377.433
As (188.980 nm)	0.000675 u	ppm	0.002694	> 100.00	-1.771090	Y 242.219
B (249.678 nm)	5.467650 o	ppm	0.005737	0.10	129780.000000	Y 242.219
Ba (493.408 nm)	0.000663	ppm	0.000183	27.54	797.170000	Y_R 488.368
Be (234.861 nm)	0.000083	ppm	0.000033	39.55	-4.939760	Y_R 488.368
Bi (223.061 nm)	-0.002099 u	ppm	0.000490	23.37	2.457930	Y 377.433
Ca (315.887 nm)	641.851684 o	ppm	4.113006	0.64	493758.940072	Y_R 377.433
Cd (214.439 nm)	0.000054	ppm	0.000033	62.02	2.417010	Y 377.433
Co (228.615 nm)	-0.000369 u	ppm	0.000137	37.09	-40.603100	Y 242.219
Cr (205.560 nm)	0.000247	ppm	0.000329	> 100.00	5.013920	Y 377.433
Cu (324.754 nm)	-0.002484 u	ppm	0.000200	8.05	-814.937000	Y 377.433
Fe (238.204 nm)	1.003398	ppm	0.010282	1.02	3637.497633	Y_R 377.433
Fe H (259.940 nm)	0.949748 u	ppm	0.010913	1.15	1886.510000	Y_R 377.433
K (766.491 nm)	15.106300	ppm	0.037962	0.25	16279.600000	Y_R2 488.368
Li (670.783 nm)	0.579896	ppm	0.001122	0.19	17455.500000	Y_R2 488.368
Mg (279.078 nm)	170.882000 o	ppm	0.019342	0.01	940076.000000	Y 377.433
Mn (257.610 nm)	0.014516	ppm	0.000018	0.12	3337.500000	Y 377.433
Mo (202.032 nm)	0.000228	ppm	0.000136	59.65	-0.501555	Y 377.433
Na (589.592 nm)	110.658000 o	ppm	0.786004	0.71	701824.000000	Y_R2 488.368
Na H (589.593 nm)	113.439919	ppm	1.671492	1.47	419709.603996	Y_R 488.368
Ni (231.604 nm)	-0.000927 u	ppm	0.000743	80.10	-8.359730	Y 377.433
P (213.618 nm)	0.001115	ppm	0.000792	71.02	29.198700	Y 242.219
Pb (220.353 nm)	-0.001133 u	ppm	0.002045	> 100.00	0.699853	Y 242.219
S (181.972 nm)	614.315393 bo	ppm	1.230642	0.20	299255.071392	Y 377.433
Sb (206.834 nm)	-0.004246 u	ppm	0.000736	17.33	-31.638200	Y 377.433
Se (196.026 nm)	-0.001607 u	ppm	0.000156	9.70	11.779200	Y 242.219
Si (288.158 nm)	7.790040	ppm	0.021601	0.28	64635.500000	Y 377.433
Sn (189.925 nm)	0.000214 u	ppm	0.001417	> 100.00	8.305000	Y 377.433
Sr (421.552 nm)	13.015092 bo	ppm	0.208650	1.60	2682694.681524	Y_R 488.368
Th (288.505 nm)	0.005745	ppm	0.003727	64.87	92.010700	Y 377.433
Ti (336.122 nm)	-0.001320 u	ppm	0.000094	7.12	1502.490000	Y 377.433
Tl (190.794 nm)	0.001560	ppm	0.000390	24.98	-3.871420	Y 377.433
U (409.013 nm)	-0.023019 u	ppm	0.000295	1.28	-395.359000	Y 377.433
V (292.401 nm)	0.000844	ppm	0.000523	62.00	55.926300	Y 377.433
Zn (206.200 nm)	0.000908	ppm	0.000192	21.17	3.193950	Y 377.433
Zr (343.823 nm)	-0.000585 u	ppm	0.000019	3.31	-58.941700	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.062721	20078.003355	0.007272	0.68
Y 377.433	1.073869	1089794.196378	0.006458	0.60
Y_R 377.433	1.176940	90438.400000	0.004939	0.42
Y_R 488.368	1.200160	52657.000000	0.020894	1.74
Y_R2 488.368	1.165373	100621.970359	0.006480	0.56

Sample Name: 280-116064-A-6-A

Date: 10/29/2018 10:18:00 PM Rack:Tube: 2:44

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001547	ppm	0.000014	0.91	-365.006000	Y 377.433
Al (167.019 nm)	0.002392	ppm	0.000515	21.53	2.288220	Y_R 377.433
Al H (396.152 nm)	0.015852 u	ppm	0.002238	14.12	422.621769	Y_R 377.433
As (188.980 nm)	0.003852	ppm	0.001187	30.83	2.047980	Y 242.219
B (249.678 nm)	9.877550 o	ppm	0.052580	0.53	234380.000000	Y 242.219
Ba (493.408 nm)	-0.000540 u	ppm	0.000098	18.20	671.282000	Y_R 488.368
Be (234.861 nm)	0.000084	ppm	0.000017	20.24	-34.659100	Y_R 488.368
Bi (223.061 nm)	0.002180	ppm	0.002261	> 100.00	12.675800	Y 377.433
Ca (315.887 nm)	697.904089 o	ppm	3.566687	0.51	536884.151331	Y_R 377.433
Cd (214.439 nm)	0.000027	ppm	0.000023	85.63	-0.063436	Y 377.433
Co (228.615 nm)	-0.000140 u	ppm	0.000068	48.54	-36.652900	Y 242.219
Cr (205.560 nm)	0.000649	ppm	0.000037	5.73	11.135400	Y 377.433
Cu (324.754 nm)	-0.002447 u	ppm	0.000097	3.96	-846.064000	Y 377.433
Fe (238.204 nm)	0.033612	ppm	0.000011	0.03	137.912730	Y_R 377.433
Fe H (259.940 nm)	-0.051446 u	ppm	0.000307	0.60	58.513100	Y_R 377.433
K (766.491 nm)	27.983300	ppm	0.193472	0.69	30744.200000	Y_R2 488.368
Li (670.783 nm)	0.922352	ppm	0.000721	0.08	28581.700000	Y_R2 488.368
Mg (279.078 nm)	199.980000 o	ppm	0.305740	0.15	1100140.000000	Y 377.433
Mn (257.610 nm)	0.009085	ppm	0.000009	0.10	2111.860000	Y 377.433
Mo (202.032 nm)	0.000010	ppm	0.000008	78.60	-2.321880	Y 377.433
Na (589.592 nm)	191.478000 o	ppm	1.558740	0.81	1213960.000000	Y_R2 488.368
Na H (589.593 nm)	198.527514	ppm	3.764796	1.90	732128.020732	Y_R 488.368
Ni (231.604 nm)	0.000474 u	ppm	0.001061	> 100.00	0.761380	Y 377.433
P (213.618 nm)	0.002702	ppm	0.001630	60.33	32.463800	Y 242.219
Pb (220.353 nm)	-0.001187 u	ppm	0.001115	93.94	0.419748	Y 242.219
S (181.972 nm)	618.951414 bo	ppm	0.958914	0.15	301513.196332	Y 377.433
Sb (206.834 nm)	-0.002172 u	ppm	0.000632	29.12	-25.864400	Y 377.433
Se (196.026 nm)	-0.001417 u	ppm	0.004727	> 100.00	12.137400	Y 242.219
Si (288.158 nm)	7.510840	ppm	0.031930	0.43	62355.400000	Y 377.433
Sn (189.925 nm)	0.001629	ppm	0.000170	10.46	11.003800	Y 377.433
Sr (421.552 nm)	14.287438 bo	ppm	0.303624	2.13	2944938.832707	Y_R 488.368
Th (288.505 nm)	0.001553	ppm	0.000853	54.94	81.326900	Y 377.433
Ti (336.122 nm)	-0.001491 u	ppm	0.000076	5.12	1649.970000	Y 377.433
Tl (190.794 nm)	0.001559	ppm	0.001192	76.45	-3.846660	Y 377.433
U (409.013 nm)	-0.023457 u	ppm	0.002353	10.03	-408.615000	Y 377.433
V (292.401 nm)	0.000944	ppm	0.000197	20.85	60.000400	Y 377.433
Zn (206.200 nm)	0.001643	ppm	0.000253	15.41	6.870510	Y 377.433
Zr (343.823 nm)	-0.000533 u	ppm	0.000043	8.04	-55.152400	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.056970	19969.337430	0.000740	0.07
Y 377.433	1.080528	1096551.746428	0.003378	0.31
Y_R 377.433	1.216800	93500.800000	0.008462	0.70
Y_R 488.368	1.240730	54436.800000	0.025091	2.02
Y_R2 488.368	1.224414	105719.685673	0.011507	0.94

Sample Name: MB 280-434470/1-A

Date: 10/29/2018 10:21:23 PM Rack:Tube: 2:45

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001068	ppm	0.000114	10.69	-386.127000	Y 377.433
Al (167.019 nm)	0.008663	ppm	0.001425	16.45	5.594000	Y_R 377.433
Al H (396.152 nm)	-0.015337 u	ppm	0.000725	4.73	39.135433	Y_R 377.433
As (188.980 nm)	0.002326	ppm	0.002296	98.71	0.218091	Y 242.219
B (249.678 nm)	0.017490	ppm	0.000464	2.65	508.030000	Y 242.219
Ba (493.408 nm)	-0.000767 u	ppm	0.000196	25.55	485.561000	Y_R 488.368
Be (234.861 nm)	0.000126	ppm	0.000005	3.95	-22.801000	Y_R 488.368
Bi (223.061 nm)	0.001454	ppm	0.000099	6.83	10.912600	Y 377.433
Ca (315.887 nm)	0.188572	ppm	0.003569	1.89	80.622709	Y_R 377.433
Cd (214.439 nm)	0.000066	ppm	0.000029	44.79	2.153370	Y 377.433
Co (228.615 nm)	0.000667	ppm	0.000207	31.09	-22.668800	Y 242.219
Cr (205.560 nm)	0.000089	ppm	0.000099	> 100.00	2.982410	Y 377.433
Cu (324.754 nm)	0.003492	ppm	0.000106	3.02	-126.630000	Y 377.433
Fe (238.204 nm)	0.021589	ppm	0.000017	0.08	94.525795	Y_R 377.433
Fe H (259.940 nm)	-0.056653 u	ppm	0.000334	0.59	49.006500	Y_R 377.433
K (766.491 nm)	0.248424	ppm	0.011811	4.75	-410.093000	Y_R2 488.368
Li (670.783 nm)	0.018675	ppm	0.000175	0.94	-778.246000	Y_R2 488.368
Mg (279.078 nm)	0.031352	ppm	0.001312	4.18	206.868000	Y 377.433
Mn (257.610 nm)	0.000526	ppm	0.000021	4.07	180.210000	Y 377.433
Mo (202.032 nm)	0.000254	ppm	0.000084	33.08	-0.289362	Y 377.433
Na (589.592 nm)	0.079949	ppm	0.007129	8.92	1124.220000	Y_R2 488.368
Na H (589.593 nm)	-0.246893 u	ppm	0.002219	0.90	2278.276354	Y_R 488.368
Ni (231.604 nm)	0.000708	ppm	0.000058	8.25	2.292220	Y 377.433
P (213.618 nm)	0.004532	ppm	0.000729	16.09	36.228100	Y 242.219
Pb (220.353 nm)	0.000223 u	ppm	0.000842	> 100.00	4.443230	Y 242.219
S (181.972 nm)	0.096826	ppm	0.004795	4.95	78.218381	Y 377.433
Sb (206.834 nm)	0.000077 u	ppm	0.001601	> 100.00	-19.943300	Y 377.433
Se (196.026 nm)	-0.005802 u	ppm	0.000525	9.05	8.009820	Y 242.219
Si (288.158 nm)	0.060055	ppm	0.000398	0.66	1508.060000	Y 377.433
Sn (189.925 nm)	0.010854	ppm	0.000011	0.10	28.602400	Y 377.433
Sr (421.552 nm)	0.000888	ppm	0.000184	20.71	328.659979	Y_R 488.368
Th (288.505 nm)	0.005789	ppm	0.002959	51.11	91.759000	Y 377.433
Ti (336.122 nm)	0.001524	ppm	0.000045	2.98	-73.146400	Y 377.433
Tl (190.794 nm)	0.000709	ppm	0.000303	42.75	-5.663530	Y 377.433
U (409.013 nm)	0.006146	ppm	0.000288	4.69	-146.849000	Y 377.433
V (292.401 nm)	-0.000147 u	ppm	0.000100	67.67	18.771900	Y 377.433
Zn (206.200 nm)	0.003413	ppm	0.000220	6.43	15.722900	Y 377.433
Zr (343.823 nm)	-0.000213 u	ppm	0.000017	8.09	-13.946400	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.174903	22197.448523	0.001552	0.13
Y 377.433	1.176390	1193835.637636	0.000914	0.08
Y_R 377.433	1.278660	98254.900000	0.000550	0.04
Y_R 488.368	1.299710	57024.600000	0.007740	0.60
Y_R2 488.368	1.282985	110776.955974	0.010005	0.78

Sample Name: LCS 280-434470/2-A

Date: 10/29/2018 10:24:46 PM Rack:Tube: 2:46

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.053478	ppm	0.000126	0.23	1910.350000	Y 377.433
Al (167.019 nm)	2.142820	ppm	0.001506	0.07	1133.750000	Y_R 377.433
Al H (396.152 nm)	2.017672	ppm	0.005606	0.28	5277.777956	Y_R 377.433
As (188.980 nm)	1.015060	ppm	0.001538	0.15	1215.160000	Y 242.219
B (249.678 nm)	1.101000 o	ppm	0.000385	0.03	26227.200000	Y 242.219
Ba (493.408 nm)	2.008430 o	ppm	0.008861	0.44	230455.000000	Y_R 488.368
Be (234.861 nm)	0.046795	ppm	0.000190	0.41	13353.300000	Y_R 488.368
Bi (223.061 nm)	2.051350	ppm	0.002325	0.11	4981.730000	Y 377.433
Ca (315.887 nm)	52.758051 o	ppm	0.007019	0.01	40526.219838	Y_R 377.433
Cd (214.439 nm)	0.099961	ppm	0.000276	0.28	5709.350000	Y 377.433
Co (228.615 nm)	0.495522	ppm	0.002559	0.52	8577.020000	Y 242.219
Cr (205.560 nm)	0.207439	ppm	0.000116	0.06	3023.760000	Y 377.433
Cu (324.754 nm)	0.263571	ppm	0.000680	0.26	13762.200000	Y 377.433
Fe (238.204 nm)	1.063254	ppm	0.001317	0.12	3853.496543	Y_R 377.433
Fe H (259.940 nm)	1.018680 u	ppm	0.004527	0.44	2012.370000	Y_R 377.433
K (766.491 nm)	49.242600	ppm	0.037228	0.08	54624.400000	Y_R2 488.368
Li (670.783 nm)	0.975526	ppm	0.000128	0.01	30309.300000	Y_R2 488.368
Mg (279.078 nm)	48.973900 o	ppm	0.052455	0.11	269390.000000	Y 377.433
Mn (257.610 nm)	0.505713	ppm	0.000486	0.10	114193.000000	Y 377.433
Mo (202.032 nm)	1.032390	ppm	0.002543	0.25	8614.310000	Y 377.433
Na (589.592 nm)	47.530700 o	ppm	0.085101	0.18	305713.000000	Y_R2 488.368
Na H (589.593 nm)	49.058145	ppm	0.078671	0.16	185210.210012	Y_R 488.368
Ni (231.604 nm)	0.507940	ppm	0.000817	0.16	3320.400000	Y 377.433
P (213.618 nm)	10.426300 o	ppm	0.005229	0.05	21479.100000	Y 242.219
Pb (220.353 nm)	0.500629	ppm	0.001668	0.33	1401.270000	Y 242.219
S (181.972 nm)	2.103653	ppm	0.007924	0.38	1056.891668	Y 377.433
Sb (206.834 nm)	0.518373	ppm	0.002044	0.39	1345.360000	Y 377.433
Se (196.026 nm)	2.073780	ppm	0.002266	0.11	1962.570000	Y 242.219
Si (288.158 nm)	1.457730	ppm	0.000633	0.04	12922.200000	Y 377.433
Sn (189.925 nm)	2.055970	ppm	0.000606	0.03	3930.170000	Y 377.433
Sr (421.552 nm)	0.987882	ppm	0.005628	0.57	203758.614732	Y_R 488.368
Th (288.505 nm)	1.025950	ppm	0.002277	0.22	2671.280000	Y 377.433
Ti (336.122 nm)	1.016770	ppm	0.001196	0.12	141875.000000	Y 377.433
Tl (190.794 nm)	2.052910	ppm	0.003095	0.15	4369.840000	Y 377.433
U (409.013 nm)	2.140430	ppm	0.000464	0.02	9290.170000	Y 377.433
V (292.401 nm)	0.513036	ppm	0.000582	0.11	17960.500000	Y 377.433
Zn (206.200 nm)	0.493078	ppm	0.002661	0.54	2464.330000	Y 377.433
Zr (343.823 nm)	0.503281	ppm	0.000701	0.14	64784.100000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.116582	21095.600427	0.000782	0.07
Y 377.433	1.112283	1128777.816242	0.000133	0.01
Y_R 377.433	1.218190	93608.200000	0.001697	0.14
Y_R 488.368	1.240930	54445.500000	0.003416	0.28
Y_R2 488.368	1.222950	105593.272963	0.003078	0.25

Sample Name: 280-115807-A-1-A

Date: 10/29/2018 10:28:08 PM Rack:Tube: 2:47

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000247	ppm	0.000017	7.01	-529.974000	Y 377.433
Al (167.019 nm)	143.991000 o	ppm	0.148952	0.10	76302.900000	Y_R 377.433
Al H (396.152 nm)	264.573998 o	ppm	0.824578	0.31	667980.397629	Y_R 377.433
As (188.980 nm)	0.084430	ppm	0.003163	3.75	95.648300	Y 242.219
B (249.678 nm)	0.078629	ppm	0.000364	0.46	1444.190000	Y 242.219
Ba (493.408 nm)	2.890190 o	ppm	0.040363	1.40	331715.000000	Y_R 488.368
Be (234.861 nm)	0.003789	ppm	0.000588	15.51	11937.600000	Y_R 488.368
Bi (223.061 nm)	-0.020254 u	ppm	0.001033	5.10	15.847800	Y 377.433
Ca (315.887 nm)	59.951166 o	ppm	0.175665	0.29	46060.358839	Y_R 377.433
Cd (214.439 nm)	0.002919	ppm	0.000071	2.44	499.059000	Y 377.433
Co (228.615 nm)	0.128916	ppm	0.000445	0.35	2427.340000	Y 242.219
Cr (205.560 nm)	0.358411	ppm	0.000428	0.12	5131.710000	Y 377.433
Cu (324.754 nm)	0.266868	ppm	0.000594	0.22	14194.000000	Y 377.433
Fe (238.204 nm)	351.255444 o	ppm	0.709787	0.20	1267562.908295	Y_R 377.433
Fe H (259.940 nm)	369.470000	ppm	1.298590	0.35	674739.000000	Y_R 377.433
K (766.491 nm)	43.995300	ppm	0.118935	0.27	48730.200000	Y_R2 488.368
Li (670.783 nm)	0.200153	ppm	0.001278	0.64	5117.860000	Y_R2 488.368
Mg (279.078 nm)	46.432400 o	ppm	0.164473	0.35	254878.000000	Y 377.433
Mn (257.610 nm)	5.424990 o	ppm	0.005279	0.10	1224400.000000	Y 377.433
Mo (202.032 nm)	0.011198	ppm	0.000203	1.81	91.051900	Y 377.433
Na (589.592 nm)	1.107460	ppm	0.004142	0.37	13258.900000	Y_R2 488.368
Na H (589.593 nm)	0.866945 u	ppm	0.038020	4.39	9096.629706	Y_R 488.368
Ni (231.604 nm)	0.223752	ppm	0.001050	0.47	1474.630000	Y 377.433
P (213.618 nm)	7.597200 o	ppm	0.028126	0.37	15658.200000	Y 242.219
Pb (220.353 nm)	1.152010	ppm	0.002980	0.26	3164.350000	Y 242.219
S (181.972 nm)	19.140556 o	ppm	0.011233	0.06	9366.771390	Y 377.433
Sb (206.834 nm)	0.001170	ppm	0.001535	> 100.00	-109.354000	Y 377.433
Se (196.026 nm)	0.003325	ppm	0.001331	40.04	-40.543100	Y 242.219
Si (288.158 nm)	2.593510	ppm	0.010567	0.41	22197.700000	Y 377.433
Sn (189.925 nm)	0.026031	ppm	0.001623	6.24	57.556500	Y 377.433
Sr (421.552 nm)	1.050208	ppm	0.008322	0.79	216604.632294	Y_R 488.368
Th (288.505 nm)	0.150754	ppm	0.003677	2.44	572.872000	Y 377.433
Ti (336.122 nm)	6.690670 o	ppm	0.013835	0.21	934302.000000	Y 377.433
Tl (190.794 nm)	0.006260	ppm	0.002905	46.41	-31.801800	Y 377.433
U (409.013 nm)	-0.118110 u	ppm	0.002000	1.69	-399.070000	Y 377.433
V (292.401 nm)	0.963853	ppm	0.001386	0.14	33966.000000	Y 377.433
Zn (206.200 nm)	1.258890 o	ppm	0.007248	0.58	6293.830000	Y 377.433
Zr (343.823 nm)	0.229789	ppm	0.000477	0.21	30619.400000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.225489	23153.174451	0.001479	0.12
Y 377.433	1.206156	1224042.542422	0.005328	0.44
Y_R 377.433	1.357050	104278.000000	0.001601	0.12
Y_R 488.368	1.384400	60740.300000	0.011858	0.86
Y_R2 488.368	1.355141	117007.121807	0.001458	0.11

Sample Name: 280-115807-A-2-A

Date: 10/29/2018 10:31:31 PM Rack:Tube: 2:48

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000215	ppm	0.000204	94.70	-503.054000	Y 377.433
Al (167.019 nm)	122.626000 o	ppm	0.277695	0.23	64965.800000	Y_R 377.433
Al H (396.152 nm)	187.648973 o	ppm	1.558596	0.83	473869.461383	Y_R 377.433
As (188.980 nm)	0.046036	ppm	0.002531	5.50	50.249900	Y 242.219
B (249.678 nm)	0.069212	ppm	0.000093	0.13	1331.210000	Y 242.219
Ba (493.408 nm)	2.058340 o	ppm	0.008728	0.42	236473.000000	Y_R 488.368
Be (234.861 nm)	0.002224	ppm	0.000011	0.48	9137.570000	Y_R 488.368
Bi (223.061 nm)	-0.021170 u	ppm	0.000873	4.12	1.221530	Y 377.433
Ca (315.887 nm)	230.401469 o	ppm	0.472748	0.21	177200.229008	Y_R 377.433
Cd (214.439 nm)	0.000871	ppm	0.000137	15.69	310.119000	Y 377.433
Co (228.615 nm)	0.092682	ppm	0.000023	0.02	1754.410000	Y 242.219
Cr (205.560 nm)	0.269952	ppm	0.000524	0.19	3862.570000	Y 377.433
Cu (324.754 nm)	0.201864	ppm	0.000081	0.04	10552.100000	Y 377.433
Fe (238.204 nm)	275.571483 o	ppm	0.661261	0.24	994448.495624	Y_R 377.433
Fe H (259.940 nm)	289.447000	ppm	0.500848	0.17	528630.000000	Y_R 377.433
K (766.491 nm)	25.761700	ppm	0.045452	0.18	28248.600000	Y_R2 488.368
Li (670.783 nm)	0.160123	ppm	0.002498	1.56	3817.320000	Y_R2 488.368
Mg (279.078 nm)	41.995400	ppm	0.021606	0.05	230596.000000	Y 377.433
Mn (257.610 nm)	3.066860 o	ppm	0.010475	0.34	692202.000000	Y 377.433
Mo (202.032 nm)	0.008364	ppm	0.000496	5.93	67.399100	Y 377.433
Na (589.592 nm)	1.160670	ppm	0.002576	0.22	11980.100000	Y_R2 488.368
Na H (589.593 nm)	0.888231 u	ppm	0.013395	1.51	8390.686208	Y_R 488.368
Ni (231.604 nm)	0.151449	ppm	0.000635	0.42	998.901000	Y 377.433
P (213.618 nm)	5.665280 o	ppm	0.001123	0.02	11683.200000	Y 242.219
Pb (220.353 nm)	0.170716	ppm	0.002039	1.19	444.400000	Y 242.219
S (181.972 nm)	9.413412	ppm	0.015774	0.17	4623.332096	Y 377.433
Sb (206.834 nm)	-0.005744 u	ppm	0.000796	13.85	-106.795000	Y 377.433
Se (196.026 nm)	-0.000321 u	ppm	0.004867	> 100.00	-32.827800	Y 242.219
Si (288.158 nm)	2.650980	ppm	0.000691	0.03	22667.100000	Y 377.433
Sn (189.925 nm)	0.023150	ppm	0.001481	6.40	52.059400	Y 377.433
Sr (421.552 nm)	1.361266 o	ppm	0.005953	0.44	280717.138423	Y_R 488.368
Th (288.505 nm)	0.116688	ppm	0.000330	0.28	439.377000	Y 377.433
Ti (336.122 nm)	5.361220 o	ppm	0.003392	0.06	749159.000000	Y 377.433
Tl (190.794 nm)	0.003121	ppm	0.001211	38.79	-30.834200	Y 377.433
U (409.013 nm)	-0.089300 u	ppm	0.002574	2.88	-372.309000	Y 377.433
V (292.401 nm)	0.765558	ppm	0.000196	0.03	26988.200000	Y 377.433
Zn (206.200 nm)	0.729776	ppm	0.000621	0.09	3647.960000	Y 377.433
Zr (343.823 nm)	0.211504	ppm	0.000247	0.12	28043.500000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.172243	22147.195189	0.003749	0.32
Y 377.433	1.163759	1181017.365383	0.003834	0.33
Y_R 377.433	1.309320	100611.000000	0.001254	0.10
Y_R 488.368	1.334270	58540.900000	0.003157	0.24
Y_R2 488.368	1.318439	113838.097344	0.000409	0.03

Sample Name: CCVH-5380945

Date: 10/29/2018 10:34:55 PM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000382 u	ppm	0.000107	27.98	-701.378000	Y 377.433
Al (167.019 nm)	47.403900 o	ppm	0.082157	0.17	25077.900000	Y_R 377.433
Al H (396.152 nm)	48.980942	ppm	0.130516	0.27	123722.482586	Y_R 377.433
As (188.980 nm)	0.001760	ppm	0.001626	92.38	-0.905022	Y 242.219
B (249.678 nm)	0.001122	ppm	0.000187	16.70	44.774700	Y 242.219
Ba (493.408 nm)	-0.000713 u	ppm	0.000211	29.54	540.050000	Y_R 488.368
Be (234.861 nm)	-0.000628 u	ppm	0.000012	1.89	1342.100000	Y_R 488.368
Bi (223.061 nm)	1.038360	ppm	0.004507	0.43	2533.560000	Y 377.433
Ca (315.887 nm)	0.018220	ppm	0.001540	8.45	-50.440850	Y_R 377.433
Cd (214.439 nm)	-0.000148 u	ppm	0.000020	13.47	38.222100	Y 377.433
Co (228.615 nm)	0.003190	ppm	0.000195	6.10	21.030200	Y 242.219
Cr (205.560 nm)	-0.000312 u	ppm	0.000240	76.75	-16.728500	Y 377.433
Cu (324.754 nm)	-0.003086 u	ppm	0.000318	10.32	-167.492000	Y 377.433
Fe (238.204 nm)	50.798227 o	ppm	0.025786	0.05	183327.952811	Y_R 377.433
Fe H (259.940 nm)	52.994100	ppm	0.030052	0.06	96910.100000	Y_R 377.433
K (766.491 nm)	0.178716	ppm	0.034964	19.56	-488.396000	Y_R2 488.368
Li (670.783 nm)	0.015405	ppm	0.000570	3.70	-884.505000	Y_R2 488.368
Mg (279.078 nm)	-0.014892 u	ppm	0.001257	8.44	-406.640000	Y 377.433
Mn (257.610 nm)	0.001590	ppm	0.000017	1.09	420.374000	Y 377.433
Mo (202.032 nm)	0.000021 u	ppm	0.000109	> 100.00	-2.231150	Y 377.433
Na (589.592 nm)	230.184000 o	ppm	0.777222	0.34	1459210.000000	Y_R2 488.368
Na H (589.593 nm)	234.028761	ppm	3.244552	1.39	862477.269834	Y_R 488.368
Ni (231.604 nm)	0.003827	ppm	0.000001	0.03	24.745600	Y 377.433
P (213.618 nm)	-0.008755 u	ppm	0.001833	20.93	8.891640	Y 242.219
Pb (220.353 nm)	-0.004070 u	ppm	0.000851	20.90	11.020300	Y 242.219
S (181.972 nm)	5.208049	ppm	0.009019	0.17	2567.822731	Y 377.433
Sb (206.834 nm)	-0.001598 u	ppm	0.001406	87.97	-71.014000	Y 377.433
Se (196.026 nm)	-0.002435 u	ppm	0.001344	55.19	2.197630	Y 242.219
Si (288.158 nm)	0.001081	ppm	0.000344	31.82	1026.450000	Y 377.433
Sn (189.925 nm)	0.001305	ppm	0.001181	90.43	10.386400	Y 377.433
Sr (421.552 nm)	0.000342	ppm	0.000017	5.05	216.155523	Y_R 488.368
Th (288.505 nm)	5.097230	ppm	0.013170	0.26	12830.700000	Y 377.433
Ti (336.122 nm)	0.002426	ppm	0.000198	8.15	52.395000	Y 377.433
Tl (190.794 nm)	-0.002042 u	ppm	0.000112	5.47	-12.879900	Y 377.433
U (409.013 nm)	10.460100	ppm	0.015472	0.15	46357.600000	Y 377.433
V (292.401 nm)	0.003775	ppm	0.000036	0.96	-23.482900	Y 377.433
Zn (206.200 nm)	0.001168	ppm	0.000331	28.33	4.498500	Y 377.433
Zr (343.823 nm)	-0.004226 u	ppm	0.000052	1.23	-380.850000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.137840	21497.217451	0.002021	0.18
Y 377.433	1.128450	1145184.561351	0.000164	0.01
Y_R 377.433	1.248010	95899.200000	0.002835	0.23
Y_R 488.368	1.287190	56475.100000	0.004663	0.36
Y_R2 488.368	1.222904	105589.336037	0.008622	0.71

Sample Name: CCV-5391053

Date: 10/29/2018 10:38:18 PM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.502917	ppm	0.001022	0.20	21865.600000	Y 377.433
Al (167.019 nm)	0.542807	ppm	0.004927	0.91	289.467000	Y_R 377.433
Al H (396.152 nm)	0.492732 u	ppm	0.005258	1.07	1365.630078	Y_R 377.433
As (188.980 nm)	1.014260	ppm	0.000042	0.00	1214.200000	Y 242.219
B (249.678 nm)	0.504389	ppm	0.000784	0.16	12074.100000	Y 242.219
Ba (493.408 nm)	0.496964	ppm	0.000444	0.09	57464.700000	Y_R 488.368
Be (234.861 nm)	0.460002	ppm	0.001258	0.27	132085.000000	Y_R 488.368
Bi (223.061 nm)	-0.000075 u	ppm	0.001379	> 100.00	7.625500	Y 377.433
Ca (315.887 nm)	5.304676	ppm	0.007545	0.14	4017.092637	Y_R 377.433
Cd (214.439 nm)	0.499946	ppm	0.000551	0.11	28556.800000	Y 377.433
Co (228.615 nm)	0.504530	ppm	0.002851	0.57	8715.460000	Y 242.219
Cr (205.560 nm)	0.512930	ppm	0.003111	0.61	7475.140000	Y 377.433
Cu (324.754 nm)	0.519449	ppm	0.001032	0.20	27385.500000	Y 377.433
Fe (238.204 nm)	2.577543	ppm	0.010258	0.40	9317.982607	Y_R 377.433
Fe H (259.940 nm)	2.611410 u	ppm	0.004298	0.16	4920.420000	Y_R 377.433
K (766.491 nm)	48.247600	ppm	0.249494	0.52	53506.800000	Y_R2 488.368
Li (670.783 nm)	0.963228	ppm	0.001895	0.20	29909.800000	Y_R2 488.368
Mg (279.078 nm)	19.456900	ppm	0.011480	0.06	107065.000000	Y 377.433
Mn (257.610 nm)	0.507137	ppm	0.000485	0.10	114514.000000	Y 377.433
Mo (202.032 nm)	0.514223	ppm	0.001387	0.27	4289.500000	Y 377.433
Na (589.592 nm)	4.748490	ppm	0.013425	0.28	31675.400000	Y_R2 488.368
Na H (589.593 nm)	4.619623 u	ppm	0.027298	0.59	20616.606519	Y_R 488.368
Ni (231.604 nm)	0.523778	ppm	0.000431	0.08	3422.800000	Y 377.433
P (213.618 nm)	1.005070	ppm	0.003373	0.34	2094.840000	Y 242.219
Pb (220.353 nm)	0.997680	ppm	0.003055	0.31	2785.080000	Y 242.219
S (181.972 nm)	0.038719	ppm	0.004419	11.41	51.097343	Y 377.433
Sb (206.834 nm)	1.027710	ppm	0.001999	0.19	2710.170000	Y 377.433
Se (196.026 nm)	1.016950	ppm	0.002617	0.26	969.082000	Y 242.219
Si (288.158 nm)	4.983960	ppm	0.023189	0.47	41719.500000	Y 377.433
Sn (189.925 nm)	1.033100	ppm	0.001830	0.18	1978.790000	Y 377.433
Sr (421.552 nm)	0.490681	ppm	0.001946	0.40	101280.242578	Y_R 488.368
Th (288.505 nm)	0.007811	ppm	0.001191	15.24	113.241000	Y 377.433
Ti (336.122 nm)	0.507481	ppm	0.000474	0.09	70603.400000	Y 377.433
Tl (190.794 nm)	1.021280	ppm	0.002955	0.29	2171.240000	Y 377.433
U (409.013 nm)	0.001427	ppm	0.000192	13.42	-205.743000	Y 377.433
V (292.401 nm)	0.500575	ppm	0.000513	0.10	17486.400000	Y 377.433
Zn (206.200 nm)	0.496296	ppm	0.000842	0.17	2480.420000	Y 377.433
Zr (343.823 nm)	0.510659	ppm	0.000533	0.10	65738.100000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.143433	21602.896091	0.000810	0.07
Y 377.433	1.134666	1151492.357358	0.000236	0.02
Y_R 377.433	1.224500	94092.700000	0.001948	0.16
Y_R 488.368	1.250000	54843.600000	0.002445	0.20
Y_R2 488.368	1.223837	105669.915838	0.002948	0.24

Sample Name: CCB

Date: 10/29/2018 10:41:41 PM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000721	ppm	0.000039	5.40	-401.419000	Y 377.433
Al (167.019 nm)	0.001373 u	ppm	0.003129	> 100.00	1.728700	Y_R 377.433
Al H (396.152 nm)	-0.019564 u	ppm	0.001807	9.23	28.439939	Y_R 377.433
As (188.980 nm)	-0.000179 u	ppm	0.002395	> 100.00	-2.786730	Y 242.219
B (249.678 nm)	0.002234	ppm	0.000153	6.87	146.195000	Y 242.219
Ba (493.408 nm)	-0.001005 u	ppm	0.000275	27.38	458.221000	Y_R 488.368
Be (234.861 nm)	0.000055	ppm	0.000001	0.94	-43.981400	Y_R 488.368
Bi (223.061 nm)	0.002700	ppm	0.001418	52.51	13.931400	Y 377.433
Ca (315.887 nm)	0.010297 u	ppm	0.016103	> 100.00	-56.537026	Y_R 377.433
Cd (214.439 nm)	0.000109	ppm	0.000074	67.75	4.588470	Y 377.433
Co (228.615 nm)	0.000434	ppm	0.000091	21.02	-26.708700	Y 242.219
Cr (205.560 nm)	0.000057	ppm	0.000020	35.64	2.522680	Y 377.433
Cu (324.754 nm)	0.001893	ppm	0.000262	13.82	-211.665000	Y 377.433
Fe (238.204 nm)	0.000286	ppm	0.000026	9.18	17.649512	Y_R 377.433
Fe H (259.940 nm)	-0.078517 u	ppm	0.004741	6.04	9.085400	Y_R 377.433
K (766.491 nm)	0.184553	ppm	0.033200	17.99	-481.839000	Y_R2 488.368
Li (670.783 nm)	0.014269 Z	ppm	0.000179	1.25	-921.392000 Z	Y_R2 488.368
Mg (279.078 nm)	0.001286	ppm	0.000940	73.11	41.545400	Y 377.433
Mn (257.610 nm)	0.000030	ppm	0.000024	77.63	68.310800	Y 377.433
Mo (202.032 nm)	0.000386	ppm	0.000202	52.29	0.812726	Y 377.433
Na (589.592 nm)	-0.027207 u	ppm	0.006422	23.61	445.359000	Y_R2 488.368
Na H (589.593 nm)	-0.405864 u	ppm	0.005569	1.37	1694.648179	Y_R 488.368
Ni (231.604 nm)	-0.000742 u	ppm	0.000298	40.19	-7.188880	Y 377.433
P (213.618 nm)	-0.002426 u	ppm	0.000548	22.60	21.913900	Y 242.219
Pb (220.353 nm)	0.000140 u	ppm	0.000768	> 100.00	4.205730	Y 242.219
S (181.972 nm)	0.029195	ppm	0.004248	14.55	45.275512	Y 377.433
Sb (206.834 nm)	0.001177	ppm	0.000480	40.78	-17.042100	Y 377.433
Se (196.026 nm)	-0.001674 u	ppm	0.002029	> 100.00	11.893000	Y 242.219
Si (288.158 nm)	-0.019856 u	ppm	0.000499	2.51	855.465000	Y 377.433
Sn (189.925 nm)	-0.001350 u	ppm	0.000747	55.34	5.320750	Y 377.433
Sr (421.552 nm)	-0.000084 u	ppm	0.000010	12.09	128.406116	Y_R 488.368
Th (288.505 nm)	0.002144	ppm	0.000136	6.33	82.746500	Y 377.433
Ti (336.122 nm)	0.000397	ppm	0.000040	10.16	-231.030000	Y 377.433
Tl (190.794 nm)	0.001289	ppm	0.001595	> 100.00	-4.424820	Y 377.433
U (409.013 nm)	-0.000253 u	ppm	0.000419	> 100.00	-175.295000	Y 377.433
V (292.401 nm)	-0.000257 u	ppm	0.000126	48.91	15.027000	Y 377.433
Zn (206.200 nm)	0.000265	ppm	0.000018	6.87	-0.018819	Y 377.433
Zr (343.823 nm)	-0.000045 u	ppm	0.000148	> 100.00	7.546930	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.145075	21633.922156	0.001894	0.17
Y 377.433	1.138276	1155155.707191	0.003617	0.32
Y_R 377.433	1.218230	93611.300000	0.002705	0.22
Y_R 488.368	1.234200	54150.400000	0.004464	0.36
Y_R2 488.368	1.218756	105231.152186	0.003688	0.30

Sample Name: CCVL-5398386

Date: 10/29/2018 10:45:05 PM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.010047	ppm	0.000189	1.88	12.100700	Y 377.433
Al (167.019 nm)	0.108326	ppm	0.001733	1.60	58.301700	Y_R 377.433
Al H (396.152 nm)	0.079923 u	ppm	0.002073	2.59	281.209151	Y_R 377.433
As (188.980 nm)	0.014868	ppm	0.001693	11.38	15.263600	Y 242.219
B (249.678 nm)	0.100882	ppm	0.000468	0.46	2486.310000	Y 242.219
Ba (493.408 nm)	0.008967	ppm	0.000101	1.12	1599.670000	Y_R 488.368
Be (234.861 nm)	0.000985	ppm	0.000006	0.58	225.584000	Y_R 488.368
Bi (223.061 nm)	0.105525	ppm	0.001149	1.09	263.281000	Y 377.433
Ca (315.887 nm)	0.226121	ppm	0.003928	1.74	109.514539	Y_R 377.433
Cd (214.439 nm)	0.005138	ppm	0.000084	1.64	291.971000	Y 377.433
Co (228.615 nm)	0.011053	ppm	0.000125	1.13	157.416000	Y 242.219
Cr (205.560 nm)	0.010113	ppm	0.000028	0.28	149.071000	Y 377.433
Cu (324.754 nm)	0.017297	ppm	0.000401	2.32	609.091000	Y 377.433
Fe (238.204 nm)	0.106688	ppm	0.000978	0.92	401.616226	Y_R 377.433
Fe H (259.940 nm)	0.027194 u	ppm	0.001009	3.71	202.096000	Y_R 377.433
K (766.491 nm)	3.170740	ppm	0.039572	1.25	2872.510000	Y_R2 488.368
Li (670.783 nm)	0.034631 Q	ppm	0.000475	1.37	-259.871000 Q	Y_R2 488.368
Mg (279.078 nm)	0.195105	ppm	0.000520	0.27	1106.400000	Y 377.433
Mn (257.610 nm)	0.010453	ppm	0.000037	0.35	2420.470000	Y 377.433
Mo (202.032 nm)	0.019559	ppm	0.000301	1.54	160.840000	Y 377.433
Na (589.592 nm)	0.964869	ppm	0.001579	0.16	6751.200000	Y_R2 488.368
Na H (589.593 nm)	0.562076 u	ppm	0.027920	4.97	5258.078982	Y_R 488.368
Ni (231.604 nm)	0.042410	ppm	0.000188	0.44	274.906000	Y 377.433
P (213.618 nm)	2.826400 o	ppm	0.012676	0.45	5842.230000	Y 242.219
Pb (220.353 nm)	0.009356	ppm	0.000411	4.39	29.938300	Y 242.219
S (181.972 nm)	0.122594	ppm	0.004752	3.88	90.792352	Y 377.433
Sb (206.834 nm)	0.019561	ppm	0.000978	5.00	31.665900	Y 377.433
Se (196.026 nm)	0.016062	ppm	0.000993	6.18	28.550200	Y 242.219
Si (288.158 nm)	0.466571	ppm	0.004224	0.91	4827.910000	Y 377.433
Sn (189.925 nm)	0.099827	ppm	0.000495	0.50	198.340000	Y 377.433
Sr (421.552 nm)	0.009705	ppm	0.000068	0.70	2146.043958	Y_R 488.368
Th (288.505 nm)	0.021418 Q	ppm	0.003226	15.06	131.622000 Q	Y 377.433
Ti (336.122 nm)	0.010716	ppm	0.000039	0.37	1210.640000	Y 377.433
Tl (190.794 nm)	0.017089	ppm	0.000002	0.01	29.248200	Y 377.433
U (409.013 nm)	0.069278	ppm	0.002446	3.53	132.601000	Y 377.433
V (292.401 nm)	0.009778	ppm	0.000300	3.06	363.390000	Y 377.433
Zn (206.200 nm)	0.021427	ppm	0.000012	0.06	105.803000	Y 377.433
Zr (343.823 nm)	0.015129	ppm	0.000043	0.28	1960.680000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.163670	21985.220437	0.002156	0.19
Y 377.433	1.157381	1174544.923778	0.001540	0.13
Y_R 377.433	1.245900	95737.200000	0.001204	0.10
Y_R 488.368	1.275040	55942.100000	0.015577	1.22
Y_R2 488.368	1.249962	107925.615031	0.007204	0.58

Sample Name: 280-115807-A-3-A

Date: 10/29/2018 10:48:27 PM Rack:Tube: 2:49

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000374	ppm	0.000171	45.78	-499.196000	Y 377.433
Al (167.019 nm)	141.751000 o	ppm	0.383033	0.27	75102.400000	Y_R 377.433
Al H (396.152 nm)	265.216450 o	ppm	0.482533	0.18	669663.822472	Y_R 377.433
As (188.980 nm)	0.060578	ppm	0.002291	3.78	67.258200	Y 242.219
B (249.678 nm)	0.060203	ppm	0.000565	0.94	1044.560000	Y 242.219
Ba (493.408 nm)	2.731490 o	ppm	0.020077	0.74	313559.000000	Y_R 488.368
Be (234.861 nm)	0.004727	ppm	0.000172	3.65	11411.100000	Y_R 488.368
Bi (223.061 nm)	-0.019604 u	ppm	0.000888	4.53	13.226800	Y 377.433
Ca (315.887 nm)	199.794714 o	ppm	0.740733	0.37	153652.217347	Y_R 377.433
Cd (214.439 nm)	0.001499	ppm	0.000038	2.54	393.649000	Y 377.433
Co (228.615 nm)	0.123890	ppm	0.000414	0.33	2229.500000	Y 242.219
Cr (205.560 nm)	0.306919	ppm	0.001873	0.61	4387.890000	Y 377.433
Cu (324.754 nm)	0.364131	ppm	0.000111	0.03	19322.700000	Y 377.433
Fe (238.204 nm)	325.165469 o	ppm	1.279716	0.39	1173414.186430	Y_R 377.433
Fe H (259.940 nm)	340.629000	ppm	2.603030	0.76	622080.000000	Y_R 377.433
K (766.491 nm)	31.780400	ppm	0.016990	0.05	35009.400000	Y_R2 488.368
Li (670.783 nm)	0.181901	ppm	0.000590	0.32	4524.880000	Y_R2 488.368
Mg (279.078 nm)	32.102800	ppm	0.071847	0.22	176092.000000	Y 377.433
Mn (257.610 nm)	5.011260 o	ppm	0.007099	0.14	1131020.000000	Y 377.433
Mo (202.032 nm)	0.018556	ppm	0.000216	1.17	152.472000	Y 377.433
Na (589.592 nm)	1.022020	ppm	0.007363	0.72	12411.100000	Y_R2 488.368
Na H (589.593 nm)	0.761957 u	ppm	0.004234	0.56	8562.489012	Y_R 488.368
Ni (231.604 nm)	0.195899	ppm	0.000791	0.40	1291.510000	Y 377.433
P (213.618 nm)	9.275950 o	ppm	0.022892	0.25	19112.200000	Y 242.219
Pb (220.353 nm)	0.587256	ppm	0.001194	0.20	1586.160000	Y 242.219
S (181.972 nm)	166.009193 bo	ppm	0.217213	0.13	80903.372244	Y 377.433
Sb (206.834 nm)	0.000093 u	ppm	0.002276	> 100.00	-107.889000	Y 377.433
Se (196.026 nm)	0.003247	ppm	0.004500	> 100.00	-36.925500	Y 242.219
Si (288.158 nm)	2.529410	ppm	0.000758	0.03	21674.300000	Y 377.433
Sn (189.925 nm)	0.027753	ppm	0.001673	6.03	60.841700	Y 377.433
Sr (421.552 nm)	1.387431 o	ppm	0.000936	0.07	286110.041212	Y_R 488.368
Th (288.505 nm)	0.103110	ppm	0.003809	3.69	444.699000	Y 377.433
Ti (336.122 nm)	3.471500 o	ppm	0.005095	0.15	485150.000000	Y 377.433
Tl (190.794 nm)	0.002249	ppm	0.000107	4.78	-25.713300	Y 377.433
U (409.013 nm)	-0.066251 u	ppm	0.002451	3.70	-221.333000	Y 377.433
V (292.401 nm)	0.855736	ppm	0.000860	0.10	30098.400000	Y 377.433
Zn (206.200 nm)	0.843715	ppm	0.001609	0.19	4217.720000	Y 377.433
Zr (343.823 nm)	0.263889	ppm	0.000335	0.13	34932.300000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.206503	22794.478651	0.002808	0.23
Y 377.433	1.193483	1211181.995881	0.003075	0.26
Y_R 377.433	1.347990	103582.000000	0.000128	0.01
Y_R 488.368	1.367120	59982.200000	0.000805	0.06
Y_R2 488.368	1.344485	116087.055656	0.003544	0.26

Sample Name: 280-115807-A-4-A

Date: 10/29/2018 10:51:49 PM Rack:Tube: 2:50

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000969	ppm	0.000014	1.45	-488.331000	Y 377.433
Al (167.019 nm)	116.717000 o	ppm	1.242360	1.06	61853.100000	Y_R 377.433
Al H (396.152 nm)	171.789180 o	ppm	1.817074	1.06	433772.048314	Y_R 377.433
As (188.980 nm)	0.056570	ppm	0.001498	2.65	62.768900	Y 242.219
B (249.678 nm)	0.058197	ppm	0.000078	0.13	1050.310000	Y 242.219
Ba (493.408 nm)	2.172520 o	ppm	0.006792	0.31	249522.000000	Y_R 488.368
Be (234.861 nm)	0.002368	ppm	0.000166	7.02	9598.270000	Y_R 488.368
Bi (223.061 nm)	-0.021149 u	ppm	0.000548	2.59	3.484970	Y 377.433
Ca (315.887 nm)	89.229851 o	ppm	0.092200	0.10	68586.588687	Y_R 377.433
Cd (214.439 nm)	0.001440	ppm	0.000107	7.45	355.469000	Y 377.433
Co (228.615 nm)	0.099951	ppm	0.000396	0.40	1882.670000	Y 242.219
Cr (205.560 nm)	0.243669	ppm	0.000705	0.29	3475.670000	Y 377.433
Cu (324.754 nm)	0.202234	ppm	0.000216	0.11	10656.400000	Y 377.433
Fe (238.204 nm)	288.575500 o	ppm	0.982721	0.34	1041375.010783	Y_R 377.433
Fe H (259.940 nm)	305.449000	ppm	1.414040	0.46	557848.000000	Y_R 377.433
K (766.491 nm)	26.562500	ppm	0.016659	0.06	29148.200000	Y_R2 488.368
Li (670.783 nm)	0.129799	ppm	0.000793	0.61	2832.110000	Y_R2 488.368
Mg (279.078 nm)	36.230400	ppm	0.066827	0.18	198859.000000	Y 377.433
Mn (257.610 nm)	3.965180 o	ppm	0.007156	0.18	894940.000000	Y 377.433
Mo (202.032 nm)	0.006869	ppm	0.000373	5.42	54.927800	Y 377.433
Na (589.592 nm)	1.076190	ppm	0.009656	0.90	11666.100000	Y_R2 488.368
Na H (589.593 nm)	0.748661 u	ppm	0.009166	1.22	7985.632490	Y_R 488.368
Ni (231.604 nm)	0.130555	ppm	0.000938	0.72	862.872000	Y 377.433
P (213.618 nm)	7.581730 o	ppm	0.014161	0.19	15626.400000	Y 242.219
Pb (220.353 nm)	0.792118	ppm	0.000863	0.11	2184.320000	Y 242.219
S (181.972 nm)	13.389337 o	ppm	0.022211	0.17	6562.049146	Y 377.433
Sb (206.834 nm)	0.003643	ppm	0.000195	5.36	-84.702900	Y 377.433
Se (196.026 nm)	0.001965 u	ppm	0.004709	> 100.00	-32.758800	Y 242.219
Si (288.158 nm)	1.976920	ppm	0.000422	0.02	17162.300000	Y 377.433
Sn (189.925 nm)	0.017893	ppm	0.000829	4.63	42.030400	Y 377.433
Sr (421.552 nm)	1.451804 o	ppm	0.009221	0.64	299377.879385	Y_R 488.368
Th (288.505 nm)	0.102473	ppm	0.001678	1.64	424.070000	Y 377.433
Ti (336.122 nm)	5.429510 o	ppm	0.001538	0.03	758261.000000	Y 377.433
Tl (190.794 nm)	0.003257	ppm	0.000079	2.44	-31.178700	Y 377.433
U (409.013 nm)	-0.079767 u	ppm	0.002995	3.75	-288.556000	Y 377.433
V (292.401 nm)	0.839888	ppm	0.001193	0.14	29605.800000	Y 377.433
Zn (206.200 nm)	0.656147	ppm	0.003123	0.48	3279.770000	Y 377.433
Zr (343.823 nm)	0.180943	ppm	0.000093	0.05	24150.200000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.197111	22617.038556	0.001865	0.16
Y 377.433	1.184419	1201983.407331	0.002906	0.25
Y_R 377.433	1.324440	101773.000000	0.007902	0.60
Y_R 488.368	1.339340	58763.100000	0.000188	0.01
Y_R2 488.368	1.311829	113267.398599	0.005439	0.41

Sample Name: 280-115807-A-5-A

Date: 10/29/2018 10:55:12 PM Rack:Tube: 2:51

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000441	ppm	0.000019	4.34	-494.284000	Y 377.433
Al (167.019 nm)	136.863000 o	ppm	1.052280	0.77	72493.900000	Y_R 377.433
Al H (396.152 nm)	248.090597 o	ppm	0.837793	0.34	626490.585044	Y_R 377.433
As (188.980 nm)	0.066929	ppm	0.000485	0.72	75.226000	Y 242.219
B (249.678 nm)	0.086037	ppm	0.000135	0.16	1715.950000	Y 242.219
Ba (493.408 nm)	2.516900 o	ppm	0.000263	0.01	288991.000000	Y_R 488.368
Be (234.861 nm)	0.004577	ppm	0.000111	2.44	10125.500000	Y_R 488.368
Bi (223.061 nm)	-0.021635 u	ppm	0.000632	2.92	1.740460	Y 377.433
Ca (315.887 nm)	335.813014 o	ppm	0.034962	0.01	258301.033894	Y_R 377.433
Cd (214.439 nm)	0.001266	ppm	0.000120	9.44	342.249000	Y 377.433
Co (228.615 nm)	0.104356	ppm	0.000422	0.40	1966.430000	Y 242.219
Cr (205.560 nm)	0.278254	ppm	0.002125	0.76	3980.870000	Y 377.433
Cu (324.754 nm)	0.214797	ppm	0.000077	0.04	11216.000000	Y 377.433
Fe (238.204 nm)	284.981728 o	ppm	0.988978	0.35	1028406.463636	Y_R 377.433
Fe H (259.940 nm)	302.464000	ppm	0.802242	0.27	552397.000000	Y_R 377.433
K (766.491 nm)	35.733000	ppm	0.149777	0.42	39449.300000	Y_R2 488.368
Li (670.783 nm)	0.209391	ppm	0.000723	0.35	5418.010000	Y_R2 488.368
Mg (279.078 nm)	69.305400 o	ppm	0.072661	0.10	380815.000000	Y 377.433
Mn (257.610 nm)	4.144280 o	ppm	0.004994	0.12	935359.000000	Y 377.433
Mo (202.032 nm)	0.005063	ppm	0.000384	7.58	39.852800	Y 377.433
Na (589.592 nm)	1.562700	ppm	0.012058	0.77	15421.200000	Y_R2 488.368
Na H (589.593 nm)	1.321833 u	ppm	0.001613	0.12	10416.339315	Y_R 488.368
Ni (231.604 nm)	0.174696	ppm	0.000051	0.03	1151.270000	Y 377.433
P (213.618 nm)	7.805620 o	ppm	0.017904	0.23	16087.000000	Y 242.219
Pb (220.353 nm)	0.139940	ppm	0.001259	0.90	340.113000	Y 242.219
S (181.972 nm)	16.287431 o	ppm	0.006861	0.04	7974.086840	Y 377.433
Sb (206.834 nm)	-0.002218 u	ppm	0.000664	29.92	-103.870000	Y 377.433
Se (196.026 nm)	0.001016	ppm	0.001310	> 100.00	-31.705900	Y 242.219
Si (288.158 nm)	2.097700	ppm	0.005630	0.27	18148.600000	Y 377.433
Sn (189.925 nm)	0.021832	ppm	0.001839	8.42	49.545700	Y 377.433
Sr (421.552 nm)	1.622741 o	ppm	0.001691	0.10	334609.807791	Y_R 488.368
Th (288.505 nm)	0.161870	ppm	0.000671	0.41	571.379000	Y 377.433
Ti (336.122 nm)	5.644120 o	ppm	0.003952	0.07	788990.000000	Y 377.433
Tl (190.794 nm)	0.005428	ppm	0.001561	28.76	-27.380800	Y 377.433
U (409.013 nm)	-0.121503 u	ppm	0.003195	2.63	-525.673000	Y 377.433
V (292.401 nm)	0.772396	ppm	0.000666	0.09	27237.600000	Y 377.433
Zn (206.200 nm)	0.716190	ppm	0.002232	0.31	3580.020000	Y 377.433
Zr (343.823 nm)	0.211074	ppm	0.000158	0.07	28017.600000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.177648	22249.322539	0.001804	0.15
Y 377.433	1.163710	1180967.266820	0.002677	0.23
Y_R 377.433	1.326260	101912.000000	0.000583	0.04
Y_R 488.368	1.349270	59199.100000	0.001005	0.07
Y_R2 488.368	1.321644	114114.867942	0.004869	0.37

Sample Name: 280-115807-A-6-A

Date: 10/29/2018 10:58:35 PM Rack:Tube: 2:52

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000018 u	ppm	0.000042	> 100.00	-568.672000	Y 377.433
Al (167.019 nm)	119.286000 o	ppm	0.266016	0.22	63247.700000	Y_R 377.433
Al H (396.152 nm)	188.754013 o	ppm	0.373698	0.20	476684.352731	Y_R 377.433
As (188.980 nm)	0.055617	ppm	0.000615	1.11	61.124000	Y 242.219
B (249.678 nm)	0.063304	ppm	0.000168	0.26	1086.860000	Y 242.219
Ba (493.408 nm)	2.052970 o	ppm	0.004148	0.20	235940.000000	Y_R 488.368
Be (234.861 nm)	0.000577	ppm	0.000030	5.20	10868.900000	Y_R 488.368
Bi (223.061 nm)	-0.027565 u	ppm	0.000729	2.64	-2.653960	Y 377.433
Ca (315.887 nm)	288.987973 o	ppm	1.106279	0.38	222275.107702	Y_R 377.433
Cd (214.439 nm)	-0.000052 u	ppm	0.000007	13.51	324.868000	Y 377.433
Co (228.615 nm)	0.110032	ppm	0.000275	0.25	2093.390000	Y 242.219
Cr (205.560 nm)	0.325299	ppm	0.002072	0.64	4650.220000	Y 377.433
Cu (324.754 nm)	0.190599	ppm	0.000053	0.03	9957.670000	Y 377.433
Fe (238.204 nm)	345.713743 o	ppm	2.518553	0.73	1247565.033810	Y_R 377.433
Fe H (259.940 nm)	367.165000	ppm	0.059599	0.02	670530.000000	Y_R 377.433
K (766.491 nm)	23.814000	ppm	0.082301	0.35	26060.800000	Y_R2 488.368
Li (670.783 nm)	0.180763	ppm	0.000517	0.29	4487.890000	Y_R2 488.368
Mg (279.078 nm)	50.408200 o	ppm	0.049302	0.10	276757.000000	Y 377.433
Mn (257.610 nm)	3.150310 o	ppm	0.005839	0.19	711035.000000	Y 377.433
Mo (202.032 nm)	0.006191	ppm	0.000476	7.68	49.266500	Y 377.433
Na (589.592 nm)	1.651890	ppm	0.011552	0.70	15082.300000	Y_R2 488.368
Na H (589.593 nm)	1.378481 u	ppm	0.003997	0.29	10185.654974	Y_R 488.368
Ni (231.604 nm)	0.145205	ppm	0.001727	1.19	960.982000	Y 377.433
P (213.618 nm)	8.216710 o	ppm	0.008287	0.10	16932.800000	Y 242.219
Pb (220.353 nm)	0.096557	ppm	0.000988	1.02	243.322000	Y 242.219
S (181.972 nm)	7.430899	ppm	0.021931	0.30	3657.880188	Y 377.433
Sb (206.834 nm)	-0.004046 u	ppm	0.002879	71.15	-117.668000	Y 377.433
Se (196.026 nm)	-0.003418 u	ppm	0.003243	94.90	-48.865700	Y 242.219
Si (288.158 nm)	2.500430	ppm	0.000256	0.01	21437.600000	Y 377.433
Sn (189.925 nm)	0.021257	ppm	0.000012	0.06	48.448700	Y 377.433
Sr (421.552 nm)	1.623975 o	ppm	0.004234	0.26	334864.239580	Y_R 488.368
Th (288.505 nm)	0.113489	ppm	0.000506	0.45	443.841000	Y 377.433
Ti (336.122 nm)	6.477980 o	ppm	0.002045	0.03	905302.000000	Y 377.433
Tl (190.794 nm)	0.004251	ppm	0.000300	7.05	-35.127300	Y 377.433
U (409.013 nm)	-0.082969 u	ppm	0.002236	2.69	-291.007000	Y 377.433
V (292.401 nm)	1.147820 o	ppm	0.001259	0.11	40428.500000	Y 377.433
Zn (206.200 nm)	0.725572	ppm	0.000536	0.07	3626.940000	Y 377.433
Zr (343.823 nm)	0.241680	ppm	0.000540	0.22	32135.700000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.173266	22166.521331	0.001440	0.12
Y 377.433	1.166234	1183528.379369	0.002725	0.23
Y_R 377.433	1.317980	101276.000000	0.000100	0.01
Y_R 488.368	1.335030	58574.300000	0.003013	0.23
Y_R2 488.368	1.318449	113838.963678	0.006544	0.50

Sample Name: 280-115807-A-7-A

Date: 10/29/2018 11:01:57 PM Rack:Tube: 2:53

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000863	ppm	0.000230	26.65	-468.867000	Y 377.433
Al (167.019 nm)	113.590000 o	ppm	0.454910	0.40	60157.300000	Y_R 377.433
Al H (396.152 nm)	163.281904 o	ppm	1.271069	0.78	412285.856402	Y_R 377.433
As (188.980 nm)	0.041099	ppm	0.000277	0.67	44.788300	Y 242.219
B (249.678 nm)	0.037353	ppm	0.000206	0.55	653.223000	Y 242.219
Ba (493.408 nm)	4.554810 o	ppm	0.002004	0.04	522117.000000	Y_R 488.368
Be (234.861 nm)	0.001303	ppm	0.000182	14.00	7231.460000	Y_R 488.368
Bi (223.061 nm)	-0.018983 u	ppm	0.001707	8.99	-2.140920	Y 377.433
Ca (315.887 nm)	64.032404 o	ppm	0.224468	0.35	49200.350100	Y_R 377.433
Cd (214.439 nm)	0.000174	ppm	0.000030	17.49	220.086000	Y 377.433
Co (228.615 nm)	0.080109	ppm	0.000110	0.14	1510.970000	Y 242.219
Cr (205.560 nm)	0.209632	ppm	0.000553	0.26	2997.490000	Y 377.433
Cu (324.754 nm)	0.143877	ppm	0.000019	0.01	7507.060000	Y 377.433
Fe (238.204 nm)	222.308823 o	ppm	0.286678	0.13	802243.966898	Y_R 377.433
Fe H (259.940 nm)	233.513000	ppm	1.436680	0.62	426506.000000	Y_R 377.433
K (766.491 nm)	21.476100	ppm	0.032283	0.15	23434.700000	Y_R2 488.368
Li (670.783 nm)	0.109961	ppm	0.000465	0.42	2187.570000	Y_R2 488.368
Mg (279.078 nm)	23.978000	ppm	0.012578	0.05	131569.000000	Y 377.433
Mn (257.610 nm)	3.027430 o	ppm	0.005679	0.19	683303.000000	Y 377.433
Mo (202.032 nm)	0.007316	ppm	0.000391	5.34	58.653900	Y 377.433
Na (589.592 nm)	0.926666	ppm	0.014088	1.52	15349.300000	Y_R2 488.368
Na H (589.593 nm)	0.610843 u	ppm	0.021144	3.46	9726.424869	Y_R 488.368
Ni (231.604 nm)	0.122472	ppm	0.001588	1.30	807.323000	Y 377.433
P (213.618 nm)	5.103520 o	ppm	0.003046	0.06	10527.400000	Y 242.219
Pb (220.353 nm)	0.171143	ppm	0.000679	0.40	448.725000	Y 242.219
S (181.972 nm)	62.873399 o	ppm	0.163847	0.26	30662.822810	Y 377.433
Sb (206.834 nm)	-0.004037 u	ppm	0.001591	39.41	-89.628200	Y 377.433
Se (196.026 nm)	-0.001065 u	ppm	0.001284	> 100.00	-24.036100	Y 242.219
Si (288.158 nm)	1.701370	ppm	0.003030	0.18	14911.900000	Y 377.433
Sn (189.925 nm)	0.015504	ppm	0.000010	0.06	37.474200	Y 377.433
Sr (421.552 nm)	2.010747 o	ppm	0.017568	0.87	414582.089852	Y_R 488.368
Th (288.505 nm)	0.066606	ppm	0.000338	0.51	314.322000	Y 377.433
Ti (336.122 nm)	4.607380 o	ppm	0.008233	0.18	643368.000000	Y 377.433
Tl (190.794 nm)	0.003278	ppm	0.000758	23.12	-25.869700	Y 377.433
U (409.013 nm)	-0.057962 u	ppm	0.003435	5.93	-247.792000	Y 377.433
V (292.401 nm)	0.669279	ppm	0.001736	0.26	23599.100000	Y 377.433
Zn (206.200 nm)	0.475822	ppm	0.000769	0.16	2378.040000	Y 377.433
Zr (343.823 nm)	0.164058	ppm	0.000079	0.05	21782.000000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.197357	22621.673951	0.000908	0.08
Y 377.433	1.185427	1203006.314165	0.002075	0.18
Y_R 377.433	1.329680	102175.000000	0.000485	0.04
Y_R 488.368	1.353540	59386.300000	0.008421	0.62
Y_R2 488.368	1.318267	113823.258825	0.005948	0.45

Sample Name: 280-115807-A-8-A

Date: 10/29/2018 11:05:20 PM Rack:Tube: 2:54

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000363	ppm	0.000030	8.38	-526.889000	Y 377.433
Al (167.019 nm)	124.359000 o	ppm	0.260386	0.21	65904.000000	Y_R 377.433
Al H (396.152 nm)	191.807727 o	ppm	0.029883	0.02	484326.199318	Y_R 377.433
As (188.980 nm)	0.037501	ppm	0.000204	0.54	39.710400	Y 242.219
B (249.678 nm)	0.040101	ppm	0.001404	3.50	591.098000	Y 242.219
Ba (493.408 nm)	2.160360 o	ppm	0.005647	0.26	248161.000000	Y_R 488.368
Be (234.861 nm)	0.001763	ppm	0.000046	2.63	10071.900000	Y_R 488.368
Bi (223.061 nm)	-0.024577 u	ppm	0.000665	2.71	-1.412530	Y 377.433
Ca (315.887 nm)	135.885722 o	ppm	0.083516	0.06	104482.358268	Y_R 377.433
Cd (214.439 nm)	0.000226	ppm	0.000025	11.14	305.949000	Y 377.433
Co (228.615 nm)	0.121029	ppm	0.000012	0.01	2250.840000	Y 242.219
Cr (205.560 nm)	0.249293	ppm	0.000710	0.28	3551.970000	Y 377.433
Cu (324.754 nm)	0.159500	ppm	0.000010	0.01	8371.100000	Y 377.433
Fe (238.204 nm)	309.522648 o	ppm	0.479481	0.15	1116965.240856	Y_R 377.433
Fe H (259.940 nm)	324.710000	ppm	1.086430	0.33	593015.000000	Y_R 377.433
K (766.491 nm)	20.989000	ppm	0.021304	0.10	22887.500000	Y_R2 488.368
Li (670.783 nm)	0.176884	ppm	0.000431	0.24	4361.870000	Y_R2 488.368
Mg (279.078 nm)	28.693700	ppm	0.023733	0.08	157364.000000	Y 377.433
Mn (257.610 nm)	4.703580 o	ppm	0.004065	0.09	1061590.000000	Y 377.433
Mo (202.032 nm)	0.007254	ppm	0.000984	13.56	58.138500	Y 377.433
Na (589.592 nm)	0.991515	ppm	0.002191	0.22	11107.100000	Y_R2 488.368
Na H (589.593 nm)	0.662344 u	ppm	0.006417	0.97	7657.786584	Y_R 488.368
Ni (231.604 nm)	0.141607	ppm	0.002257	1.59	935.962000	Y 377.433
P (213.618 nm)	8.358800 o	ppm	0.040822	0.49	17225.200000	Y 242.219
Pb (220.353 nm)	0.076723	ppm	0.000232	0.30	183.871000	Y 242.219
S (181.972 nm)	73.166258 o	ppm	0.056215	0.08	35680.232041	Y 377.433
Sb (206.834 nm)	-0.005104 u	ppm	0.000921	18.04	-114.127000	Y 377.433
Se (196.026 nm)	0.002399	ppm	0.003211	> 100.00	-35.439500	Y 242.219
Si (288.158 nm)	2.356940	ppm	0.002249	0.10	20265.700000	Y 377.433
Sn (189.925 nm)	0.018515	ppm	0.001086	5.86	43.218700	Y 377.433
Sr (421.552 nm)	1.023741	ppm	0.003995	0.39	211149.671675	Y_R 488.368
Th (288.505 nm)	0.083546	ppm	0.003710	4.44	394.203000	Y 377.433
Ti (336.122 nm)	5.526020 o	ppm	0.006000	0.11	771884.000000	Y 377.433
Tl (190.794 nm)	0.001873	ppm	0.000292	15.59	-35.032600	Y 377.433
U (409.013 nm)	-0.068785 u	ppm	0.000319	0.46	-229.936000	Y 377.433
V (292.401 nm)	0.928645	ppm	0.000649	0.07	32723.000000	Y 377.433
Zn (206.200 nm)	0.599437	ppm	0.000060	0.01	2996.190000	Y 377.433
Zr (343.823 nm)	0.193279	ppm	0.000145	0.08	25799.200000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.191630	22513.475418	0.000795	0.07
Y 377.433	1.182151	1199681.449397	0.000211	0.02
Y_R 377.433	1.315390	101077.000000	0.001067	0.08
Y_R 488.368	1.334120	58534.200000	0.000803	0.06
Y_R2 488.368	1.312751	113347.032906	0.002084	0.16

Sample Name: 280-115807-A-9-B

Date: 10/29/2018 11:08:44 PM Rack:Tube: 2:55

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000231	ppm	0.000240	> 100.00	-504.167000	Y 377.433
Al (167.019 nm)	134.604000 o	ppm	0.075506	0.06	71302.600000	Y_R 377.433
Al H (396.152 nm)	236.348906 o	ppm	0.118440	0.05	596772.699944	Y_R 377.433
As (188.980 nm)	0.055849	ppm	0.004560	8.17	61.905700	Y 242.219
B (249.678 nm)	0.064948	ppm	0.000036	0.06	1211.290000	Y 242.219
Ba (493.408 nm)	2.972020 o	ppm	0.023677	0.80	341043.000000	Y_R 488.368
Be (234.861 nm)	0.004839	ppm	0.000273	5.64	10301.100000	Y_R 488.368
Bi (223.061 nm)	-0.017631 u	ppm	0.000985	5.59	11.980200	Y 377.433
Ca (315.887 nm)	156.854659 o	ppm	0.152905	0.10	120615.295751	Y_R 377.433
Cd (214.439 nm)	0.002958	ppm	0.000028	0.96	441.994000	Y 377.433
Co (228.615 nm)	0.113738	ppm	0.000036	0.03	2110.770000	Y 242.219
Cr (205.560 nm)	0.263053	ppm	0.001058	0.40	3758.340000	Y 377.433
Cu (324.754 nm)	0.234105	ppm	0.000273	0.12	12346.900000	Y 377.433
Fe (238.204 nm)	288.609666 o	ppm	1.496046	0.52	1041498.303534	Y_R 377.433
Fe H (259.940 nm)	303.104000	ppm	0.662496	0.22	553566.000000	Y_R 377.433
K (766.491 nm)	33.526600	ppm	0.056993	0.17	36970.800000	Y_R2 488.368
Li (670.783 nm)	0.163236	ppm	0.000160	0.10	3918.440000	Y_R2 488.368
Mg (279.078 nm)	43.431800	ppm	0.082774	0.19	238475.000000	Y 377.433
Mn (257.610 nm)	4.950790 o	ppm	0.010006	0.20	1117380.000000	Y 377.433
Mo (202.032 nm)	0.009093	ppm	0.000235	2.58	73.483900	Y 377.433
Na (589.592 nm)	1.235930	ppm	0.009642	0.78	14236.700000	Y_R2 488.368
Na H (589.593 nm)	0.945572 u	ppm	0.006841	0.72	9464.738593	Y_R 488.368
Ni (231.604 nm)	0.171346	ppm	0.000130	0.08	1129.510000	Y 377.433
P (213.618 nm)	7.866790 o	ppm	0.003447	0.04	16212.900000	Y 242.219
Pb (220.353 nm)	0.294450	ppm	0.000914	0.31	775.292000	Y 242.219
S (181.972 nm)	61.123249 o	ppm	0.170704	0.28	29814.831227	Y 377.433
Sb (206.834 nm)	-0.001429 u	ppm	0.000134	9.38	-102.294000	Y 377.433
Se (196.026 nm)	-0.001349 u	ppm	0.004562	> 100.00	-34.237400	Y 242.219
Si (288.158 nm)	2.246380	ppm	0.005540	0.25	19362.800000	Y 377.433
Sn (189.925 nm)	0.030763	ppm	0.001255	4.08	66.583100	Y 377.433
Sr (421.552 nm)	1.552300 o	ppm	0.000153	0.01	320091.232910	Y_R 488.368
Th (288.505 nm)	0.108682	ppm	0.000263	0.24	457.290000	Y 377.433
Ti (336.122 nm)	5.125110 o	ppm	0.007901	0.15	715958.000000	Y 377.433
Tl (190.794 nm)	0.001776	ppm	0.000474	26.67	-32.956200	Y 377.433
U (409.013 nm)	-0.089308 u	ppm	0.000524	0.59	-347.913000	Y 377.433
V (292.401 nm)	0.805425	ppm	0.001016	0.13	28383.700000	Y 377.433
Zn (206.200 nm)	0.718462	ppm	0.002190	0.30	3591.380000	Y 377.433
Zr (343.823 nm)	0.234255	ppm	0.000318	0.14	31010.400000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.216790	22988.828045	0.002455	0.20
Y 377.433	1.204930	1222798.288210	0.004242	0.35
Y_R 377.433	1.349460	103695.000000	0.001717	0.13
Y_R 488.368	1.372730	60228.400000	0.008184	0.60
Y_R2 488.368	1.339745	115677.722065	0.006455	0.48

Sample Name: 280-115807-A-10-B

Date: 10/29/2018 11:12:07 PM Rack:Tube: 2:56

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000805	ppm	0.000068	8.42	-465.387000	Y 377.433
Al (167.019 nm)	121.832000 o	ppm	0.381427	0.31	64528.800000	Y_R 377.433
Al H (396.152 nm)	187.752674 o	ppm	0.148622	0.08	474074.828996	Y_R 377.433
As (188.980 nm)	0.045799	ppm	0.002767	6.04	50.197400	Y 242.219
B (249.678 nm)	0.040300	ppm	0.000465	1.15	685.775000	Y 242.219
Ba (493.408 nm)	2.078860 o	ppm	0.006990	0.34	238768.000000	Y_R 488.368
Be (234.861 nm)	0.002720	ppm	0.000034	1.24	8452.650000	Y_R 488.368
Bi (223.061 nm)	-0.017882 u	ppm	0.000683	3.82	4.825790	Y 377.433
Ca (315.887 nm)	101.802805 o	ppm	0.249766	0.25	78259.880351	Y_R 377.433
Cd (214.439 nm)	0.001073	ppm	0.000185	17.24	296.362000	Y 377.433
Co (228.615 nm)	0.116426	ppm	0.000626	0.54	2111.050000	Y 242.219
Cr (205.560 nm)	0.206423	ppm	0.000288	0.14	2943.550000	Y 377.433
Cu (324.754 nm)	0.201958	ppm	0.000393	0.19	10628.200000	Y 377.433
Fe (238.204 nm)	248.616864 o	ppm	1.972803	0.79	897179.607676	Y_R 377.433
Fe H (259.940 nm)	261.450000	ppm	0.320576	0.12	477513.000000	Y_R 377.433
K (766.491 nm)	23.497900	ppm	0.046390	0.20	25705.700000	Y_R2 488.368
Li (670.783 nm)	0.140274	ppm	0.000658	0.47	3172.440000	Y_R2 488.368
Mg (279.078 nm)	25.700200	ppm	0.006752	0.03	140999.000000	Y 377.433
Mn (257.610 nm)	3.803650 o	ppm	0.003564	0.09	858484.000000	Y 377.433
Mo (202.032 nm)	0.006347	ppm	0.000461	7.26	50.564400	Y 377.433
Na (589.592 nm)	0.808070	ppm	0.003469	0.43	9785.760000	Y_R2 488.368
Na H (589.593 nm)	0.430866 u	ppm	0.009194	2.13	6730.771005	Y_R 488.368
Ni (231.604 nm)	0.121269	ppm	0.000739	0.61	800.534000	Y 377.433
P (213.618 nm)	7.759870 o	ppm	0.048481	0.62	15992.900000	Y 242.219
Pb (220.353 nm)	0.153937	ppm	0.000110	0.07	395.246000	Y 242.219
S (181.972 nm)	99.053599 o	ppm	0.041372	0.04	48287.475634	Y 377.433
Sb (206.834 nm)	-0.004164 u	ppm	0.001316	31.61	-98.104500	Y 377.433
Se (196.026 nm)	0.001851	ppm	0.000077	4.17	-25.569100	Y 242.219
Si (288.158 nm)	1.653010	ppm	0.000398	0.02	14517.000000	Y 377.433
Sn (189.925 nm)	0.017418	ppm	0.001874	10.76	41.124700	Y 377.433
Sr (421.552 nm)	0.940539	ppm	0.006900	0.73	194000.699745	Y_R 488.368
Th (288.505 nm)	0.097614	ppm	0.001025	1.05	404.047000	Y 377.433
Ti (336.122 nm)	3.783030 o	ppm	0.009161	0.24	528355.000000	Y 377.433
Tl (190.794 nm)	0.003903	ppm	0.002303	59.00	-21.494000	Y 377.433
U (409.013 nm)	-0.058794 u	ppm	0.000556	0.95	-235.290000	Y 377.433
V (292.401 nm)	0.653665	ppm	0.000900	0.14	23030.900000	Y 377.433
Zn (206.200 nm)	0.638781	ppm	0.002254	0.35	3192.930000	Y 377.433
Zr (343.823 nm)	0.180872	ppm	0.000166	0.09	24023.000000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.195624	22588.928992	0.001523	0.13
Y 377.433	1.184982	1202555.003705	0.000353	0.03
Y_R 377.433	1.325080	101822.000000	0.005454	0.41
Y_R 488.368	1.345610	59038.500000	0.003782	0.28
Y_R2 488.368	1.315848	113614.389055	0.002524	0.19

Sample Name: 280-115807-A-11-B

Date: 10/29/2018 11:15:29 PM Rack:Tube: 2:57

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000195	ppm	0.000006	2.96	-517.003000	Y 377.433
Al (167.019 nm)	112.502000 o	ppm	0.524310	0.47	59614.500000	Y_R 377.433
Al H (396.152 nm)	160.554299 o	ppm	0.403247	0.25	405396.329817	Y_R 377.433
As (188.980 nm)	0.044356	ppm	0.002517	5.68	48.269000	Y 242.219
B (249.678 nm)	0.046898	ppm	0.000192	0.41	808.280000	Y 242.219
Ba (493.408 nm)	4.498110 o	ppm	0.013395	0.30	515670.000000	Y_R 488.368
Be (234.861 nm)	0.001453	ppm	0.000209	14.40	8788.920000	Y_R 488.368
Bi (223.061 nm)	-0.022219 u	ppm	0.000548	2.47	-1.994960	Y 377.433
Ca (315.887 nm)	54.161107 o	ppm	0.119941	0.22	41605.640580	Y_R 377.433
Cd (214.439 nm)	0.000350	ppm	0.000095	27.01	276.489000	Y 377.433
Co (228.615 nm)	0.097946	ppm	0.000744	0.76	1835.840000	Y 242.219
Cr (205.560 nm)	0.258956	ppm	0.000228	0.09	3703.350000	Y 377.433
Cu (324.754 nm)	0.152701	ppm	0.000339	0.22	8017.070000	Y 377.433
Fe (238.204 nm)	271.133822 o	ppm	0.573118	0.21	978434.678609	Y_R 377.433
Fe H (259.940 nm)	284.648000	ppm	0.817329	0.29	519868.000000	Y_R 377.433
K (766.491 nm)	23.985500	ppm	0.054013	0.23	26253.500000	Y_R2 488.368
Li (670.783 nm)	0.118998	ppm	0.000229	0.19	2481.170000	Y_R2 488.368
Mg (279.078 nm)	27.000200	ppm	0.033033	0.12	148112.000000	Y 377.433
Mn (257.610 nm)	3.716640 o	ppm	0.002324	0.06	838848.000000	Y 377.433
Mo (202.032 nm)	0.009754	ppm	0.000085	0.87	79.005500	Y 377.433
Na (589.592 nm)	1.229150	ppm	0.003346	0.27	17155.600000	Y_R2 488.368
Na H (589.593 nm)	0.944417 u	ppm	0.024914	2.64	10897.646438	Y_R 488.368
Ni (231.604 nm)	0.139029	ppm	0.000010	0.01	917.547000	Y 377.433
P (213.618 nm)	7.251690 o	ppm	0.002559	0.04	14947.300000	Y 242.219
Pb (220.353 nm)	0.092345	ppm	0.001413	1.53	234.036000	Y 242.219
S (181.972 nm)	4.475765	ppm	0.002661	0.06	2219.803223	Y 377.433
Sb (206.834 nm)	-0.003257 u	ppm	0.002139	65.67	-97.610100	Y 377.433
Se (196.026 nm)	0.003344	ppm	0.000730	21.85	-28.560700	Y 242.219
Si (288.158 nm)	2.072940	ppm	0.001690	0.08	17946.400000	Y 377.433
Sn (189.925 nm)	0.018301	ppm	0.000081	0.44	42.810000	Y 377.433
Sr (421.552 nm)	1.864776 o	ppm	0.021942	1.18	384495.838054	Y_R 488.368
Th (288.505 nm)	0.099902	ppm	0.002849	2.85	413.228000	Y 377.433
Ti (336.122 nm)	5.077940 o	ppm	0.002679	0.05	709054.000000	Y 377.433
Tl (190.794 nm)	0.000517	ppm	0.000144	27.75	-35.035600	Y 377.433
U (409.013 nm)	-0.087601 u	ppm	0.001833	2.09	-334.414000	Y 377.433
V (292.401 nm)	0.823759	ppm	0.000319	0.04	29024.700000	Y 377.433
Zn (206.200 nm)	0.552981	ppm	0.000683	0.12	2763.880000	Y 377.433
Zr (343.823 nm)	0.195148	ppm	0.000203	0.10	25926.500000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.214036	22936.794237	0.005507	0.45
Y 377.433	1.206412	1224302.804483	0.005289	0.44
Y_R 377.433	1.330790	102261.000000	0.005953	0.45
Y_R 488.368	1.342510	58902.200000	0.000667	0.05
Y_R2 488.368	1.318706	113861.144526	0.002674	0.20

Sample Name: 280-115807-A-12-B

Date: 10/29/2018 11:18:52 PM Rack:Tube: 2:58

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000297	ppm	0.000195	65.72	-515.379000	Y 377.433
Al (167.019 nm)	87.933300 o	ppm	0.074133	0.08	46617.100000	Y_R 377.433
Al H (396.152 nm)	113.126430 o	ppm	0.319751	0.28	285725.412359	Y_R 377.433
As (188.980 nm)	0.028382	ppm	0.001041	3.67	29.341000	Y 242.219
B (249.678 nm)	0.031257	ppm	0.000329	1.05	477.181000	Y 242.219
Ba (493.408 nm)	5.922870 o	ppm	0.013254	0.22	678743.000000	Y_R 488.368
Be (234.861 nm)	-0.000136 u	ppm	0.000002	1.62	7496.110000	Y_R 488.368
Bi (223.061 nm)	-0.019124 u	ppm	0.000329	1.72	1.096190	Y 377.433
Ca (315.887 nm)	176.816728 o	ppm	0.054944	0.03	135973.572353	Y_R 377.433
Cd (214.439 nm)	0.000362	ppm	0.000168	46.39	251.563000	Y 377.433
Co (228.615 nm)	0.101191	ppm	0.000509	0.50	1861.420000	Y 242.219
Cr (205.560 nm)	0.196901	ppm	0.000654	0.33	2805.900000	Y 377.433
Cu (324.754 nm)	0.120149	ppm	0.000608	0.51	6180.330000	Y 377.433
Fe (238.204 nm)	244.451608 o	ppm	0.685955	0.28	882148.792679	Y_R 377.433
Fe H (259.940 nm)	257.736000	ppm	0.402027	0.16	470733.000000	Y_R 377.433
K (766.491 nm)	11.779000	ppm	0.056565	0.48	12542.100000	Y_R2 488.368
Li (670.783 nm)	0.096122	ppm	0.001245	1.30	1737.960000	Y_R2 488.368
Mg (279.078 nm)	17.784700	ppm	0.042869	0.24	97462.000000	Y 377.433
Mn (257.610 nm)	3.028180 o	ppm	0.009824	0.32	683474.000000	Y 377.433
Mo (202.032 nm)	0.006070	ppm	0.000048	0.78	48.253000	Y 377.433
Na (589.592 nm)	1.356060	ppm	0.006389	0.47	20736.000000	Y_R2 488.368
Na H (589.593 nm)	1.139565 u	ppm	0.014555	1.28	12961.202590	Y_R 488.368
Ni (231.604 nm)	0.105351	ppm	0.001050	1.00	696.296000	Y 377.433
P (213.618 nm)	7.902150 o	ppm	0.037896	0.48	16285.600000	Y 242.219
Pb (220.353 nm)	0.044012	ppm	0.001202	2.73	111.944000	Y 242.219
S (181.972 nm)	2.898807	ppm	0.003838	0.13	1450.082473	Y 377.433
Sb (206.834 nm)	-0.003738 u	ppm	0.000467	12.49	-90.838000	Y 377.433
Se (196.026 nm)	-0.000417 u	ppm	0.000978	> 100.00	-28.415400	Y 242.219
Si (288.158 nm)	1.988450	ppm	0.006920	0.35	17256.400000	Y 377.433
Sn (189.925 nm)	0.022799	ppm	0.001634	7.17	51.389800	Y 377.433
Sr (421.552 nm)	2.573720 o	ppm	0.000144	0.01	530616.686076	Y_R 488.368
Th (288.505 nm)	0.048341	ppm	0.001330	2.75	273.178000	Y 377.433
Ti (336.122 nm)	4.193200 o	ppm	0.013482	0.32	585871.000000	Y 377.433
Tl (190.794 nm)	0.001474	ppm	0.000296	20.06	-28.391700	Y 377.433
U (409.013 nm)	-0.056757 u	ppm	0.000689	1.21	-242.960000	Y 377.433
V (292.401 nm)	0.801121	ppm	0.001260	0.16	28221.800000	Y 377.433
Zn (206.200 nm)	0.475029	ppm	0.003879	0.82	2374.080000	Y 377.433
Zr (343.823 nm)	0.162549	ppm	0.000140	0.09	21652.000000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.177218	22241.184617	0.001067	0.09
Y 377.433	1.174273	1191686.949224	0.002835	0.24
Y_R 377.433	1.297050	99667.400000	0.001274	0.10
Y_R 488.368	1.323130	58052.200000	0.006291	0.48
Y_R2 488.368	1.293490	111683.953699	0.003886	0.30

Sample Name: CCVH-5380945

Date: 10/29/2018 11:22:15 PM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000483 u	ppm	0.000374	77.49	-705.883000	Y 377.433
Al (167.019 nm)	47.249400 o	ppm	0.113369	0.24	24996.400000	Y_R 377.433
Al H (396.152 nm)	49.216358	ppm	0.076141	0.15	124316.765987	Y_R 377.433
As (188.980 nm)	0.002732	ppm	0.002848	> 100.00	0.259198	Y 242.219
B (249.678 nm)	-0.001178 u	ppm	0.000040	3.44	-10.105100	Y 242.219
Ba (493.408 nm)	-0.000517 u	ppm	0.000129	25.01	562.677000	Y_R 488.368
Be (234.861 nm)	-0.000571 u	ppm	0.000036	6.29	1364.910000	Y_R 488.368
Bi (223.061 nm)	1.039300	ppm	0.002055	0.20	2535.870000	Y 377.433
Ca (315.887 nm)	0.018881	ppm	0.007220	38.24	-49.932013	Y_R 377.433
Cd (214.439 nm)	-0.000203 u	ppm	0.000004	1.84	35.288400	Y 377.433
Co (228.615 nm)	0.003594	ppm	0.000008	0.23	28.015100	Y 242.219
Cr (205.560 nm)	-0.000188 u	ppm	0.000160	84.97	-14.980800	Y 377.433
Cu (324.754 nm)	-0.002830 u	ppm	0.000194	6.86	-149.355000	Y 377.433
Fe (238.204 nm)	50.996477 o	ppm	0.198472	0.39	184043.362839	Y_R 377.433
Fe H (259.940 nm)	53.156100	ppm	0.209292	0.39	97205.900000	Y_R 377.433
K (766.491 nm)	0.205020	ppm	0.035547	17.34	-458.849000	Y_R2 488.368
Li (670.783 nm)	0.016555	ppm	0.000519	3.13	-847.129000	Y_R2 488.368
Mg (279.078 nm)	-0.015289 u	ppm	0.000470	3.07	-409.146000	Y 377.433
Mn (257.610 nm)	0.001593	ppm	0.000020	1.25	420.982000	Y 377.433
Mo (202.032 nm)	0.000156	ppm	0.000063	40.44	-1.105400	Y 377.433
Na (589.592 nm)	232.424000 o	ppm	0.840578	0.36	1473410.000000	Y_R2 488.368
Na H (589.593 nm)	238.226134	ppm	0.403082	0.17	877888.574843	Y_R 488.368
Ni (231.604 nm)	0.003465	ppm	0.000123	3.55	22.388500	Y 377.433
P (213.618 nm)	-0.008456 u	ppm	0.001192	14.10	9.506790	Y 242.219
Pb (220.353 nm)	-0.004069 u	ppm	0.000640	15.72	10.964100	Y 242.219
S (181.972 nm)	5.187837	ppm	0.010564	0.20	2557.978103	Y 377.433
Sb (206.834 nm)	-0.001611 u	ppm	0.001236	76.76	-71.106700	Y 377.433
Se (196.026 nm)	-0.001372 u	ppm	0.001498	> 100.00	3.160020	Y 242.219
Si (288.158 nm)	0.002579	ppm	0.000255	9.89	1038.690000	Y 377.433
Sn (189.925 nm)	0.001447	ppm	0.001248	86.24	10.656900	Y 377.433
Sr (421.552 nm)	0.000333	ppm	0.000095	28.37	214.360359	Y_R 488.368
Th (288.505 nm)	5.119680	ppm	0.020489	0.40	12886.000000	Y 377.433
Ti (336.122 nm)	0.002228	ppm	0.000182	8.19	24.793600	Y 377.433
Tl (190.794 nm)	-0.003249 u	ppm	0.000992	30.53	-15.461600	Y 377.433
U (409.013 nm)	10.457200	ppm	0.007558	0.07	46345.000000	Y 377.433
V (292.401 nm)	0.004029	ppm	0.000281	6.98	-12.820000	Y 377.433
Zn (206.200 nm)	0.001408	ppm	0.000462	32.82	5.698570	Y 377.433
Zr (343.823 nm)	-0.004274 u	ppm	0.000068	1.59	-386.509000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.138749	21514.389845	0.000663	0.06
Y 377.433	1.125869	1142564.693583	0.001316	0.12
Y_R 377.433	1.235760	94958.400000	0.004594	0.37
Y_R 488.368	1.262500	55392.100000	0.008542	0.68
Y_R2 488.368	1.229484	106157.509105	0.000522	0.04

Sample Name: CCV-5391053

Date: 10/29/2018 11:25:38 PM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.503234	ppm	0.000919	0.18	21879.500000	Y 377.433
Al (167.019 nm)	0.540161	ppm	0.009493	1.76	288.063000	Y_R 377.433
Al H (396.152 nm)	0.492318 u	ppm	0.008807	1.79	1364.420720	Y_R 377.433
As (188.980 nm)	1.020470	ppm	0.000152	0.01	1221.640000	Y 242.219
B (249.678 nm)	0.502518	ppm	0.001689	0.34	12029.800000	Y 242.219
Ba (493.408 nm)	0.497376	ppm	0.000071	0.01	57511.600000	Y_R 488.368
Be (234.861 nm)	0.455590	ppm	0.001488	0.33	130818.000000	Y_R 488.368
Bi (223.061 nm)	-0.002195 u	ppm	0.000774	35.25	2.483280	Y 377.433
Ca (315.887 nm)	5.287664	ppm	0.004509	0.09	4004.003559	Y_R 377.433
Cd (214.439 nm)	0.499135	ppm	0.000385	0.08	28510.500000	Y 377.433
Co (228.615 nm)	0.504429	ppm	0.001451	0.29	8713.730000	Y 242.219
Cr (205.560 nm)	0.511626	ppm	0.002490	0.49	7456.170000	Y 377.433
Cu (324.754 nm)	0.519521	ppm	0.001532	0.29	27389.500000	Y 377.433
Fe (238.204 nm)	2.569063	ppm	0.000900	0.04	9287.382081	Y_R 377.433
Fe H (259.940 nm)	2.602760 u	ppm	0.001954	0.08	4904.610000	Y_R 377.433
K (766.491 nm)	48.157400	ppm	0.070027	0.15	53405.400000	Y_R2 488.368
Li (670.783 nm)	0.962951	ppm	0.000932	0.10	29900.800000	Y_R2 488.368
Mg (279.078 nm)	19.471600	ppm	0.000048	0.00	107146.000000	Y 377.433
Mn (257.610 nm)	0.506725	ppm	0.001383	0.27	114421.000000	Y 377.433
Mo (202.032 nm)	0.512340	ppm	0.002622	0.51	4273.790000	Y 377.433
Na (589.592 nm)	4.765480	ppm	0.007013	0.15	31784.500000	Y_R2 488.368
Na H (589.593 nm)	4.597206 u	ppm	0.009476	0.21	20534.989588	Y_R 488.368
Ni (231.604 nm)	0.521689	ppm	0.000283	0.05	3409.140000	Y 377.433
P (213.618 nm)	0.945101	ppm	0.000507	0.05	1971.460000	Y 242.219
Pb (220.353 nm)	0.998274	ppm	0.004986	0.50	2786.750000	Y 242.219
S (181.972 nm)	0.022310	ppm	0.000743	3.33	43.104788	Y 377.433
Sb (206.834 nm)	1.023300	ppm	0.003444	0.34	2698.470000	Y 377.433
Se (196.026 nm)	1.013130	ppm	0.006863	0.68	965.492000	Y 242.219
Si (288.158 nm)	4.967350	ppm	0.043730	0.88	41583.800000	Y 377.433
Sn (189.925 nm)	1.030520	ppm	0.001827	0.18	1973.870000	Y 377.433
Sr (421.552 nm)	0.493042	ppm	0.000621	0.13	101766.930297	Y_R 488.368
Th (288.505 nm)	0.009257	ppm	0.000070	0.75	116.971000	Y 377.433
Ti (336.122 nm)	0.507374	ppm	0.000529	0.10	70588.300000	Y 377.433
Tl (190.794 nm)	1.019350	ppm	0.001771	0.17	2167.130000	Y 377.433
U (409.013 nm)	0.001224 u	ppm	0.003289	> 100.00	-206.677000	Y 377.433
V (292.401 nm)	0.500974	ppm	0.000705	0.14	17500.800000	Y 377.433
Zn (206.200 nm)	0.495580	ppm	0.000043	0.01	2476.840000	Y 377.433
Zr (343.823 nm)	0.510918	ppm	0.000941	0.18	65771.400000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.147333	21676.580168	0.001433	0.12
Y 377.433	1.140461	1157373.958223	0.000622	0.05
Y_R 377.433	1.246430	95777.900000	0.000768	0.06
Y_R 488.368	1.266770	55579.300000	0.000703	0.06
Y_R2 488.368	1.248365	107787.724601	0.003310	0.27

Sample Name: CCB

Date: 10/29/2018 11:29:01 PM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000794	ppm	0.000073	9.22	-398.208000	Y 377.433
Al (167.019 nm)	-0.000166 u	ppm	0.001745	> 100.00	0.915668	Y_R 377.433
Al H (396.152 nm)	-0.025512 u	ppm	0.004797	18.80	13.401463	Y_R 377.433
As (188.980 nm)	0.001046 u	ppm	0.001701	> 100.00	-1.317910	Y 242.219
B (249.678 nm)	-0.000130 u	ppm	0.000527	> 100.00	90.135500	Y 242.219
Ba (493.408 nm)	-0.001077 u	ppm	0.000029	2.73	450.020000	Y_R 488.368
Be (234.861 nm)	0.000072	ppm	0.000005	7.50	-38.913900	Y_R 488.368
Bi (223.061 nm)	0.001836	ppm	0.000886	48.23	11.836300	Y 377.433
Ca (315.887 nm)	0.017744	ppm	0.000167	0.94	-50.807590	Y_R 377.433
Cd (214.439 nm)	0.000123	ppm	0.000061	49.61	5.401080	Y 377.433
Co (228.615 nm)	0.000274	ppm	0.000170	62.22	-29.481400	Y 242.219
Cr (205.560 nm)	-0.000007 u	ppm	0.000007	> 100.00	1.580540	Y 377.433
Cu (324.754 nm)	0.001922	ppm	0.000367	19.08	-209.617000	Y 377.433
Fe (238.204 nm)	0.001043	ppm	0.001387	> 100.00	20.381607	Y_R 377.433
Fe H (259.940 nm)	-0.075643 u	ppm	0.001795	2.37	14.332800	Y_R 377.433
K (766.491 nm)	0.160608	ppm	0.006791	4.23	-508.736000	Y_R2 488.368
Li (670.783 nm)	0.015209 Z	ppm	0.001007	6.62	-890.879000 Z	Y_R2 488.368
Mg (279.078 nm)	0.001091	ppm	0.000841	77.08	40.453600	Y 377.433
Mn (257.610 nm)	0.000030	ppm	0.000006	20.16	68.175600	Y 377.433
Mo (202.032 nm)	0.000437	ppm	0.000018	4.12	1.240660	Y 377.433
Na (589.592 nm)	-0.032978 u	ppm	0.008418	25.53	408.212000	Y_R2 488.368
Na H (589.593 nm)	-0.445252 u	ppm	0.002146	0.48	1549.746682	Y_R 488.368
Ni (231.604 nm)	-0.000167 u	ppm	0.000708	> 100.00	-3.433700	Y 377.433
P (213.618 nm)	-0.003879 u	ppm	0.002767	71.33	18.923600	Y 242.219
Pb (220.353 nm)	-0.000484 u	ppm	0.000736	> 100.00	2.470780	Y 242.219
S (181.972 nm)	0.014742	ppm	0.001178	7.99	38.235319	Y 377.433
Sb (206.834 nm)	0.000448	ppm	0.000060	13.42	-18.974000	Y 377.433
Se (196.026 nm)	-0.000800 u	ppm	0.000391	48.80	12.713100	Y 242.219
Si (288.158 nm)	-0.020118 u	ppm	0.001595	7.93	853.327000	Y 377.433
Sn (189.925 nm)	-0.000490 u	ppm	0.000410	83.74	6.961720	Y 377.433
Sr (421.552 nm)	-0.000174 u	ppm	0.000017	9.64	109.732611	Y_R 488.368
Th (288.505 nm)	0.005638	ppm	0.000654	11.60	91.364800	Y 377.433
Ti (336.122 nm)	0.000362	ppm	0.000135	37.34	-235.939000	Y 377.433
Tl (190.794 nm)	0.001426	ppm	0.001147	80.43	-4.130610	Y 377.433
U (409.013 nm)	0.004505	ppm	0.001626	36.09	-154.152000	Y 377.433
V (292.401 nm)	-0.000136 u	ppm	0.000120	88.23	19.501600	Y 377.433
Zn (206.200 nm)	0.000184	ppm	0.000165	89.63	-0.423088	Y 377.433
Zr (343.823 nm)	-0.000054 u	ppm	0.000102	> 100.00	6.387020	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.149388	21715.392990	0.001801	0.16
Y 377.433	1.147313	1164327.611730	0.003492	0.30
Y_R 377.433	1.225490	94168.900000	0.002968	0.24
Y_R 488.368	1.254770	55052.600000	0.011918	0.95
Y_R2 488.368	1.221327	105453.177543	0.004404	0.36

Sample Name: CCVL-5398386

Date: 10/29/2018 11:32:25 PM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.009804	ppm	0.000331	3.38	1.401100	Y 377.433
Al (167.019 nm)	0.106447	ppm	0.001777	1.67	57.308200	Y_R 377.433
Al H (396.152 nm)	0.074349 u	ppm	0.003580	4.82	267.117137	Y_R 377.433
As (188.980 nm)	0.015932	ppm	0.000306	1.92	16.539800	Y 242.219
B (249.678 nm)	0.099108	ppm	0.000187	0.19	2444.210000	Y 242.219
Ba (493.408 nm)	0.009135	ppm	0.000054	0.60	1618.950000	Y_R 488.368
Be (234.861 nm)	0.000974	ppm	0.000002	0.24	222.552000	Y_R 488.368
Bi (223.061 nm)	0.104927	ppm	0.001482	1.41	261.830000	Y 377.433
Ca (315.887 nm)	0.229030	ppm	0.004372	1.91	111.752820	Y_R 377.433
Cd (214.439 nm)	0.005158	ppm	0.000006	0.12	293.080000	Y 377.433
Co (228.615 nm)	0.010632	ppm	0.000134	1.27	150.125000	Y 242.219
Cr (205.560 nm)	0.010095	ppm	0.000150	1.48	148.806000	Y 377.433
Cu (324.754 nm)	0.018106	ppm	0.000051	0.28	651.992000	Y 377.433
Fe (238.204 nm)	0.105882	ppm	0.000000	0.00	398.706905	Y_R 377.433
Fe H (259.940 nm)	0.027272 u	ppm	0.002752	10.09	202.238000	Y_R 377.433
K (766.491 nm)	3.102140	ppm	0.048181	1.55	2795.450000	Y_R2 488.368
Li (670.783 nm)	0.036427 Q	ppm	0.000144	0.40	-201.503000 Q	Y_R2 488.368
Mg (279.078 nm)	0.195036	ppm	0.000879	0.45	1106.110000	Y 377.433
Mn (257.610 nm)	0.010453	ppm	0.000029	0.28	2420.420000	Y 377.433
Mo (202.032 nm)	0.019510	ppm	0.000400	2.05	160.429000	Y 377.433
Na (589.592 nm)	0.956313	ppm	0.020594	2.15	6696.330000	Y_R2 488.368
Na H (589.593 nm)	0.502813 u	ppm	0.010925	2.17	5040.163592	Y_R 488.368
Ni (231.604 nm)	0.042651	ppm	0.000170	0.40	276.484000	Y 377.433
P (213.618 nm)	2.832380 o	ppm	0.023111	0.82	5854.540000	Y 242.219
Pb (220.353 nm)	0.009177	ppm	0.000544	5.92	29.432100	Y 242.219
S (181.972 nm)	0.107691	ppm	0.007832	7.27	83.533485	Y 377.433
Sb (206.834 nm)	0.020530	ppm	0.001295	6.31	34.240100	Y 377.433
Se (196.026 nm)	0.016312	ppm	0.000191	1.17	28.785000	Y 242.219
Si (288.158 nm)	0.466542	ppm	0.000635	0.14	4827.670000	Y 377.433
Sn (189.925 nm)	0.100843	ppm	0.001794	1.78	200.279000	Y 377.433
Sr (421.552 nm)	0.009686	ppm	0.000001	0.01	2142.089005	Y_R 488.368
Th (288.505 nm)	0.015947	ppm	0.002470	15.49	118.086000	Y 377.433
Ti (336.122 nm)	0.010694	ppm	0.000090	0.85	1207.590000	Y 377.433
Tl (190.794 nm)	0.017098	ppm	0.000237	1.39	29.267000	Y 377.433
U (409.013 nm)	0.066241	ppm	0.002085	3.15	119.103000	Y 377.433
V (292.401 nm)	0.009794	ppm	0.000264	2.69	363.932000	Y 377.433
Zn (206.200 nm)	0.021041	ppm	0.000339	1.61	103.874000	Y 377.433
Zr (343.823 nm)	0.015078	ppm	0.000075	0.50	1954.050000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.163229	21976.899890	0.000991	0.09
Y 377.433	1.156740	1173893.894371	0.002522	0.22
Y_R 377.433	1.254120	96369.200000	0.003119	0.25
Y_R 488.368	1.286810	56458.500000	0.002902	0.23
Y_R2 488.368	1.255658	108417.419702	0.000427	0.03

Sample Name: 280-115807-A-13-B

Date: 10/29/2018 11:35:49 PM Rack:Tube: 2:59

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000791	ppm	0.000314	39.65	-505.330000	Y 377.433
Al (167.019 nm)	110.634000 o	ppm	0.574714	0.52	58662.000000	Y_R 377.433
Al H (396.152 nm)	159.107481 o	ppm	0.898389	0.56	401777.798998	Y_R 377.433
As (188.980 nm)	0.075380	ppm	0.001851	2.46	85.033900	Y 242.219
B (249.678 nm)	0.049408	ppm	0.000043	0.09	790.081000	Y 242.219
Ba (493.408 nm)	2.616000 o	ppm	0.007879	0.30	300323.000000	Y_R 488.368
Be (234.861 nm)	-0.001199 u	ppm	0.000215	17.89	9642.620000	Y_R 488.368
Bi (223.061 nm)	-0.025999 u	ppm	0.000325	1.25	-2.634480	Y 377.433
Ca (315.887 nm)	131.841204 o	ppm	0.364473	0.28	101370.614935	Y_R 377.433
Cd (214.439 nm)	-0.000401 u	ppm	0.000118	29.40	282.986000	Y 377.433
Co (228.615 nm)	0.079026	ppm	0.000170	0.22	1558.800000	Y 242.219
Cr (205.560 nm)	0.247448	ppm	0.000285	0.12	3521.360000	Y 377.433
Cu (324.754 nm)	0.587733	ppm	0.001528	0.26	31189.500000	Y 377.433
Fe (238.204 nm)	323.209107 o	ppm	0.358155	0.11	1166354.424130	Y_R 377.433
Fe H (259.940 nm)	341.373000	ppm	1.685530	0.49	623438.000000	Y_R 377.433
K (766.491 nm)	31.683100	ppm	0.065778	0.21	34900.100000	Y_R2 488.368
Li (670.783 nm)	0.107726	ppm	0.000026	0.02	2114.950000	Y_R2 488.368
Mg (279.078 nm)	25.649400	ppm	0.023847	0.09	140595.000000	Y 377.433
Mn (257.610 nm)	3.066140 o	ppm	0.004673	0.15	692039.000000	Y 377.433
Mo (202.032 nm)	0.007022	ppm	0.000477	6.80	56.200100	Y 377.433
Na (589.592 nm)	0.789384	ppm	0.000211	0.03	10712.900000	Y_R2 488.368
Na H (589.593 nm)	0.468045 u	ppm	0.014830	3.17	7374.567555	Y_R 488.368
Ni (231.604 nm)	0.094847	ppm	0.002621	2.76	630.858000	Y 377.433
P (213.618 nm)	11.096100 o	ppm	0.017657	0.16	22857.100000	Y 242.219
Pb (220.353 nm)	2.128390	ppm	0.001317	0.06	5919.550000	Y 242.219
S (181.972 nm)	110.392527 bo	ppm	0.240638	0.22	53808.775598	Y 377.433
Sb (206.834 nm)	0.008664	ppm	0.001191	13.74	-78.584700	Y 377.433
Se (196.026 nm)	0.002310	ppm	0.002201	95.30	-39.565600	Y 242.219
Si (288.158 nm)	2.169980	ppm	0.002264	0.10	18738.900000	Y 377.433
Sn (189.925 nm)	0.024416	ppm	0.000316	1.29	54.475400	Y 377.433
Sr (421.552 nm)	1.030817	ppm	0.001846	0.18	212607.968050	Y_R 488.368
Th (288.505 nm)	0.102106	ppm	0.001999	1.96	406.430000	Y 377.433
Ti (336.122 nm)	6.540650 o	ppm	0.004478	0.07	913572.000000	Y 377.433
Tl (190.794 nm)	0.003051	ppm	0.002876	94.26	-37.457500	Y 377.433
U (409.013 nm)	-0.047721 u	ppm	0.003308	6.93	-122.552000	Y 377.433
V (292.401 nm)	0.906313	ppm	0.000947	0.10	31965.000000	Y 377.433
Zn (206.200 nm)	0.696018	ppm	0.000471	0.07	3479.150000	Y 377.433
Zr (343.823 nm)	0.189325	ppm	0.000047	0.03	25330.300000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.159326	21903.159382	0.002231	0.19
Y 377.433	1.153189	1170289.807548	0.002335	0.20
Y_R 377.433	1.283080	98594.400000	0.002958	0.23
Y_R 488.368	1.300750	57070.400000	0.000391	0.03
Y_R2 488.368	1.275539	110133.967841	0.000366	0.03

Sample Name: 280-115807-A-14-B

Date: 10/29/2018 11:39:12 PM Rack:Tube: 2:60

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000673	ppm	0.000072	10.73	-475.558000	Y 377.433
Al (167.019 nm)	103.628000 o	ppm	0.484060	0.47	54891.700000	Y_R 377.433
Al H (396.152 nm)	143.428754 o	ppm	0.543540	0.38	362163.829788	Y_R 377.433
As (188.980 nm)	0.043832	ppm	0.001302	2.97	48.102600	Y 242.219
B (249.678 nm)	0.035731	ppm	0.000112	0.31	621.962000	Y 242.219
Ba (493.408 nm)	1.819870 o	ppm	0.008317	0.46	209085.000000	Y_R 488.368
Be (234.861 nm)	0.003145	ppm	0.000206	6.55	7632.410000	Y_R 488.368
Bi (223.061 nm)	-0.018191 u	ppm	0.000512	2.82	-0.897736	Y 377.433
Ca (315.887 nm)	51.294119 o	ppm	0.234389	0.46	39399.858117	Y_R 377.433
Cd (214.439 nm)	0.001948	ppm	0.000101	5.19	317.509000	Y 377.433
Co (228.615 nm)	0.105535	ppm	0.000547	0.52	1973.530000	Y 242.219
Cr (205.560 nm)	0.173718	ppm	0.000222	0.13	2474.970000	Y 377.433
Cu (324.754 nm)	0.199606	ppm	0.000014	0.01	10465.900000	Y 377.433
Fe (238.204 nm)	218.420152 o	ppm	0.446223	0.20	788211.245983	Y_R 377.433
Fe H (259.940 nm)	228.145000	ppm	0.706072	0.31	416705.000000	Y_R 377.433
K (766.491 nm)	21.676200	ppm	0.030325	0.14	23659.400000	Y_R2 488.368
Li (670.783 nm)	0.111204	ppm	0.000312	0.28	2227.960000	Y_R2 488.368
Mg (279.078 nm)	21.421900	ppm	0.024177	0.11	117514.000000	Y 377.433
Mn (257.610 nm)	4.880110 o	ppm	0.003863	0.08	1101430.000000	Y 377.433
Mo (202.032 nm)	0.003625	ppm	0.000024	0.66	27.849400	Y 377.433
Na (589.592 nm)	0.640831	ppm	0.002033	0.32	8220.060000	Y_R2 488.368
Na H (589.593 nm)	0.232126 u	ppm	0.009689	4.17	5755.552316	Y_R 488.368
Ni (231.604 nm)	0.098257	ppm	0.001253	1.28	648.868000	Y 377.433
P (213.618 nm)	8.786980 o	ppm	0.044252	0.50	18106.200000	Y 242.219
Pb (220.353 nm)	0.142969	ppm	0.001408	0.98	376.132000	Y 242.219
S (181.972 nm)	39.885631 o	ppm	0.020679	0.05	19470.143770	Y 377.433
Sb (206.834 nm)	-0.001417 u	ppm	0.001089	76.82	-81.279900	Y 377.433
Se (196.026 nm)	-0.002126 u	ppm	0.000070	3.27	-22.912500	Y 242.219
Si (288.158 nm)	1.628810	ppm	0.001186	0.07	14319.400000	Y 377.433
Sn (189.925 nm)	0.014322	ppm	0.000564	3.94	35.217900	Y 377.433
Sr (421.552 nm)	0.741104	ppm	0.004194	0.57	152895.117912	Y_R 488.368
Th (288.505 nm)	0.075987	ppm	0.001414	1.86	372.182000	Y 377.433
Ti (336.122 nm)	5.262780 o	ppm	0.000406	0.01	734859.000000	Y 377.433
Tl (190.794 nm)	0.002323	ppm	0.000448	19.28	-30.534700	Y 377.433
U (409.013 nm)	-0.065937 u	ppm	0.000472	0.72	-282.822000	Y 377.433
V (292.401 nm)	0.624676	ppm	0.000292	0.05	22058.000000	Y 377.433
Zn (206.200 nm)	0.600538	ppm	0.000217	0.04	3001.690000	Y 377.433
Zr (343.823 nm)	0.139320	ppm	0.000020	0.01	18586.100000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.209289	22847.111425	0.000618	0.05
Y 377.433	1.203066	1220907.087033	0.001179	0.10
Y_R 377.433	1.329770	102182.000000	0.004061	0.31
Y_R 488.368	1.350230	59241.300000	0.010700	0.79
Y_R2 488.368	1.330580	114886.445758	0.011858	0.89

Sample Name: 280-115807-A-15-B

Date: 10/29/2018 11:42:35 PM Rack:Tube: 2:61

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000625	ppm	0.000173	27.66	-504.243000	Y 377.433
Al (167.019 nm)	126.705000 o	ppm	0.086437	0.07	67130.400000	Y_R 377.433
Al H (396.152 nm)	201.095791 o	ppm	0.357912	0.18	507777.528511	Y_R 377.433
As (188.980 nm)	0.067728	ppm	0.000554	0.82	76.145800	Y 242.219
B (249.678 nm)	0.057187	ppm	0.000217	0.38	1024.230000	Y 242.219
Ba (493.408 nm)	2.698880 o	ppm	0.003474	0.13	309780.000000	Y_R 488.368
Be (234.861 nm)	0.002039	ppm	0.000095	4.67	9538.170000	Y_R 488.368
Bi (223.061 nm)	-0.023092 u	ppm	0.001980	8.57	-1.047530	Y 377.433
Ca (315.887 nm)	147.955056 o	ppm	0.143074	0.10	113768.180737	Y_R 377.433
Cd (214.439 nm)	0.002033	ppm	0.000083	4.08	390.369000	Y 377.433
Co (228.615 nm)	0.086450	ppm	0.000887	1.03	1678.470000	Y 242.219
Cr (205.560 nm)	0.267826	ppm	0.000153	0.06	3827.600000	Y 377.433
Cu (324.754 nm)	0.906446	ppm	0.002063	0.23	48162.600000	Y 377.433
Fe (238.204 nm)	289.845709 o	ppm	1.188032	0.41	1045958.708468	Y_R 377.433
Fe H (259.940 nm)	305.357000	ppm	2.656010	0.87	557680.000000	Y_R 377.433
K (766.491 nm)	33.831900	ppm	0.005691	0.02	37313.800000	Y_R2 488.368
Li (670.783 nm)	0.132797	ppm	0.001208	0.91	2929.500000	Y_R2 488.368
Mg (279.078 nm)	34.271600	ppm	0.000489	0.00	188082.000000	Y 377.433
Mn (257.610 nm)	4.117290 o	ppm	0.009476	0.23	929269.000000	Y 377.433
Mo (202.032 nm)	0.004779	ppm	0.000068	1.43	37.478600	Y 377.433
Na (589.592 nm)	0.823748	ppm	0.004034	0.49	11091.300000	Y_R2 488.368
Na H (589.593 nm)	0.498829 u	ppm	0.002831	0.57	7565.555976	Y_R 488.368
Ni (231.604 nm)	0.121628	ppm	0.000601	0.49	804.564000	Y 377.433
P (213.618 nm)	10.017300 o	ppm	0.017104	0.17	20637.600000	Y 242.219
Pb (220.353 nm)	0.354505	ppm	0.001825	0.51	954.178000	Y 242.219
S (181.972 nm)	116.436916 bo	ppm	0.152591	0.13	56755.362049	Y 377.433
Sb (206.834 nm)	-0.000220 u	ppm	0.000918	> 100.00	-96.523500	Y 377.433
Se (196.026 nm)	0.001505 u	ppm	0.004139	> 100.00	-32.631400	Y 242.219
Si (288.158 nm)	1.911750	ppm	0.001721	0.09	16630.100000	Y 377.433
Sn (189.925 nm)	0.021433	ppm	0.001745	8.14	48.784300	Y 377.433
Sr (421.552 nm)	1.082488	ppm	0.003062	0.28	223258.048209	Y_R 488.368
Th (288.505 nm)	0.098142	ppm	0.001236	1.26	416.550000	Y 377.433
Ti (336.122 nm)	6.284370 o	ppm	0.000512	0.01	877830.000000	Y 377.433
Tl (190.794 nm)	0.004313	ppm	0.001233	28.60	-32.724200	Y 377.433
U (409.013 nm)	-0.064844 u	ppm	0.006547	10.10	-232.352000	Y 377.433
V (292.401 nm)	0.846351	ppm	0.000847	0.10	29847.600000	Y 377.433
Zn (206.200 nm)	0.814308	ppm	0.003417	0.42	4070.670000	Y 377.433
Zr (343.823 nm)	0.182951	ppm	0.000229	0.13	24411.900000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.184411	22377.096455	0.002226	0.19
Y 377.433	1.174856	1192278.802925	0.002565	0.22
Y_R 377.433	1.295980	99585.600000	0.002763	0.21
Y_R 488.368	1.312410	57581.800000	0.001321	0.10
Y_R2 488.368	1.304513	112635.732091	0.005536	0.42

Sample Name: 280-115807-A-16-B

Date: 10/29/2018 11:45:58 PM Rack:Tube: 2:62

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000752	ppm	0.000096	12.80	-474.763000	Y 377.433
Al (167.019 nm)	109.486000 o	ppm	1.387470	1.27	57994.900000	Y_R 377.433
Al H (396.152 nm)	156.301017 o	ppm	0.899000	0.58	394662.151237	Y_R 377.433
As (188.980 nm)	0.054440	ppm	0.002868	5.27	60.711300	Y 242.219
B (249.678 nm)	0.053523	ppm	0.000089	0.17	1022.850000	Y 242.219
Ba (493.408 nm)	1.860300 o	ppm	0.009695	0.52	213727.000000	Y_R 488.368
Be (234.861 nm)	0.002230	ppm	0.000188	8.43	7786.810000	Y_R 488.368
Bi (223.061 nm)	-0.019077 u	ppm	0.001382	7.24	-0.843794	Y 377.433
Ca (315.887 nm)	61.228354 o	ppm	0.418376	0.68	47042.990697	Y_R 377.433
Cd (214.439 nm)	0.001132	ppm	0.000073	6.43	283.662000	Y 377.433
Co (228.615 nm)	0.075895	ppm	0.000044	0.06	1456.160000	Y 242.219
Cr (205.560 nm)	0.189541	ppm	0.000182	0.10	2702.010000	Y 377.433
Cu (324.754 nm)	0.157662	ppm	0.000015	0.01	8245.690000	Y 377.433
Fe (238.204 nm)	231.899328 o	ppm	1.968431	0.85	836852.423896	Y_R 377.433
Fe H (259.940 nm)	243.290000	ppm	1.424690	0.59	444356.000000	Y_R 377.433
K (766.491 nm)	27.550800	ppm	0.070107	0.25	30258.300000	Y_R2 488.368
Li (670.783 nm)	0.125434	ppm	0.001263	1.01	2690.300000	Y_R2 488.368
Mg (279.078 nm)	41.639700	ppm	0.073970	0.18	228712.000000	Y 377.433
Mn (257.610 nm)	3.476940 o	ppm	0.000806	0.02	784751.000000	Y 377.433
Mo (202.032 nm)	0.003400	ppm	0.000152	4.48	25.967900	Y 377.433
Na (589.592 nm)	0.703087	ppm	0.005208	0.74	8694.960000	Y_R2 488.368
Na H (589.593 nm)	0.302920 u	ppm	0.005314	1.75	6054.505062	Y_R 488.368
Ni (231.604 nm)	0.115211	ppm	0.000063	0.05	760.242000	Y 377.433
P (213.618 nm)	5.655180 o	ppm	0.027195	0.48	11662.500000	Y 242.219
Pb (220.353 nm)	0.120248	ppm	0.000464	0.39	309.819000	Y 242.219
S (181.972 nm)	8.912399	ppm	0.035808	0.40	4380.264190	Y 377.433
Sb (206.834 nm)	-0.003793 u	ppm	0.002261	59.62	-91.196400	Y 377.433
Se (196.026 nm)	0.000623 u	ppm	0.000962	> 100.00	-23.828500	Y 242.219
Si (288.158 nm)	1.724580	ppm	0.000975	0.06	15101.500000	Y 377.433
Sn (189.925 nm)	0.017145	ppm	0.000541	3.15	40.603800	Y 377.433
Sr (421.552 nm)	0.740504	ppm	0.002743	0.37	152771.380409	Y_R 488.368
Th (288.505 nm)	0.107737	ppm	0.000052	0.05	423.067000	Y 377.433
Ti (336.122 nm)	5.133700 o	ppm	0.000773	0.02	716864.000000	Y 377.433
Tl (190.794 nm)	0.002201	ppm	0.002270	> 100.00	-30.714700	Y 377.433
U (409.013 nm)	-0.079196 u	ppm	0.003679	4.65	-331.128000	Y 377.433
V (292.401 nm)	0.642879	ppm	0.000156	0.02	22691.700000	Y 377.433
Zn (206.200 nm)	0.510233	ppm	0.000457	0.09	2550.120000	Y 377.433
Zr (343.823 nm)	0.140604	ppm	0.000059	0.04	18791.000000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.201875	22707.033764	0.000648	0.05
Y 377.433	1.191564	1209233.905385	0.000127	0.01
Y_R 377.433	1.331820	102340.000000	0.015754	1.18
Y_R 488.368	1.348140	59149.300000	0.013791	1.02
Y_R2 488.368	1.330045	114840.222055	0.005352	0.40

Sample Name: 280-115807-A-17-B

Date: 10/29/2018 11:49:20 PM Rack:Tube: 2:63

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001105	ppm	0.000181	16.37	-443.642000	Y 377.433
Al (167.019 nm)	124.627000 o	ppm	1.365650	1.10	65990.600000	Y_R 377.433
Al H (396.152 nm)	204.302770 o	ppm	0.128721	0.06	515953.386013	Y_R 377.433
As (188.980 nm)	0.057432	ppm	0.001697	2.95	64.348800	Y 242.219
B (249.678 nm)	0.073085	ppm	0.000393	0.54	1495.230000	Y 242.219
Ba (493.408 nm)	2.476790 o	ppm	0.002827	0.11	284344.000000	Y_R 488.368
Be (234.861 nm)	0.004382	ppm	0.000358	8.17	8237.430000	Y_R 488.368
Bi (223.061 nm)	-0.015786 u	ppm	0.000110	0.70	6.253570	Y 377.433
Ca (315.887 nm)	332.327684 o	ppm	0.591355	0.18	255619.513190	Y_R 377.433
Cd (214.439 nm)	0.000934	ppm	0.000062	6.59	267.218000	Y 377.433
Co (228.615 nm)	0.085357	ppm	0.000358	0.42	1624.500000	Y 242.219
Cr (205.560 nm)	0.210059	ppm	0.001078	0.51	3002.650000	Y 377.433
Cu (324.754 nm)	0.191827	ppm	0.000205	0.11	9924.740000	Y 377.433
Fe (238.204 nm)	226.687156 o	ppm	1.681134	0.74	818043.692357	Y_R 377.433
Fe H (259.940 nm)	238.906000	ppm	3.545280	1.48	436353.000000	Y_R 377.433
K (766.491 nm)	32.903100	ppm	0.076581	0.23	36270.500000	Y_R2 488.368
Li (670.783 nm)	0.175786	ppm	0.002049	1.17	4326.190000	Y_R2 488.368
Mg (279.078 nm)	64.103500 o	ppm	0.024452	0.04	352297.000000	Y 377.433
Mn (257.610 nm)	3.904150 o	ppm	0.006269	0.16	881167.000000	Y 377.433
Mo (202.032 nm)	0.002743	ppm	0.000236	8.59	20.485300	Y 377.433
Na (589.592 nm)	1.102940	ppm	0.006453	0.59	12428.600000	Y_R2 488.368
Na H (589.593 nm)	0.788243 u	ppm	0.001119	0.14	8418.668229	Y_R 488.368
Ni (231.604 nm)	0.139432	ppm	0.000455	0.33	918.348000	Y 377.433
P (213.618 nm)	5.726770 o	ppm	0.011715	0.20	11809.800000	Y 242.219
Pb (220.353 nm)	0.112831	ppm	0.001197	1.06	273.313000	Y 242.219
S (181.972 nm)	31.926892 o	ppm	0.085938	0.27	15591.273473	Y 377.433
Sb (206.834 nm)	-0.003815 u	ppm	0.000998	26.16	-92.852900	Y 377.433
Se (196.026 nm)	0.000786 u	ppm	0.001405	> 100.00	-21.599200	Y 242.219
Si (288.158 nm)	2.125020	ppm	0.001367	0.06	18371.800000	Y 377.433
Sn (189.925 nm)	0.020202	ppm	0.001120	5.54	46.436900	Y 377.433
Sr (421.552 nm)	1.223654 o	ppm	0.002830	0.23	252353.882589	Y_R 488.368
Th (288.505 nm)	0.115578	ppm	0.001674	1.45	448.628000	Y 377.433
Ti (336.122 nm)	5.270710 o	ppm	0.005488	0.10	736831.000000	Y 377.433
Tl (190.794 nm)	0.003614	ppm	0.000836	23.12	-28.092800	Y 377.433
U (409.013 nm)	-0.088735 u	ppm	0.002278	2.57	-431.379000	Y 377.433
V (292.401 nm)	0.585842	ppm	0.000876	0.15	20689.000000	Y 377.433
Zn (206.200 nm)	0.535619	ppm	0.000188	0.04	2677.060000	Y 377.433
Zr (343.823 nm)	0.169480	ppm	0.000019	0.01	22491.200000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.163519	21982.382666	0.001799	0.15
Y 377.433	1.157199	1174359.522213	0.001989	0.17
Y_R 377.433	1.293430	99389.900000	0.000167	0.01
Y_R 488.368	1.305170	57264.000000	0.002305	0.18
Y_R2 488.368	1.287675	111181.825326	0.001961	0.15

Sample Name: 280-115807-A-18-B

Date: 10/29/2018 11:52:42 PM Rack:Tube: 2:64

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000102 u	ppm	0.000203	> 100.00	-610.827000	Y 377.433
Al (167.019 nm)	134.175000 o	ppm	1.367070	1.02	71148.700000	Y_R 377.433
Al H (396.152 nm)	226.746721 o	ppm	0.734916	0.32	572525.345076	Y_R 377.433
As (188.980 nm)	0.033149	ppm	0.000769	2.32	33.709500	Y 242.219
B (249.678 nm)	0.073060	ppm	0.000284	0.39	1241.750000	Y 242.219
Ba (493.408 nm)	1.107400 o	ppm	0.006392	0.58	127731.000000	Y_R 488.368
Be (234.861 nm)	0.001680	ppm	0.000409	24.33	12819.800000	Y_R 488.368
Bi (223.061 nm)	-0.032849 u	ppm	0.000468	1.43	-6.841670	Y 377.433
Ca (315.887 nm)	138.678735 o	ppm	0.456400	0.33	106631.228007	Y_R 377.433
Cd (214.439 nm)	-0.000517 u	ppm	0.000004	0.68	348.348000	Y 377.433
Co (228.615 nm)	0.138032	ppm	0.000981	0.71	2646.230000	Y 242.219
Cr (205.560 nm)	0.348859	ppm	0.000264	0.08	4979.380000	Y 377.433
Cu (324.754 nm)	0.228606	ppm	0.000594	0.26	12091.700000	Y 377.433
Fe (238.204 nm)	399.192957 o	ppm	0.588301	0.15	1440551.021769	Y_R 377.433
Fe H (259.940 nm)	419.627000	ppm	0.613193	0.15	766316.000000	Y_R 377.433
K (766.491 nm)	26.586800	ppm	0.048317	0.18	29175.400000	Y_R2 488.368
Li (670.783 nm)	0.183774	ppm	0.000747	0.41	4585.720000	Y_R2 488.368
Mg (279.078 nm)	47.322500 o	ppm	0.029491	0.06	259694.000000	Y 377.433
Mn (257.610 nm)	3.624520 o	ppm	0.012110	0.33	818057.000000	Y 377.433
Mo (202.032 nm)	0.006625	ppm	0.000369	5.57	52.891100	Y 377.433
Na (589.592 nm)	1.399970	ppm	0.007257	0.52	11647.200000	Y_R2 488.368
Na H (589.593 nm)	1.042790 u	ppm	0.013157	1.26	8060.912901	Y_R 488.368
Ni (231.604 nm)	0.156242	ppm	0.000790	0.51	1035.270000	Y 377.433
P (213.618 nm)	7.294970 o	ppm	0.027287	0.37	15036.300000	Y 242.219
Pb (220.353 nm)	0.085902	ppm	0.000556	0.65	206.238000	Y 242.219
S (181.972 nm)	6.022346	ppm	0.000798	0.01	2972.893797	Y 377.433
Sb (206.834 nm)	-0.004415 u	ppm	0.003291	74.56	-133.270000	Y 377.433
Se (196.026 nm)	-0.002769 u	ppm	0.002933	> 100.00	-56.835600	Y 242.219
Si (288.158 nm)	2.196390	ppm	0.002338	0.11	18954.600000	Y 377.433
Sn (189.925 nm)	0.025836	ppm	0.000577	2.23	57.185400	Y 377.433
Sr (421.552 nm)	1.287196 o	ppm	0.005698	0.44	265450.544848	Y_R 488.368
Th (288.505 nm)	0.092954	ppm	0.000149	0.16	410.192000	Y 377.433
Ti (336.122 nm)	8.462860 o	ppm	0.014327	0.17	1182040.000000	Y 377.433
Tl (190.794 nm)	0.003383	ppm	0.001716	50.73	-46.890000	Y 377.433
U (409.013 nm)	-0.067941 u	ppm	0.006797	10.00	-148.976000	Y 377.433
V (292.401 nm)	1.419190 o	ppm	0.001656	0.12	50000.400000	Y 377.433
Zn (206.200 nm)	0.936110	ppm	0.004385	0.47	4679.750000	Y 377.433
Zr (343.823 nm)	0.268855	ppm	0.000560	0.21	35787.800000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.181973	22331.031543	0.002298	0.19
Y 377.433	1.179396	1196885.685634	0.000982	0.08
Y_R 377.433	1.308050	100513.000000	0.011302	0.86
Y_R 488.368	1.324240	58101.000000	0.005750	0.43
Y_R2 488.368	1.300837	112318.331656	0.005298	0.41

Sample Name: 280-115807-A-19-B

Date: 10/29/2018 11:56:05 PM Rack:Tube: 2:65

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000944	ppm	0.000087	9.20	-471.729000	Y 377.433
Al (167.019 nm)	121.110000 o	ppm	0.667927	0.55	64155.700000	Y_R 377.433
Al H (396.152 nm)	191.636289 o	ppm	0.367839	0.19	483907.613911	Y_R 377.433
As (188.980 nm)	0.064319	ppm	0.000982	1.53	72.306600	Y 242.219
B (249.678 nm)	0.055612	ppm	0.000071	0.13	1029.430000	Y 242.219
Ba (493.408 nm)	2.387020 o	ppm	0.018684	0.78	274065.000000	Y_R 488.368
Be (234.861 nm)	0.003309	ppm	0.000045	1.35	9011.090000	Y_R 488.368
Bi (223.061 nm)	-0.015581 u	ppm	0.002172	13.94	12.460000	Y 377.433
Ca (315.887 nm)	169.046390 o	ppm	0.136540	0.08	129995.285211	Y_R 377.433
Cd (214.439 nm)	0.003384	ppm	0.000046	1.37	440.252000	Y 377.433
Co (228.615 nm)	0.089082	ppm	0.000367	0.41	1718.760000	Y 242.219
Cr (205.560 nm)	0.331914	ppm	0.001065	0.32	4769.880000	Y 377.433
Cu (324.754 nm)	0.190669	ppm	0.000554	0.29	9965.330000	Y 377.433
Fe (238.204 nm)	261.557723 o	ppm	0.025127	0.01	943878.207377	Y_R 377.433
Fe H (259.940 nm)	275.471000	ppm	0.214741	0.08	503113.000000	Y_R 377.433
K (766.491 nm)	31.361600	ppm	0.134830	0.43	34539.000000	Y_R2 488.368
Li (670.783 nm)	0.136000	ppm	0.000933	0.69	3033.570000	Y_R2 488.368
Mg (279.078 nm)	49.843600 o	ppm	0.093805	0.19	273794.000000	Y 377.433
Mn (257.610 nm)	4.723440 o	ppm	0.011346	0.24	1066070.000000	Y 377.433
Mo (202.032 nm)	0.003810	ppm	0.000107	2.81	29.393600	Y 377.433
Na (589.592 nm)	0.974120	ppm	0.004128	0.42	11437.300000	Y_R2 488.368
Na H (589.593 nm)	0.623388 u	ppm	0.004218	0.68	7728.463929	Y_R 488.368
Ni (231.604 nm)	0.128603	ppm	0.000287	0.22	848.982000	Y 377.433
P (213.618 nm)	9.165620 o	ppm	0.031886	0.35	18885.200000	Y 242.219
Pb (220.353 nm)	1.242260	ppm	0.002860	0.23	3431.520000	Y 242.219
S (181.972 nm)	51.054374 o	ppm	0.093243	0.18	24909.901130	Y 377.433
Sb (206.834 nm)	0.007080	ppm	0.003770	53.25	-67.809800	Y 377.433
Se (196.026 nm)	-0.000052 u	ppm	0.005262	> 100.00	-28.333500	Y 242.219
Si (288.158 nm)	2.022970	ppm	0.004475	0.22	17538.300000	Y 377.433
Sn (189.925 nm)	0.019228	ppm	0.000590	3.07	44.578700	Y 377.433
Sr (421.552 nm)	0.924608	ppm	0.012486	1.35	190717.316925	Y_R 488.368
Th (288.505 nm)	0.100780	ppm	0.001466	1.45	432.407000	Y 377.433
Ti (336.122 nm)	6.132850 o	ppm	0.009555	0.16	856733.000000	Y 377.433
Tl (190.794 nm)	0.004475	ppm	0.000106	2.37	-30.936500	Y 377.433
U (409.013 nm)	-0.073691 u	ppm	0.004836	6.56	-303.081000	Y 377.433
V (292.401 nm)	0.742708	ppm	0.001210	0.16	26189.000000	Y 377.433
Zn (206.200 nm)	0.709347	ppm	0.000772	0.11	3545.800000	Y 377.433
Zr (343.823 nm)	0.190792	ppm	0.000530	0.28	25336.500000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.197238	22619.430075	0.002177	0.18
Y 377.433	1.186389	1203982.346639	0.000934	0.08
Y_R 377.433	1.328130	102056.000000	0.000001	0.00
Y_R 488.368	1.343070	58926.800000	0.006103	0.45
Y_R2 488.368	1.318464	113840.282842	0.004699	0.36

Sample Name: 280-115807-A-144-C

Date: 10/29/2018 11:59:28 PM Rack:Tube: 2:66

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001315	ppm	0.000242	18.41	-405.436000	Y 377.433
Al (167.019 nm)	42.553900 o	ppm	0.077840	0.18	22550.900000	Y_R 377.433
Al H (396.152 nm)	48.216944	ppm	0.209410	0.43	122039.221122	Y_R 377.433
As (188.980 nm)	0.101592	ppm	0.003832	3.77	118.395000	Y 242.219
B (249.678 nm)	0.033838	ppm	0.000024	0.07	742.632000	Y 242.219
Ba (493.408 nm)	1.058100	ppm	0.006210	0.59	121904.000000	Y_R 488.368
Be (234.861 nm)	-0.000675 u	ppm	0.000098	14.56	2983.450000	Y_R 488.368
Bi (223.061 nm)	-0.008313 u	ppm	0.002412	29.02	4.310270	Y 377.433
Ca (315.887 nm)	561.201295 o	ppm	2.578024	0.46	431708.704044	Y_R 377.433
Cd (214.439 nm)	0.000007 u	ppm	0.000050	> 100.00	97.842400	Y 377.433
Co (228.615 nm)	0.018866	ppm	0.000112	0.59	441.419000	Y 242.219
Cr (205.560 nm)	0.085366	ppm	0.000313	0.37	1217.940000	Y 377.433
Cu (324.754 nm)	0.081607	ppm	0.000319	0.39	3748.230000	Y 377.433
Fe (238.204 nm)	104.193949 o	ppm	0.570005	0.55	376012.652047	Y_R 377.433
Fe H (259.940 nm)	109.110000	ppm	0.788130	0.72	199367.000000	Y_R 377.433
K (766.491 nm)	9.493270	ppm	0.023371	0.25	9974.520000	Y_R2 488.368
Li (670.783 nm)	0.042194	ppm	0.000572	1.36	-14.140100	Y_R2 488.368
Mg (279.078 nm)	11.382700	ppm	0.034926	0.31	62478.600000	Y 377.433
Mn (257.610 nm)	0.770928	ppm	0.000476	0.06	174048.000000	Y 377.433
Mo (202.032 nm)	0.003345	ppm	0.000468	14.01	25.508000	Y 377.433
Na (589.592 nm)	0.614758	ppm	0.006385	1.04	6575.150000	Y_R2 488.368
Na H (589.593 nm)	0.189791 u	ppm	0.008498	4.48	4882.157533	Y_R 488.368
Ni (231.604 nm)	0.046966	ppm	0.000414	0.88	308.924000	Y 377.433
P (213.618 nm)	2.292320 o	ppm	0.000615	0.03	4743.370000	Y 242.219
Pb (220.353 nm)	6.719070 o	ppm	0.001243	0.02	18743.400000	Y 242.219
S (181.972 nm)	492.996515 bo	ppm	0.489383	0.10	240164.193312	Y 377.433
Sb (206.834 nm)	0.098910	ppm	0.002202	2.23	215.562000	Y 377.433
Se (196.026 nm)	-0.005152 u	ppm	0.000641	12.43	-8.758920	Y 242.219
Si (288.158 nm)	1.915710	ppm	0.002632	0.14	16662.400000	Y 377.433
Sn (189.925 nm)	0.015528	ppm	0.000226	1.46	37.520300	Y 377.433
Sr (421.552 nm)	0.558320	ppm	0.002219	0.40	115221.333299	Y_R 488.368
Th (288.505 nm)	0.024728	ppm	0.003870	15.65	160.239000	Y 377.433
Ti (336.122 nm)	4.332980 o	ppm	0.002087	0.05	606573.000000	Y 377.433
Tl (190.794 nm)	0.003080	ppm	0.000109	3.52	-22.155800	Y 377.433
U (409.013 nm)	-0.016682 u	ppm	0.000670	4.02	-263.744000	Y 377.433
V (292.401 nm)	0.327921	ppm	0.000117	0.04	11629.900000	Y 377.433
Zn (206.200 nm)	0.193374	ppm	0.001586	0.82	965.639000	Y 377.433
Zr (343.823 nm)	0.107877	ppm	0.000185	0.17	14203.000000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.129683	21343.110783	0.006047	0.54
Y 377.433	1.146723	1163728.582238	0.006737	0.59
Y_R 377.433	1.284110	98673.400000	0.002377	0.19
Y_R 488.368	1.303440	57188.300000	0.003508	0.27
Y_R2 488.368	1.282607	110744.295635	0.005374	0.42

Sample Name: 280-115807-A-144-CSD@5

Date: 10/30/2018 12:02:50 AM Rack:Tube: 2:67

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001286	ppm	0.000164	12.74	-382.825000	Y 377.433
Al (167.019 nm)	9.822420 o	ppm	0.025989	0.26	5204.420000	Y_R 377.433
Al H (396.152 nm)	9.658838	ppm	0.045215	0.47	24510.981625	Y_R 377.433
As (188.980 nm)	0.020056	ppm	0.000196	0.98	21.299600	Y 242.219
B (249.678 nm)	0.006008	ppm	0.000035	0.59	203.915000	Y 242.219
Ba (493.408 nm)	0.211936	ppm	0.002332	1.10	24877.400000	Y_R 488.368
Be (234.861 nm)	-0.000040 u	ppm	0.000014	34.74	600.434000	Y_R 488.368
Bi (223.061 nm)	-0.002591 u	ppm	0.003150	> 100.00	4.646610	Y 377.433
Ca (315.887 nm)	116.710222 o	ppm	0.168897	0.14	89729.242712	Y_R 377.433
Cd (214.439 nm)	0.000049	ppm	0.000015	31.47	21.748400	Y 377.433
Co (228.615 nm)	0.004008	ppm	0.000223	5.56	65.624000	Y 242.219
Cr (205.560 nm)	0.017555	ppm	0.000080	0.46	251.743000	Y 377.433
Cu (324.754 nm)	0.017520	ppm	0.000018	0.10	560.771000	Y 377.433
Fe (238.204 nm)	21.608148 o	ppm	0.123528	0.57	77992.144613	Y_R 377.433
Fe H (259.940 nm)	22.652400	ppm	0.092116	0.41	41511.700000	Y_R 377.433
K (766.491 nm)	2.002010	ppm	0.026579	1.33	1559.690000	Y_R2 488.368
Li (670.783 nm)	0.021512	ppm	0.001160	5.39	-686.096000	Y_R2 488.368
Mg (279.078 nm)	2.352900	ppm	0.002576	0.11	12941.900000	Y 377.433
Mn (257.610 nm)	0.160022	ppm	0.000267	0.17	36175.800000	Y 377.433
Mo (202.032 nm)	0.000434	ppm	0.000058	13.45	1.214930	Y 377.433
Na (589.592 nm)	0.091917	ppm	0.000091	0.10	1615.230000	Y_R2 488.368
Na H (589.593 nm)	-0.390890 u	ppm	0.011881	3.04	1950.997325	Y_R 488.368
Ni (231.604 nm)	0.009213	ppm	0.000456	4.95	58.769700	Y 377.433
P (213.618 nm)	0.421834	ppm	0.000540	0.13	894.830000	Y 242.219
Pb (220.353 nm)	1.394870	ppm	0.000359	0.03	3894.260000	Y 242.219
S (181.972 nm)	98.531599 o	ppm	0.042359	0.04	48024.718499	Y 377.433
Sb (206.834 nm)	0.019816	ppm	0.000110	0.56	26.901900	Y 377.433
Se (196.026 nm)	-0.004073 u	ppm	0.000431	10.57	6.023120	Y 242.219
Si (288.158 nm)	0.354032	ppm	0.005787	1.63	3908.850000	Y 377.433
Sn (189.925 nm)	0.001708	ppm	0.000292	17.13	11.153800	Y 377.433
Sr (421.552 nm)	0.112631	ppm	0.000973	0.86	23360.128441	Y_R 488.368
Th (288.505 nm)	0.004552	ppm	0.003150	69.19	93.225200	Y 377.433
Ti (336.122 nm)	0.887784	ppm	0.000966	0.11	124058.000000	Y 377.433
Tl (190.794 nm)	0.000626	ppm	0.000017	2.75	-10.252700	Y 377.433
U (409.013 nm)	-0.000894 u	ppm	0.004172	> 100.00	-181.292000	Y 377.433
V (292.401 nm)	0.066654	ppm	0.000339	0.51	2382.890000	Y 377.433
Zn (206.200 nm)	0.040158	ppm	0.000448	1.12	199.467000	Y 377.433
Zr (343.823 nm)	0.021599	ppm	0.000001	0.01	2856.600000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.147813	21685.643185	0.001127	0.10
Y 377.433	1.149025	1166064.426700	0.000692	0.06
Y_R 377.433	1.257600	96636.000000	0.002837	0.23
Y_R 488.368	1.278380	56088.700000	0.014282	1.12
Y_R2 488.368	1.253242	108208.830410	0.013149	1.05

Sample Name: 280-115807-A-144-D MS

Date: 10/30/2018 12:06:13 AM Rack:Tube: 2:68

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.047732	ppm	0.000304	0.64	1617.160000	Y 377.433
Al (167.019 nm)	71.775300 o	ppm	0.083780	0.12	37993.200000	Y_R 377.433
Al H (396.152 nm)	91.184994	ppm	0.416737	0.46	230609.578005	Y_R 377.433
As (188.980 nm)	0.945619	ppm	0.001411	0.15	1130.890000	Y 242.219
B (249.678 nm)	0.898194	ppm	0.000323	0.04	21252.000000	Y 242.219
Ba (493.408 nm)	2.584540 o	ppm	0.012088	0.47	296633.000000	Y_R 488.368
Be (234.861 nm)	0.040452	ppm	0.000264	0.65	14970.100000	Y_R 488.368
Bi (223.061 nm)	1.784410	ppm	0.000481	0.03	4352.540000	Y 377.433
Ca (315.887 nm)	643.842766 o	ppm	4.741054	0.74	495290.871112	Y_R 377.433
Cd (214.439 nm)	0.080517	ppm	0.000232	0.29	4703.580000	Y 377.433
Co (228.615 nm)	0.451414	ppm	0.002379	0.53	7999.600000	Y 242.219
Cr (205.560 nm)	0.286900	ppm	0.000620	0.22	4152.690000	Y 377.433
Cu (324.754 nm)	0.322767	ppm	0.001588	0.49	16595.600000	Y 377.433
Fe (238.204 nm)	111.356760 o	ppm	1.033965	0.93	401860.492626	Y_R 377.433
Fe H (259.940 nm)	118.204000	ppm	0.563437	0.48	215972.000000	Y_R 377.433
K (766.491 nm)	59.504900	ppm	0.254264	0.43	66152.000000	Y_R2 488.368
Li (670.783 nm)	0.922910	ppm	0.000329	0.04	28599.900000	Y_R2 488.368
Mg (279.078 nm)	57.403100 o	ppm	0.004614	0.01	315584.000000	Y 377.433
Mn (257.610 nm)	1.240850 o	ppm	0.001604	0.13	280103.000000	Y 377.433
Mo (202.032 nm)	0.844542	ppm	0.000902	0.11	7046.480000	Y 377.433
Na (589.592 nm)	44.688600 o	ppm	0.432206	0.97	288826.000000	Y_R2 488.368
Na H (589.593 nm)	45.747843	ppm	0.188816	0.41	173600.526363	Y_R 488.368
Ni (231.604 nm)	0.484198	ppm	0.000221	0.05	3169.200000	Y 377.433
P (213.618 nm)	11.740500 o	ppm	0.017436	0.15	24183.000000	Y 242.219
Pb (220.353 nm)	2.116050	ppm	0.002992	0.14	5889.350000	Y 242.219
S (181.972 nm)	531.813445 bo	ppm	0.936159	0.18	259072.444492	Y 377.433
Sb (206.834 nm)	0.315606	ppm	0.002161	0.68	780.291000	Y 377.433
Se (196.026 nm)	1.872940	ppm	0.007775	0.42	1756.150000	Y 242.219
Si (288.158 nm)	2.733860	ppm	0.002981	0.11	23343.900000	Y 377.433
Sn (189.925 nm)	1.702700	ppm	0.001333	0.08	3256.230000	Y 377.433
Sr (421.552 nm)	1.484584 o	ppm	0.004136	0.28	306134.256623	Y_R 488.368
Th (288.505 nm)	0.884231	ppm	0.003403	0.38	2337.100000	Y 377.433
Ti (336.122 nm)	6.410610 o	ppm	0.002674	0.04	896984.000000	Y 377.433
Tl (190.794 nm)	1.634770	ppm	0.005358	0.33	3451.140000	Y 377.433
U (409.013 nm)	1.819250	ppm	0.003951	0.22	7853.780000	Y 377.433
V (292.401 nm)	0.834468	ppm	0.001678	0.20	29373.500000	Y 377.433
Zn (206.200 nm)	0.606801	ppm	0.002167	0.36	3033.010000	Y 377.433
Zr (343.823 nm)	0.529298	ppm	0.000178	0.03	68457.200000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.111348	20996.713170	0.001584	0.14
Y 377.433	1.126649	1143357.048982	0.003269	0.29
Y_R 377.433	1.258140	96677.400000	0.002026	0.16
Y_R 488.368	1.276730	56016.200000	0.001597	0.13
Y_R2 488.368	1.252440	108139.529908	0.024825	1.98

Sample Name: CCVH-5380945

Date: 10/30/2018 12:09:37 AM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000130 u	ppm	0.000459	> 100.00	-690.261000	Y 377.433
Al (167.019 nm)	46.728000 o	ppm	0.091838	0.20	24720.800000	Y_R 377.433
Al H (396.152 nm)	49.045359	ppm	0.282199	0.58	123885.124234	Y_R 377.433
As (188.980 nm)	0.003122	ppm	0.000118	3.78	0.728557	Y 242.219
B (249.678 nm)	-0.001208 u	ppm	0.000030	2.50	-10.622800	Y 242.219
Ba (493.408 nm)	-0.000725 u	ppm	0.000055	7.59	538.702000	Y_R 488.368
Be (234.861 nm)	-0.000622 u	ppm	0.000034	5.42	1346.300000	Y_R 488.368
Bi (223.061 nm)	1.038250	ppm	0.001293	0.12	2533.290000	Y 377.433
Ca (315.887 nm)	0.020073	ppm	0.001460	7.27	-49.015396	Y_R 377.433
Cd (214.439 nm)	-0.000150 u	ppm	0.000015	9.78	38.166900	Y 377.433
Co (228.615 nm)	0.003418	ppm	0.000157	4.59	24.973000	Y 242.219
Cr (205.560 nm)	-0.000003 u	ppm	0.000022	> 100.00	-12.245100	Y 377.433
Cu (324.754 nm)	-0.002897 u	ppm	0.000356	12.28	-150.027000	Y 377.433
Fe (238.204 nm)	50.838870 o	ppm	0.149359	0.29	183474.618785	Y_R 377.433
Fe H (259.940 nm)	52.888300	ppm	0.221355	0.42	96717.100000	Y_R 377.433
K (766.491 nm)	0.227657	ppm	0.016281	7.15	-433.420000	Y_R2 488.368
Li (670.783 nm)	0.017527	ppm	0.000659	3.76	-815.564000	Y_R2 488.368
Mg (279.078 nm)	-0.014795 u	ppm	0.000845	5.71	-406.243000	Y 377.433
Mn (257.610 nm)	0.001569	ppm	0.000017	1.10	415.544000	Y 377.433
Mo (202.032 nm)	0.000229	ppm	0.000095	41.52	-0.495544	Y 377.433
Na (589.592 nm)	233.019000 o	ppm	1.804980	0.77	1477180.000000	Y_R2 488.368
Na H (589.593 nm)	236.171441	ppm	1.544904	0.65	870344.302615	Y_R 488.368
Ni (231.604 nm)	0.004210	ppm	0.000344	8.17	27.253800	Y 377.433
P (213.618 nm)	-0.007366 u	ppm	0.000198	2.69	11.747800	Y 242.219
Pb (220.353 nm)	-0.004105 u	ppm	0.000784	19.09	10.904700	Y 242.219
S (181.972 nm)	5.259145	ppm	0.004145	0.08	2592.710858	Y 377.433
Sb (206.834 nm)	-0.002126 u	ppm	0.002462	> 100.00	-72.429300	Y 377.433
Se (196.026 nm)	-0.001837 u	ppm	0.000206	11.23	2.744300	Y 242.219
Si (288.158 nm)	0.001841	ppm	0.000021	1.17	1032.660000	Y 377.433
Sn (189.925 nm)	0.001636	ppm	0.001218	74.50	11.016100	Y 377.433
Sr (421.552 nm)	0.000364	ppm	0.000107	29.31	220.674421	Y_R 488.368
Th (288.505 nm)	5.131810	ppm	0.002217	0.04	12915.900000	Y 377.433
Ti (336.122 nm)	0.002482	ppm	0.000082	3.29	60.263300	Y 377.433
Tl (190.794 nm)	-0.002181 u	ppm	0.000615	28.22	-13.179100	Y 377.433
U (409.013 nm)	10.442900	ppm	0.029488	0.28	46281.100000	Y 377.433
V (292.401 nm)	0.003810	ppm	0.000103	2.70	-19.249600	Y 377.433
Zn (206.200 nm)	0.001332	ppm	0.000399	29.95	5.317680	Y 377.433
Zr (343.823 nm)	-0.004379 u	ppm	0.000001	0.02	-400.368000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.149390	21715.435370	0.006171	0.54
Y 377.433	1.137127	1153989.621743	0.006329	0.56
Y_R 377.433	1.251170	96142.600000	0.005073	0.41
Y_R 488.368	1.285140	56385.400000	0.002427	0.19
Y_R2 488.368	1.234599	106599.146075	0.007219	0.58

Sample Name: CCV-5391053

Date: 10/30/2018 12:13:01 AM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.503555	ppm	0.000807	0.16	21893.600000	Y 377.433
Al (167.019 nm)	0.530918	ppm	0.002152	0.41	283.176000	Y_R 377.433
Al H (396.152 nm)	0.490533 u	ppm	0.004621	0.94	1359.893216	Y_R 377.433
As (188.980 nm)	1.018600	ppm	0.000139	0.01	1219.390000	Y 242.219
B (249.678 nm)	0.503869	ppm	0.000622	0.12	12061.900000	Y 242.219
Ba (493.408 nm)	0.497051	ppm	0.000663	0.13	57474.600000	Y_R 488.368
Be (234.861 nm)	0.459115	ppm	0.001164	0.25	131830.000000	Y_R 488.368
Bi (223.061 nm)	-0.000333 u	ppm	0.000845	> 100.00	6.995810	Y 377.433
Ca (315.887 nm)	5.304262	ppm	0.020615	0.39	4016.773520	Y_R 377.433
Cd (214.439 nm)	0.498003	ppm	0.000502	0.10	28445.800000	Y 377.433
Co (228.615 nm)	0.503457	ppm	0.000788	0.16	8696.900000	Y 242.219
Cr (205.560 nm)	0.509749	ppm	0.002390	0.47	7428.770000	Y 377.433
Cu (324.754 nm)	0.519979	ppm	0.000212	0.04	27413.500000	Y 377.433
Fe (238.204 nm)	2.561643	ppm	0.010891	0.43	9260.608059	Y_R 377.433
Fe H (259.940 nm)	2.600320 u	ppm	0.018142	0.70	4900.160000	Y_R 377.433
K (766.491 nm)	47.925300	ppm	0.136174	0.28	53144.700000	Y_R2 488.368
Li (670.783 nm)	0.951920	ppm	0.005188	0.54	29542.400000	Y_R2 488.368
Mg (279.078 nm)	19.452100	ppm	0.017716	0.09	107038.000000	Y 377.433
Mn (257.610 nm)	0.505901	ppm	0.000370	0.07	114235.000000	Y 377.433
Mo (202.032 nm)	0.512099	ppm	0.001058	0.21	4271.780000	Y 377.433
Na (589.592 nm)	4.748910	ppm	0.021213	0.45	31679.000000	Y_R2 488.368
Na H (589.593 nm)	4.605895 u	ppm	0.001348	0.03	20566.685903	Y_R 488.368
Ni (231.604 nm)	0.522223	ppm	0.000005	0.00	3412.620000	Y 377.433
P (213.618 nm)	1.004150	ppm	0.004629	0.46	2092.960000	Y 242.219
Pb (220.353 nm)	1.000450	ppm	0.002549	0.25	2792.840000	Y 242.219
S (181.972 nm)	0.056622	ppm	0.005700	10.07	59.816185	Y 377.433
Sb (206.834 nm)	1.024060	ppm	0.002624	0.26	2700.450000	Y 377.433
Se (196.026 nm)	1.016960	ppm	0.001021	0.10	969.094000	Y 242.219
Si (288.158 nm)	4.967020	ppm	0.001670	0.03	41581.100000	Y 377.433
Sn (189.925 nm)	1.027190	ppm	0.000566	0.06	1967.520000	Y 377.433
Sr (421.552 nm)	0.493945	ppm	0.000773	0.16	101952.970399	Y_R 488.368
Th (288.505 nm)	0.006950	ppm	0.000177	2.55	111.226000	Y 377.433
Ti (336.122 nm)	0.507317	ppm	0.000028	0.01	70580.400000	Y 377.433
Tl (190.794 nm)	1.016650	ppm	0.002013	0.20	2161.370000	Y 377.433
U (409.013 nm)	0.002338	ppm	0.000552	23.61	-201.703000	Y 377.433
V (292.401 nm)	0.500510	ppm	0.000366	0.07	17484.500000	Y 377.433
Zn (206.200 nm)	0.493686	ppm	0.000428	0.09	2467.370000	Y 377.433
Zr (343.823 nm)	0.510410	ppm	0.000251	0.05	65706.000000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.157735	21873.098835	0.000679	0.06
Y 377.433	1.152179	1169265.335299	0.000116	0.01
Y_R 377.433	1.250960	96126.400000	0.003142	0.25
Y_R 488.368	1.268640	55661.500000	0.003240	0.26
Y_R2 488.368	1.245980	107581.760273	0.003538	0.28

Sample Name: CCB

Date: 10/30/2018 12:16:25 AM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000471	ppm	0.000448	95.21	-412.613000	Y 377.433
Al (167.019 nm)	-0.002384 u	ppm	0.001716	71.97	-0.255764	Y_R 377.433
Al H (396.152 nm)	-0.024269 u	ppm	0.001489	6.14	16.547982	Y_R 377.433
As (188.980 nm)	0.000275 u	ppm	0.000801	> 100.00	-2.242230	Y 242.219
B (249.678 nm)	-0.000043 u	ppm	0.000263	> 100.00	92.213500	Y 242.219
Ba (493.408 nm)	-0.001087 u	ppm	0.000067	6.14	448.851000	Y_R 488.368
Be (234.861 nm)	0.000073	ppm	0.000017	23.75	-38.826800	Y_R 488.368
Bi (223.061 nm)	0.002770	ppm	0.002036	73.51	14.100400	Y 377.433
Ca (315.887 nm)	0.011863	ppm	0.000202	1.70	-55.332008	Y_R 377.433
Cd (214.439 nm)	0.000046	ppm	0.000003	5.90	1.041260	Y 377.433
Co (228.615 nm)	0.000177 u	ppm	0.000343	> 100.00	-31.167100	Y 242.219
Cr (205.560 nm)	-0.000049 u	ppm	0.000177	> 100.00	0.969512	Y 377.433
Cu (324.754 nm)	0.002313	ppm	0.000076	3.30	-189.145000	Y 377.433
Fe (238.204 nm)	0.001485	ppm	0.000151	10.15	21.979181	Y_R 377.433
Fe H (259.940 nm)	-0.079240 u	ppm	0.001349	1.70	7.766030	Y_R 377.433
K (766.491 nm)	0.182599	ppm	0.038034	20.83	-484.034000	Y_R2 488.368
Li (670.783 nm)	0.017103 Z	ppm	0.001286	7.52	-829.317000 Z	Y_R2 488.368
Mg (279.078 nm)	0.001631	ppm	0.000146	8.97	43.352700	Y 377.433
Mn (257.610 nm)	0.000022	ppm	0.000022	99.24	66.488400	Y 377.433
Mo (202.032 nm)	0.000505	ppm	0.000032	6.25	1.810980	Y 377.433
Na (589.592 nm)	-0.032914 u	ppm	0.004666	14.18	408.781000	Y_R2 488.368
Na H (589.593 nm)	-0.463309 u	ppm	0.011317	2.44	1483.526317	Y_R 488.368
Ni (231.604 nm)	-0.000525 u	ppm	0.000318	60.63	-5.767790	Y 377.433
P (213.618 nm)	-0.005507 u	ppm	0.001347	24.46	15.573500	Y 242.219
Pb (220.353 nm)	0.000432 u	ppm	0.000760	> 100.00	5.033140	Y 242.219
S (181.972 nm)	0.033647	ppm	0.002543	7.56	47.443735	Y 377.433
Sb (206.834 nm)	0.001851	ppm	0.001104	59.66	-15.270100	Y 377.433
Se (196.026 nm)	-0.004164 u	ppm	0.002436	58.50	9.552400	Y 242.219
Si (288.158 nm)	-0.020287 u	ppm	0.000952	4.69	851.950000	Y 377.433
Sn (189.925 nm)	-0.001323 u	ppm	0.000417	31.51	5.372060	Y 377.433
Sr (421.552 nm)	-0.000215 u	ppm	0.000011	5.01	101.424556	Y_R 488.368
Th (288.505 nm)	0.002920	ppm	0.000491	16.80	84.730600	Y 377.433
Ti (336.122 nm)	0.000456	ppm	0.000014	3.10	-222.798000	Y 377.433
Tl (190.794 nm)	0.001901	ppm	0.000054	2.83	-3.115050	Y 377.433
U (409.013 nm)	0.007007	ppm	0.000435	6.21	-143.033000	Y 377.433
V (292.401 nm)	0.000129	ppm	0.000087	67.35	28.570600	Y 377.433
Zn (206.200 nm)	0.000358	ppm	0.000063	17.68	0.446084	Y 377.433
Zr (343.823 nm)	-0.000050 u	ppm	0.000042	85.66	7.014990	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.167627	22059.982185	0.000117	0.01
Y 377.433	1.166191	1183485.118648	0.001307	0.11
Y_R 377.433	1.248690	95951.700000	0.000531	0.04
Y_R 488.368	1.263610	55440.800000	0.016526	1.31
Y_R2 488.368	1.240247	107086.789901	0.001869	0.15

Sample Name: CCVL-5398386

Date: 10/30/2018 12:19:49 AM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.009909	ppm	0.000094	0.95	6.033450	Y 377.433
Al (167.019 nm)	0.103127	ppm	0.001220	1.18	55.553800	Y_R 377.433
Al H (396.152 nm)	0.076443 u	ppm	0.004540	5.94	272.458169	Y_R 377.433
As (188.980 nm)	0.015300	ppm	0.001001	6.54	15.781500	Y 242.219
B (249.678 nm)	0.099118	ppm	0.000125	0.13	2444.460000	Y 242.219
Ba (493.408 nm)	0.008775	ppm	0.000105	1.20	1577.750000	Y_R 488.368
Be (234.861 nm)	0.000994	ppm	0.000013	1.31	228.204000	Y_R 488.368
Bi (223.061 nm)	0.105847	ppm	0.001429	1.35	264.061000	Y 377.433
Ca (315.887 nm)	0.236753	ppm	0.007823	3.30	117.694843	Y_R 377.433
Cd (214.439 nm)	0.005162	ppm	0.000011	0.22	293.341000	Y 377.433
Co (228.615 nm)	0.010745	ppm	0.000145	1.35	152.082000	Y 242.219
Cr (205.560 nm)	0.009984	ppm	0.000056	0.56	147.196000	Y 377.433
Cu (324.754 nm)	0.017506	ppm	0.000038	0.22	620.070000	Y 377.433
Fe (238.204 nm)	0.105330	ppm	0.000455	0.43	396.714911	Y_R 377.433
Fe H (259.940 nm)	0.027775 u	ppm	0.000273	0.98	203.155000	Y_R 377.433
K (766.491 nm)	3.157180	ppm	0.020017	0.63	2857.270000	Y_R2 488.368
Li (670.783 nm)	0.036766 Q	ppm	0.000965	2.62	-190.483000 Q	Y_R2 488.368
Mg (279.078 nm)	0.191891	ppm	0.000533	0.28	1088.840000	Y 377.433
Mn (257.610 nm)	0.010409	ppm	0.000039	0.37	2410.580000	Y 377.433
Mo (202.032 nm)	0.019952	ppm	0.000331	1.66	164.119000	Y 377.433
Na (589.592 nm)	0.962575	ppm	0.009306	0.97	6735.840000	Y_R2 488.368
Na H (589.593 nm)	0.509778 u	ppm	0.007623	1.50	5065.650712	Y_R 488.368
Ni (231.604 nm)	0.043091	ppm	0.000045	0.10	279.360000	Y 377.433
P (213.618 nm)	2.851020 o	ppm	0.023791	0.83	5892.900000	Y 242.219
Pb (220.353 nm)	0.009805	ppm	0.000162	1.65	31.180000	Y 242.219
S (181.972 nm)	0.119214	ppm	0.000583	0.49	89.146180	Y 377.433
Sb (206.834 nm)	0.021019	ppm	0.003802	18.09	35.531400	Y 377.433
Se (196.026 nm)	0.015030	ppm	0.000631	4.20	27.580200	Y 242.219
Si (288.158 nm)	0.461887	ppm	0.001852	0.40	4789.650000	Y 377.433
Sn (189.925 nm)	0.098907	ppm	0.000099	0.10	196.587000	Y 377.433
Sr (421.552 nm)	0.009832	ppm	0.000002	0.02	2172.235775	Y_R 488.368
Th (288.505 nm)	0.018981	ppm	0.000126	0.66	125.548000	Y 377.433
Ti (336.122 nm)	0.010706	ppm	0.000122	1.14	1209.300000	Y 377.433
Tl (190.794 nm)	0.017537	ppm	0.000111	0.63	30.203400	Y 377.433
U (409.013 nm)	0.066106	ppm	0.001415	2.14	118.506000	Y 377.433
V (292.401 nm)	0.009750	ppm	0.000166	1.70	362.454000	Y 377.433
Zn (206.200 nm)	0.021022	ppm	0.000058	0.28	103.778000	Y 377.433
Zr (343.823 nm)	0.015082	ppm	0.000037	0.25	1954.570000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.185913	22405.474858	0.002088	0.18
Y 377.433	1.182439	1199973.619214	0.001717	0.15
Y_R 377.433	1.272250	97762.300000	0.006267	0.49
Y_R 488.368	1.296500	56883.600000	0.002836	0.22
Y_R2 488.368	1.263515	109095.860979	0.005439	0.43

Sample Name: 280-115807-A-144-E MSD

Date: 10/30/2018 12:23:13 AM Rack:Tube: 2:69

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.049888	ppm	0.000159	0.32	1718.640000	Y 377.433
Al (167.019 nm)	67.675800 o	ppm	0.181879	0.27	35818.800000	Y_R 377.433
Al H (396.152 nm)	83.968870	ppm	0.282699	0.34	212379.761190	Y_R 377.433
As (188.980 nm)	1.016180	ppm	0.001435	0.14	1215.650000	Y 242.219
B (249.678 nm)	0.950135	ppm	0.001019	0.11	22503.800000	Y 242.219
Ba (493.408 nm)	2.696620 o	ppm	0.014732	0.55	309439.000000	Y_R 488.368
Be (234.861 nm)	0.041676	ppm	0.000216	0.52	14914.200000	Y_R 488.368
Bi (223.061 nm)	1.859070	ppm	0.005276	0.28	4531.420000	Y 377.433
Ca (315.887 nm)	603.489920 o	ppm	2.006038	0.33	464244.480001	Y_R 377.433
Cd (214.439 nm)	0.084488	ppm	0.000299	0.35	4918.030000	Y 377.433
Co (228.615 nm)	0.463185	ppm	0.001187	0.26	8176.000000	Y 242.219
Cr (205.560 nm)	0.279881	ppm	0.001237	0.44	4053.800000	Y 377.433
Cu (324.754 nm)	0.320880	ppm	0.000174	0.05	16520.100000	Y 377.433
Fe (238.204 nm)	98.179029 o	ppm	0.064143	0.07	354307.109829	Y_R 377.433
Fe H (259.940 nm)	102.985000	ppm	0.009034	0.01	188185.000000	Y_R 377.433
K (766.491 nm)	60.061600	ppm	0.149622	0.25	66777.300000	Y_R2 488.368
Li (670.783 nm)	0.952074	ppm	0.001156	0.12	29547.400000	Y_R2 488.368
Mg (279.078 nm)	56.712800 o	ppm	0.167860	0.30	311806.000000	Y 377.433
Mn (257.610 nm)	1.164950 o	ppm	0.003211	0.28	262972.000000	Y 377.433
Mo (202.032 nm)	0.891475	ppm	0.004615	0.52	7438.200000	Y 377.433
Na (589.592 nm)	46.174300 o	ppm	0.372909	0.81	298458.000000	Y_R2 488.368
Na H (589.593 nm)	47.652152	ppm	0.239529	0.50	180697.810410	Y_R 488.368
Ni (231.604 nm)	0.498836	ppm	0.000179	0.04	3264.460000	Y 377.433
P (213.618 nm)	11.862800 o	ppm	0.023790	0.20	24434.700000	Y 242.219
Pb (220.353 nm)	5.160430 o	ppm	0.002222	0.04	14384.200000	Y 242.219
S (181.972 nm)	491.775902 bo	ppm	0.431925	0.09	239570.572377	Y 377.433
Sb (206.834 nm)	0.453342	ppm	0.001543	0.34	1147.630000	Y 377.433
Se (196.026 nm)	1.936220	ppm	0.003476	0.18	1817.720000	Y 242.219
Si (288.158 nm)	2.637140	ppm	0.013062	0.50	22554.000000	Y 377.433
Sn (189.925 nm)	1.765650	ppm	0.005625	0.32	3376.330000	Y 377.433
Sr (421.552 nm)	1.456748 o	ppm	0.009657	0.66	300396.915620	Y_R 488.368
Th (288.505 nm)	0.909427	ppm	0.002296	0.25	2398.650000	Y 377.433
Ti (336.122 nm)	5.612860 o	ppm	0.009700	0.17	785447.000000	Y 377.433
Tl (190.794 nm)	1.724720	ppm	0.002235	0.13	3646.880000	Y 377.433
U (409.013 nm)	1.898150	ppm	0.003231	0.17	8198.770000	Y 377.433
V (292.401 nm)	0.801631	ppm	0.002347	0.29	28199.300000	Y 377.433
Zn (206.200 nm)	0.785876	ppm	0.002054	0.26	3928.490000	Y 377.433
Zr (343.823 nm)	0.541209	ppm	0.000901	0.17	69951.700000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.111397	20997.643315	0.000817	0.07
Y 377.433	1.122795	1139445.600631	0.003432	0.31
Y_R 377.433	1.250830	96115.700000	0.008707	0.70
Y_R 488.368	1.268560	55657.600000	0.004732	0.37
Y_R2 488.368	1.228004	106029.694103	0.004407	0.36

Sample Name: 280-115807-A-144-CPDS

Date: 10/30/2018 12:26:35 AM Rack:Tube: 2:70

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.052244	ppm	0.000263	0.50	1840.860000	Y 377.433
Al (167.019 nm)	42.931600 o	ppm	0.157575	0.37	22750.300000	Y_R 377.433
Al H (396.152 nm)	49.006199	ppm	0.244523	0.50	124041.920203	Y_R 377.433
As (188.980 nm)	0.311834	ppm	0.001578	0.51	370.619000	Y 242.219
B (249.678 nm)	0.142315	ppm	0.000356	0.25	3317.890000	Y 242.219
Ba (493.408 nm)	1.151810 o	ppm	0.005875	0.51	132633.000000	Y_R 488.368
Be (234.861 nm)	0.046406	ppm	0.000488	1.05	16496.700000	Y_R 488.368
Bi (223.061 nm)	-0.008370 u	ppm	0.001329	15.88	4.153330	Y 377.433
Ca (315.887 nm)	575.697526 o	ppm	3.008826	0.52	442861.740777	Y_R 377.433
Cd (214.439 nm)	0.048075	ppm	0.000224	0.47	2843.340000	Y 377.433
Co (228.615 nm)	0.069517	ppm	0.000366	0.53	1318.890000	Y 242.219
Cr (205.560 nm)	0.135296	ppm	0.000466	0.34	1945.570000	Y 377.433
Cu (324.754 nm)	0.135212	ppm	0.000022	0.02	6600.660000	Y 377.433
Fe (238.204 nm)	103.912009 o	ppm	0.225371	0.22	374995.237913	Y_R 377.433
Fe H (259.940 nm)	108.993000	ppm	0.385041	0.35	199153.000000	Y_R 377.433
K (766.491 nm)	30.137200	ppm	0.212185	0.70	33163.600000	Y_R2 488.368
Li (670.783 nm)	0.144149	ppm	0.000426	0.30	3298.310000	Y_R2 488.368
Mg (279.078 nm)	30.584300	ppm	0.020807	0.07	168096.000000	Y 377.433
Mn (257.610 nm)	0.814147	ppm	0.001001	0.12	183802.000000	Y 377.433
Mo (202.032 nm)	0.052664	ppm	0.000189	0.36	437.147000	Y 377.433
Na (589.592 nm)	21.312400 o	ppm	0.116985	0.55	137911.000000	Y_R2 488.368
Na H (589.593 nm)	21.350513	ppm	0.158089	0.74	82667.066875	Y_R 488.368
Ni (231.604 nm)	0.098265	ppm	0.000335	0.34	644.469000	Y 377.433
P (213.618 nm)	4.433860 o	ppm	0.002369	0.05	9149.600000	Y 242.219
Pb (220.353 nm)	6.696340 o	ppm	0.004575	0.07	18680.900000	Y 242.219
S (181.972 nm)	494.586758 bo	ppm	0.998185	0.20	240938.880030	Y 377.433
Sb (206.834 nm)	0.203456	ppm	0.000363	0.18	491.846000	Y 377.433
Se (196.026 nm)	0.224410	ppm	0.002077	0.93	207.022000	Y 242.219
Si (288.158 nm)	7.216640	ppm	0.025834	0.36	59952.800000	Y 377.433
Sn (189.925 nm)	0.112736	ppm	0.000154	0.14	222.968000	Y 377.433
Sr (421.552 nm)	0.603313	ppm	0.003453	0.57	124494.956561	Y_R 488.368
Th (288.505 nm)	0.229930	ppm	0.001860	0.81	676.713000	Y 377.433
Ti (336.122 nm)	4.353600 o	ppm	0.006522	0.15	609497.000000	Y 377.433
Tl (190.794 nm)	0.201112	ppm	0.001275	0.63	400.529000	Y 377.433
U (409.013 nm)	0.521998	ppm	0.002831	0.54	2123.460000	Y 377.433
V (292.401 nm)	0.377459	ppm	0.000669	0.18	13345.300000	Y 377.433
Zn (206.200 nm)	0.379676	ppm	0.000211	0.06	1897.260000	Y 377.433
Zr (343.823 nm)	0.157555	ppm	0.000645	0.41	20595.800000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.120119	21162.426393	0.004108	0.37
Y 377.433	1.131785	1148569.302029	0.002361	0.21
Y_R 377.433	1.259920	96814.600000	0.003108	0.25
Y_R 488.368	1.278700	56102.600000	0.003163	0.25
Y_R2 488.368	1.241464	107191.880729	0.013993	1.13

Sample Name: MB 280-434973/1-A

Date: 10/30/2018 12:29:58 AM Rack:Tube: 2:71

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001011	ppm	0.000107	10.60	-388.686000	Y 377.433
Al (167.019 nm)	0.006335	ppm	0.003848	60.73	4.356870	Y_R 377.433
Al H (396.152 nm)	-0.022907 u	ppm	0.003467	15.14	19.974790	Y_R 377.433
As (188.980 nm)	0.001628	ppm	0.000784	48.15	-0.618804	Y 242.219
B (249.678 nm)	-0.001012 u	ppm	0.000188	18.58	69.199100	Y 242.219
Ba (493.408 nm)	-0.001032 u	ppm	0.000225	21.80	455.237000	Y_R 488.368
Be (234.861 nm)	0.000113	ppm	0.000029	25.54	-27.020200	Y_R 488.368
Bi (223.061 nm)	0.001890	ppm	0.001812	95.87	11.968100	Y 377.433
Ca (315.887 nm)	0.054235	ppm	0.004424	8.16	-22.732471	Y_R 377.433
Cd (214.439 nm)	0.000039	ppm	0.000002	5.56	0.605347	Y 377.433
Co (228.615 nm)	0.000469	ppm	0.000210	44.82	-26.084300	Y 242.219
Cr (205.560 nm)	0.000074 u	ppm	0.000160	> 100.00	2.766670	Y 377.433
Cu (324.754 nm)	0.001744	ppm	0.000373	21.36	-219.447000	Y 377.433
Fe (238.204 nm)	0.010683	ppm	0.000793	7.43	55.168900	Y_R 377.433
Fe H (259.940 nm)	-0.066174 u	ppm	0.000239	0.36	31.622100	Y_R 377.433
K (766.491 nm)	0.189910	ppm	0.009531	5.02	-475.822000	Y_R2 488.368
Li (670.783 nm)	0.017016	ppm	0.000346	2.03	-832.145000	Y_R2 488.368
Mg (279.078 nm)	0.000643	ppm	0.000650	> 100.00	37.868900	Y 377.433
Mn (257.610 nm)	0.000123	ppm	0.000014	11.26	89.200000	Y 377.433
Mo (202.032 nm)	0.000153	ppm	0.000095	62.39	-1.132630	Y 377.433
Na (589.592 nm)	-0.031252 u	ppm	0.004762	15.24	419.293000	Y_R2 488.368
Na H (589.593 nm)	-0.558626 u	ppm	0.000217	0.04	1133.535740	Y_R 488.368
Ni (231.604 nm)	0.000070	ppm	0.000077	> 100.00	-1.878140	Y 377.433
P (213.618 nm)	-0.005485 u	ppm	0.001152	21.00	15.619000	Y 242.219
Pb (220.353 nm)	0.002177	ppm	0.001624	74.56	9.905860	Y 242.219
S (181.972 nm)	0.045019	ppm	0.002549	5.66	52.982970	Y 377.433
Sb (206.834 nm)	-0.000207 u	ppm	0.000028	13.57	-20.720300	Y 377.433
Se (196.026 nm)	-0.004010 u	ppm	0.003760	93.78	9.695730	Y 242.219
Si (288.158 nm)	-0.016197 u	ppm	0.000658	4.06	885.348000	Y 377.433
Sn (189.925 nm)	-0.001023 u	ppm	0.000889	86.89	5.943960	Y 377.433
Sr (421.552 nm)	-0.000082 u	ppm	0.000041	49.54	128.756272	Y_R 488.368
Th (288.505 nm)	0.004605	ppm	0.000797	17.31	88.894000	Y 377.433
Ti (336.122 nm)	0.001154	ppm	0.000036	3.09	-125.247000	Y 377.433
Tl (190.794 nm)	0.002683	ppm	0.000965	35.98	-1.449930	Y 377.433
U (409.013 nm)	0.004096	ppm	0.002344	57.22	-155.951000	Y 377.433
V (292.401 nm)	-0.000192 u	ppm	0.000137	71.60	17.331700	Y 377.433
Zn (206.200 nm)	0.001402	ppm	0.000790	56.37	5.664800	Y 377.433
Zr (343.823 nm)	-0.000277 u	ppm	0.000046	16.44	-22.231500	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.181997	22331.483420	0.000687	0.06
Y 377.433	1.179041	1196525.960442	0.000283	0.02
Y_R 377.433	1.272170	97755.900000	0.001878	0.15
Y_R 488.368	1.289190	56563.000000	0.013603	1.06
Y_R2 488.368	1.265812	109294.140027	0.007698	0.61

Sample Name: LCS 280-434973/2-A

Date: 10/30/2018 12:33:20 AM Rack:Tube: 2:72

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.055175	ppm	0.000053	0.10	1985.930000	Y 377.433
Al (167.019 nm)	2.116260	ppm	0.001377	0.07	1119.720000	Y_R 377.433
Al H (396.152 nm)	2.038415	ppm	0.001141	0.06	5333.791648	Y_R 377.433
As (188.980 nm)	1.041700	ppm	0.003453	0.33	1247.120000	Y 242.219
B (249.678 nm)	1.060570	ppm	0.000275	0.03	25268.600000	Y 242.219
Ba (493.408 nm)	2.068040 o	ppm	0.008447	0.41	237278.000000	Y_R 488.368
Be (234.861 nm)	0.048004	ppm	0.000134	0.28	13698.100000	Y_R 488.368
Bi (223.061 nm)	2.087240	ppm	0.000523	0.03	5068.740000	Y 377.433
Ca (315.887 nm)	53.906734 o	ppm	0.180307	0.33	41409.986641	Y_R 377.433
Cd (214.439 nm)	0.101214	ppm	0.000187	0.18	5780.930000	Y 377.433
Co (228.615 nm)	0.506678	ppm	0.001070	0.21	8771.460000	Y 242.219
Cr (205.560 nm)	0.212070	ppm	0.000765	0.36	3091.200000	Y 377.433
Cu (324.754 nm)	0.266764	ppm	0.000096	0.04	13934.000000	Y 377.433
Fe (238.204 nm)	1.057585	ppm	0.004670	0.44	3833.038864	Y_R 377.433
Fe H (259.940 nm)	1.019010 u	ppm	0.005817	0.57	2012.970000	Y_R 377.433
K (766.491 nm)	50.295900	ppm	0.020915	0.04	55807.600000	Y_R2 488.368
Li (670.783 nm)	0.982598	ppm	0.001688	0.17	30539.100000	Y_R2 488.368
Mg (279.078 nm)	50.216100 o	ppm	0.016841	0.03	276221.000000	Y 377.433
Mn (257.610 nm)	0.517857	ppm	0.000467	0.09	116934.000000	Y 377.433
Mo (202.032 nm)	1.068780	ppm	0.000674	0.06	8918.030000	Y 377.433
Na (589.592 nm)	48.632200 o	ppm	0.155109	0.32	312808.000000	Y_R2 488.368
Na H (589.593 nm)	50.368698	ppm	0.197788	0.39	190077.980551	Y_R 488.368
Ni (231.604 nm)	0.516072	ppm	0.001962	0.38	3373.610000	Y 377.433
P (213.618 nm)	10.664800 o	ppm	0.007478	0.07	21969.700000	Y 242.219
Pb (220.353 nm)	0.513272	ppm	0.000056	0.01	1436.570000	Y 242.219
S (181.972 nm)	2.108862	ppm	0.019519	0.93	1059.460651	Y 377.433
Sb (206.834 nm)	0.536206	ppm	0.000071	0.01	1392.240000	Y 377.433
Se (196.026 nm)	2.145440	ppm	0.002154	0.10	2029.930000	Y 242.219
Si (288.158 nm)	7.312860	ppm	0.050256	0.69	60738.600000	Y 377.433
Sn (189.925 nm)	2.129150	ppm	0.006535	0.31	4069.790000	Y 377.433
Sr (421.552 nm)	1.019807	ppm	0.004213	0.41	210338.663869	Y_R 488.368
Th (288.505 nm)	1.059540	ppm	0.000194	0.02	2756.210000	Y 377.433
Ti (336.122 nm)	1.053620	ppm	0.000371	0.04	147026.000000	Y 377.433
Tl (190.794 nm)	2.088130	ppm	0.002356	0.11	4444.800000	Y 377.433
U (409.013 nm)	2.204670	ppm	0.002222	0.10	9573.710000	Y 377.433
V (292.401 nm)	0.527765	ppm	0.000549	0.10	18475.700000	Y 377.433
Zn (206.200 nm)	0.503088	ppm	0.000730	0.15	2514.380000	Y 377.433
Zr (343.823 nm)	0.524364	ppm	0.000820	0.16	67497.300000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.138679	21513.077752	0.002280	0.20
Y 377.433	1.139224	1156117.849335	0.002724	0.24
Y_R 377.433	1.251680	96181.600000	0.001306	0.10
Y_R 488.368	1.269790	55711.900000	0.001548	0.12
Y_R2 488.368	1.231698	106348.647575	0.004852	0.39

Sample Name: LCSD 280-434973/3-A

Date: 10/30/2018 12:36:44 AM Rack:Tube: 2:73

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.054877	ppm	0.000126	0.23	1973.350000	Y 377.433
Al (167.019 nm)	2.109720	ppm	0.001747	0.08	1116.270000	Y_R 377.433
Al H (396.152 nm)	2.023576	ppm	0.011362	0.56	5296.264427	Y_R 377.433
As (188.980 nm)	1.039230	ppm	0.004417	0.43	1244.160000	Y 242.219
B (249.678 nm)	1.060650	ppm	0.000534	0.05	25270.500000	Y 242.219
Ba (493.408 nm)	2.059680 o	ppm	0.006485	0.31	236321.000000	Y_R 488.368
Be (234.861 nm)	0.047395	ppm	0.000090	0.19	13523.600000	Y_R 488.368
Bi (223.061 nm)	2.084130	ppm	0.002186	0.10	5061.210000	Y 377.433
Ca (315.887 nm)	53.718629 o	ppm	0.071367	0.13	41265.263038	Y_R 377.433
Cd (214.439 nm)	0.101051	ppm	0.000079	0.08	5771.640000	Y 377.433
Co (228.615 nm)	0.504434	ppm	0.001965	0.39	8732.680000	Y 242.219
Cr (205.560 nm)	0.210760	ppm	0.000632	0.30	3072.100000	Y 377.433
Cu (324.754 nm)	0.265872	ppm	0.000071	0.03	13887.300000	Y 377.433
Fe (238.204 nm)	1.066651	ppm	0.001120	0.10	3865.754784	Y_R 377.433
Fe H (259.940 nm)	1.026340 u	ppm	0.003508	0.34	2026.350000	Y_R 377.433
K (766.491 nm)	49.969500	ppm	0.024065	0.05	55441.000000	Y_R2 488.368
Li (670.783 nm)	0.980073	ppm	0.000578	0.06	30457.000000	Y_R2 488.368
Mg (279.078 nm)	50.114600 o	ppm	0.048476	0.10	275663.000000	Y 377.433
Mn (257.610 nm)	0.516713	ppm	0.000366	0.07	116675.000000	Y 377.433
Mo (202.032 nm)	1.068840	ppm	0.003493	0.33	8918.580000	Y 377.433
Na (589.592 nm)	48.655500 o	ppm	0.172143	0.35	312939.000000	Y_R2 488.368
Na H (589.593 nm)	50.175120	ppm	0.202727	0.40	189359.371394	Y_R 488.368
Ni (231.604 nm)	0.515264	ppm	0.000414	0.08	3368.320000	Y 377.433
P (213.618 nm)	10.644100 o	ppm	0.007437	0.07	21927.200000	Y 242.219
Pb (220.353 nm)	0.512706	ppm	0.000887	0.17	1434.970000	Y 242.219
S (181.972 nm)	2.097927	ppm	0.016330	0.78	1054.132721	Y 377.433
Sb (206.834 nm)	0.534879	ppm	0.000141	0.03	1388.710000	Y 377.433
Se (196.026 nm)	2.127650	ppm	0.006612	0.31	2013.210000	Y 242.219
Si (288.158 nm)	7.414470	ppm	0.000563	0.01	61568.400000	Y 377.433
Sn (189.925 nm)	2.124050	ppm	0.000816	0.04	4060.060000	Y 377.433
Sr (421.552 nm)	1.016969	ppm	0.002788	0.27	209753.864290	Y_R 488.368
Th (288.505 nm)	1.058380	ppm	0.002626	0.25	2753.100000	Y 377.433
Ti (336.122 nm)	1.054710	ppm	0.000605	0.06	147177.000000	Y 377.433
Tl (190.794 nm)	2.083270	ppm	0.005300	0.25	4434.430000	Y 377.433
U (409.013 nm)	2.194780	ppm	0.008941	0.41	9529.750000	Y 377.433
V (292.401 nm)	0.526177	ppm	0.000260	0.05	18420.900000	Y 377.433
Zn (206.200 nm)	0.501803	ppm	0.001433	0.29	2507.960000	Y 377.433
Zr (343.823 nm)	0.524846	ppm	0.000365	0.07	67559.500000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.147362	21677.125476	0.000750	0.07
Y 377.433	1.147397	1164412.121651	0.000865	0.08
Y_R 377.433	1.272760	97801.200000	0.001344	0.11
Y_R 488.368	1.292300	56699.300000	0.001889	0.15
Y_R2 488.368	1.267181	109412.375292	0.000885	0.07

Sample Name: 280-115950-C-1-B

Date: 10/30/2018 12:40:07 AM Rack:Tube: 2:74

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001316	ppm	0.000043	3.30	-375.161000	Y 377.433
Al (167.019 nm)	0.043780	ppm	0.004042	9.23	24.846700	Y_R 377.433
Al H (396.152 nm)	0.031630 u	ppm	0.000836	2.64	184.782104	Y_R 377.433
As (188.980 nm)	0.007777	ppm	0.001520	19.55	6.748360	Y 242.219
B (249.678 nm)	0.013861	ppm	0.000048	0.34	420.380000	Y 242.219
Ba (493.408 nm)	0.054542	ppm	0.000159	0.29	6830.980000	Y_R 488.368
Be (234.861 nm)	0.000076	ppm	0.000000	0.23	-4.328280	Y_R 488.368
Bi (223.061 nm)	-0.000098 u	ppm	0.000727	> 100.00	7.323670	Y 377.433
Ca (315.887 nm)	62.083771 o	ppm	0.228425	0.37	47701.122354	Y_R 377.433
Cd (214.439 nm)	0.000039 u	ppm	0.000131	> 100.00	1.651750	Y 377.433
Co (228.615 nm)	0.000312	ppm	0.000042	13.59	-28.793100	Y 242.219
Cr (205.560 nm)	0.000039 u	ppm	0.000078	> 100.00	1.952570	Y 377.433
Cu (324.754 nm)	0.002133	ppm	0.000021	0.99	-232.378000	Y 377.433
Fe (238.204 nm)	1.081648	ppm	0.006181	0.57	3919.872446	Y_R 377.433
Fe H (259.940 nm)	1.045120 u	ppm	0.000908	0.09	2060.650000	Y_R 377.433
K (766.491 nm)	1.021640	ppm	0.002819	0.28	458.452000	Y_R2 488.368
Li (670.783 nm)	0.021266	ppm	0.000091	0.43	-694.093000	Y_R2 488.368
Mg (279.078 nm)	9.495510	ppm	0.000794	0.01	52268.500000	Y 377.433
Mn (257.610 nm)	0.186729	ppm	0.000055	0.03	42203.300000	Y 377.433
Mo (202.032 nm)	0.001413	ppm	0.000130	9.19	9.385020	Y 377.433
Na (589.592 nm)	4.955170	ppm	0.015021	0.30	32125.400000	Y_R2 488.368
Na H (589.593 nm)	4.654170 u	ppm	0.008304	0.18	20326.373175	Y_R 488.368
Ni (231.604 nm)	-0.000601 u	ppm	0.000044	7.26	-6.222420	Y 377.433
P (213.618 nm)	0.000503	ppm	0.000118	23.41	27.939400	Y 242.219
Pb (220.353 nm)	0.000302 u	ppm	0.001399	> 100.00	4.735830	Y 242.219
S (181.972 nm)	16.277208 o	ppm	0.033732	0.21	7959.879713	Y 377.433
Sb (206.834 nm)	0.000037 u	ppm	0.000591	> 100.00	-20.324600	Y 377.433
Se (196.026 nm)	-0.002860 u	ppm	0.000221	7.74	10.717200	Y 242.219
Si (288.158 nm)	4.842160	ppm	0.018037	0.37	40561.500000	Y 377.433
Sn (189.925 nm)	-0.000400 u	ppm	0.000689	> 100.00	7.132850	Y 377.433
Sr (421.552 nm)	0.093429	ppm	0.000252	0.27	19402.410623	Y_R 488.368
Th (288.505 nm)	0.003236	ppm	0.001436	44.37	89.065100	Y 377.433
Ti (336.122 nm)	0.001415	ppm	0.000014	0.96	101.466000	Y 377.433
Tl (190.794 nm)	0.002581	ppm	0.000311	12.04	-1.699670	Y 377.433
U (409.013 nm)	0.003908	ppm	0.002723	69.68	-167.355000	Y 377.433
V (292.401 nm)	-0.000130 u	ppm	0.000144	> 100.00	20.206700	Y 377.433
Zn (206.200 nm)	0.002222	ppm	0.000250	11.25	9.767680	Y 377.433
Zr (343.823 nm)	-0.000136 u	ppm	0.000028	20.76	-0.926229	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.168877	22083.600400	0.002749	0.24
Y 377.433	1.172085	1189466.370782	0.003943	0.34
Y_R 377.433	1.278060	98208.600000	0.003922	0.31
Y_R 488.368	1.291280	56654.900000	0.005190	0.40
Y_R2 488.368	1.274516	110045.656974	0.001119	0.09

Sample Name: 280-115950-G-2-D

Date: 10/30/2018 12:43:30 AM Rack:Tube: 2:75

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001561	ppm	0.000182	11.67	-364.536000	Y 377.433
Al (167.019 nm)	0.039096	ppm	0.003647	9.33	22.739000	Y_R 377.433
Al H (396.152 nm)	0.023466 u	ppm	0.001332	5.68	175.799763	Y_R 377.433
As (188.980 nm)	0.037415	ppm	0.001369	3.66	42.299300	Y 242.219
B (249.678 nm)	0.126368	ppm	0.000009	0.01	3088.150000	Y 242.219
Ba (493.408 nm)	0.036817	ppm	0.000716	1.95	4808.590000	Y_R 488.368
Be (234.861 nm)	0.000075	ppm	0.000000	0.53	12.538600	Y_R 488.368
Bi (223.061 nm)	0.000458	ppm	0.000383	83.73	8.762620	Y 377.433
Ca (315.887 nm)	88.009382 o	ppm	0.160497	0.18	67647.588696	Y_R 377.433
Cd (214.439 nm)	0.000024	ppm	0.000025	> 100.00	1.297030	Y 377.433
Co (228.615 nm)	0.000175 u	ppm	0.000271	> 100.00	-31.173400	Y 242.219
Cr (205.560 nm)	0.000193	ppm	0.000197	> 100.00	4.038610	Y 377.433
Cu (324.754 nm)	0.002102	ppm	0.000241	11.48	-248.379000	Y 377.433
Fe (238.204 nm)	1.637330	ppm	0.001948	0.12	5925.116705	Y_R 377.433
Fe H (259.940 nm)	1.631640 u	ppm	0.004408	0.27	3131.520000	Y_R 377.433
K (766.491 nm)	2.538290	ppm	0.023365	0.92	2162.090000	Y_R2 488.368
Li (670.783 nm)	0.049476	ppm	0.001871	3.78	222.446000	Y_R2 488.368
Mg (279.078 nm)	35.206700	ppm	0.016109	0.05	193708.000000	Y 377.433
Mn (257.610 nm)	0.048041	ppm	0.000035	0.07	10903.500000	Y 377.433
Mo (202.032 nm)	0.004836	ppm	0.000063	1.30	37.952900	Y 377.433
Na (589.592 nm)	25.230900 o	ppm	0.005642	0.02	160572.000000	Y_R2 488.368
Na H (589.593 nm)	25.322670	ppm	0.383088	1.51	96199.078702	Y_R 488.368
Ni (231.604 nm)	-0.000800 u	ppm	0.000566	70.74	-7.501230	Y 377.433
P (213.618 nm)	0.005883	ppm	0.000245	4.16	39.008000	Y 242.219
Pb (220.353 nm)	-0.000046 u	ppm	0.000441	> 100.00	3.811010	Y 242.219
S (181.972 nm)	39.701391 o	ppm	0.005289	0.01	19369.129979	Y 377.433
Sb (206.834 nm)	0.000420	ppm	0.000245	58.49	-19.470500	Y 377.433
Se (196.026 nm)	-0.003214 u	ppm	0.002135	66.42	10.171200	Y 242.219
Si (288.158 nm)	6.257750	ppm	0.048060	0.77	52121.900000	Y 377.433
Sn (189.925 nm)	0.000059 u	ppm	0.000747	> 100.00	8.007750	Y 377.433
Sr (421.552 nm)	0.567493	ppm	0.008814	1.55	117112.026500	Y_R 488.368
Th (288.505 nm)	0.004094	ppm	0.000217	5.29	88.541700	Y 377.433
Ti (336.122 nm)	0.001271	ppm	0.000031	2.42	161.164000	Y 377.433
Tl (190.794 nm)	0.002553	ppm	0.000344	13.46	-1.780860	Y 377.433
U (409.013 nm)	0.002617	ppm	0.003121	> 100.00	-177.393000	Y 377.433
V (292.401 nm)	-0.000202 u	ppm	0.000108	53.52	17.569200	Y 377.433
Zn (206.200 nm)	0.001694	ppm	0.000566	33.42	7.128650	Y 377.433
Zr (343.823 nm)	-0.000216 u	ppm	0.000017	7.67	-9.587420	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.154004	21802.616833	0.001489	0.13
Y 377.433	1.160076	1177279.548139	0.001149	0.10
Y_R 377.433	1.268340	97461.400000	0.006020	0.47
Y_R 488.368	1.286870	56461.000000	0.009059	0.70
Y_R2 488.368	1.260497	108835.223350	0.005360	0.43

Sample Name: 280-115950-G-2-Dsd@5

Date: 10/30/2018 12:46:53 AM Rack:Tube: 2:76

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001162	ppm	0.000129	11.11	-382.043000	Y 377.433
Al (167.019 nm)	0.006819	ppm	0.002656	38.96	4.825300	Y_R 377.433
Al H (396.152 nm)	-0.015340 u	ppm	0.000443	2.89	47.016920	Y_R 377.433
As (188.980 nm)	0.008449	ppm	0.000593	7.01	7.560720	Y 242.219
B (249.678 nm)	0.024734	ppm	0.000116	0.47	679.392000	Y 242.219
Ba (493.408 nm)	0.006432	ppm	0.000201	3.13	1313.890000	Y_R 488.368
Be (234.861 nm)	0.000042	ppm	0.000005	10.89	-37.345100	Y_R 488.368
Bi (223.061 nm)	0.004618	ppm	0.000434	9.40	18.636800	Y 377.433
Ca (315.887 nm)	18.078441 o	ppm	0.064179	0.36	13844.605970	Y_R 377.433
Cd (214.439 nm)	0.000026 u	ppm	0.000046	> 100.00	0.187204	Y 377.433
Co (228.615 nm)	0.000176	ppm	0.000144	81.95	-31.169400	Y 242.219
Cr (205.560 nm)	-0.000025 u	ppm	0.000032	> 100.00	1.223420	Y 377.433
Cu (324.754 nm)	0.002320	ppm	0.000354	15.25	-197.929000	Y 377.433
Fe (238.204 nm)	0.333026	ppm	0.002465	0.74	1218.381770	Y_R 377.433
Fe H (259.940 nm)	0.262590 u	ppm	0.000990	0.38	631.886000	Y_R 377.433
K (766.491 nm)	0.654985	ppm	0.039717	6.06	46.591000	Y_R2 488.368
Li (670.783 nm)	0.024501	ppm	0.001442	5.89	-588.985000	Y_R2 488.368
Mg (279.078 nm)	7.079460	ppm	0.009353	0.13	38978.700000	Y 377.433
Mn (257.610 nm)	0.009825	ppm	0.000001	0.01	2278.730000	Y 377.433
Mo (202.032 nm)	0.000892	ppm	0.000436	48.92	5.039330	Y 377.433
Na (589.592 nm)	5.082130	ppm	0.006624	0.13	32835.800000	Y_R2 488.368
Na H (589.593 nm)	4.751569 u	ppm	0.014897	0.31	20638.337159	Y_R 488.368
Ni (231.604 nm)	-0.000670 u	ppm	0.000646	96.42	-6.707980	Y 377.433
P (213.618 nm)	-0.003677 u	ppm	0.001610	43.77	19.338100	Y 242.219
Pb (220.353 nm)	-0.000314 u	ppm	0.000355	> 100.00	2.973110	Y 242.219
S (181.972 nm)	7.659505	ppm	0.002305	0.03	3761.909381	Y 377.433
Sb (206.834 nm)	-0.000279 u	ppm	0.000300	> 100.00	-20.986400	Y 377.433
Se (196.026 nm)	-0.003410 u	ppm	0.000238	6.98	10.205600	Y 242.219
Si (288.158 nm)	1.320340	ppm	0.022003	1.67	11800.200000	Y 377.433
Sn (189.925 nm)	-0.000999 u	ppm	0.000710	71.10	5.990650	Y 377.433
Sr (421.552 nm)	0.114660	ppm	0.000347	0.30	23778.233239	Y_R 488.368
Th (288.505 nm)	0.003372	ppm	0.003787	> 100.00	86.028100	Y 377.433
Ti (336.122 nm)	0.000562	ppm	0.000108	19.29	-152.579000	Y 377.433
Tl (190.794 nm)	0.000501	ppm	0.000564	> 100.00	-6.114940	Y 377.433
U (409.013 nm)	0.006432	ppm	0.001476	22.95	-148.637000	Y 377.433
V (292.401 nm)	-0.000229 u	ppm	0.000064	27.83	16.421700	Y 377.433
Zn (206.200 nm)	0.000859	ppm	0.000042	4.93	2.952370	Y 377.433
Zr (343.823 nm)	-0.000211 u	ppm	0.000089	42.04	-12.791900	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.165091	22012.076679	0.001297	0.11
Y 377.433	1.161626	1178852.620214	0.000265	0.02
Y_R 377.433	1.248500	95937.300000	0.002198	0.18
Y_R 488.368	1.271050	55767.300000	0.005444	0.43
Y_R2 488.368	1.243244	107345.597339	0.002842	0.23

Sample Name: 280-115950-G-2-E MS

Date: 10/30/2018 12:50:15 AM Rack:Tube: 2:77

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.056620	ppm	0.000114	0.20	2049.860000	Y 377.433
Al (167.019 nm)	2.147440	ppm	0.017017	0.79	1137.230000	Y_R 377.433
Al H (396.152 nm)	2.128986	ppm	0.019025	0.89	5601.030747	Y_R 377.433
As (188.980 nm)	1.106420	ppm	0.001384	0.13	1324.750000	Y 242.219
B (249.678 nm)	1.192630 o	ppm	0.001294	0.11	28398.900000	Y 242.219
Ba (493.408 nm)	2.119780 o	ppm	0.010119	0.48	243221.000000	Y_R 488.368
Be (234.861 nm)	0.048849	ppm	0.000188	0.39	13989.200000	Y_R 488.368
Bi (223.061 nm)	2.128180	ppm	0.002339	0.11	5168.290000	Y 377.433
Ca (315.887 nm)	139.313630 o	ppm	0.775177	0.56	107119.751570	Y_R 377.433
Cd (214.439 nm)	0.100796	ppm	0.000019	0.02	5758.570000	Y 377.433
Co (228.615 nm)	0.510690	ppm	0.001450	0.28	8841.290000	Y 242.219
Cr (205.560 nm)	0.212951	ppm	0.000583	0.27	3103.580000	Y 377.433
Cu (324.754 nm)	0.271229	ppm	0.000667	0.25	14123.300000	Y 377.433
Fe (238.204 nm)	2.641317	ppm	0.016517	0.63	9548.120975	Y_R 377.433
Fe H (259.940 nm)	2.681240 u	ppm	0.025303	0.94	5047.900000	Y_R 377.433
K (766.491 nm)	53.766600	ppm	0.221978	0.41	59706.200000	Y_R2 488.368
Li (670.783 nm)	1.037870	ppm	0.005031	0.48	32334.900000	Y_R2 488.368
Mg (279.078 nm)	85.263900 o	ppm	0.050872	0.06	469019.000000	Y 377.433
Mn (257.610 nm)	0.568584	ppm	0.000192	0.03	128382.000000	Y 377.433
Mo (202.032 nm)	1.084820	ppm	0.001440	0.13	9051.970000	Y 377.433
Na (589.592 nm)	74.071100 o	ppm	0.636214	0.86	474106.000000	Y_R2 488.368
Na H (589.593 nm)	76.917365	ppm	0.356923	0.46	287606.833815	Y_R 488.368
Ni (231.604 nm)	0.519130	ppm	0.000657	0.13	3393.650000	Y 377.433
P (213.618 nm)	11.044800 o	ppm	0.018812	0.17	22751.600000	Y 242.219
Pb (220.353 nm)	0.515219	ppm	0.000474	0.09	1442.100000	Y 242.219
S (181.972 nm)	41.976558 o	ppm	0.013068	0.03	20478.547551	Y 377.433
Sb (206.834 nm)	0.554873	ppm	0.000377	0.07	1441.110000	Y 377.433
Se (196.026 nm)	2.200010 o	ppm	0.000103	0.00	2080.950000	Y 242.219
Si (288.158 nm)	6.925450	ppm	0.022508	0.33	57574.800000	Y 377.433
Sn (189.925 nm)	2.159380	ppm	0.002293	0.11	4127.460000	Y 377.433
Sr (421.552 nm)	1.590542 o	ppm	0.004798	0.30	327973.245040	Y_R 488.368
Th (288.505 nm)	1.068560	ppm	0.003612	0.34	2780.050000	Y 377.433
Ti (336.122 nm)	1.065400	ppm	0.000132	0.01	148933.000000	Y 377.433
Tl (190.794 nm)	2.081720	ppm	0.001583	0.08	4431.000000	Y 377.433
U (409.013 nm)	2.237740	ppm	0.005834	0.26	9705.690000	Y 377.433
V (292.401 nm)	0.532913	ppm	0.000021	0.00	18655.400000	Y 377.433
Zn (206.200 nm)	0.495338	ppm	0.000943	0.19	2475.630000	Y 377.433
Zr (343.823 nm)	0.530241	ppm	0.000060	0.01	68258.400000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.126175	21276.830341	0.000402	0.04
Y 377.433	1.132240	1149031.024933	0.002036	0.18
Y_R 377.433	1.254000	96359.700000	0.007538	0.60
Y_R 488.368	1.272060	55811.300000	0.006267	0.49
Y_R2 488.368	1.249686	107901.781140	0.012640	1.01

Sample Name: 280-115950-G-2-F MSD

Date: 10/30/2018 12:53:37 AM Rack:Tube: 2:78

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.056214	ppm	0.000172	0.31	2032.770000	Y 377.433
Al (167.019 nm)	2.130170	ppm	0.008017	0.38	1128.130000	Y_R 377.433
Al H (396.152 nm)	2.110015	ppm	0.007922	0.38	5552.568343	Y_R 377.433
As (188.980 nm)	1.099060	ppm	0.003430	0.31	1315.920000	Y 242.219
B (249.678 nm)	1.185730 o	ppm	0.001069	0.09	28234.900000	Y 242.219
Ba (493.408 nm)	2.093420 o	ppm	0.006478	0.31	240204.000000	Y_R 488.368
Be (234.861 nm)	0.047959	ppm	0.000018	0.04	13735.400000	Y_R 488.368
Bi (223.061 nm)	2.098140	ppm	0.000660	0.03	5095.440000	Y 377.433
Ca (315.887 nm)	140.078499 o	ppm	0.446696	0.32	107708.220560	Y_R 377.433
Cd (214.439 nm)	0.099251	ppm	0.000043	0.04	5670.350000	Y 377.433
Co (228.615 nm)	0.501105	ppm	0.002142	0.43	8675.000000	Y 242.219
Cr (205.560 nm)	0.210220	ppm	0.000601	0.29	3063.780000	Y 377.433
Cu (324.754 nm)	0.267266	ppm	0.000287	0.11	13910.500000	Y 377.433
Fe (238.204 nm)	2.669705	ppm	0.001820	0.07	9650.561484	Y_R 377.433
Fe H (259.940 nm)	2.720790 u	ppm	0.011503	0.42	5120.110000	Y_R 377.433
K (766.491 nm)	53.191100	ppm	0.188244	0.35	59059.800000	Y_R2 488.368
Li (670.783 nm)	1.022340	ppm	0.002207	0.22	31830.400000	Y_R2 488.368
Mg (279.078 nm)	85.256400 o	ppm	0.118654	0.14	468979.000000	Y 377.433
Mn (257.610 nm)	0.562062	ppm	0.000033	0.01	126910.000000	Y 377.433
Mo (202.032 nm)	1.073480	ppm	0.001036	0.10	8957.290000	Y 377.433
Na (589.592 nm)	73.709800 o	ppm	0.135796	0.18	471766.000000	Y_R2 488.368
Na H (589.593 nm)	76.688624	ppm	0.340804	0.44	286742.243256	Y_R 488.368
Ni (231.604 nm)	0.509849	ppm	0.001029	0.20	3332.950000	Y 377.433
P (213.618 nm)	10.914200 o	ppm	0.000845	0.01	22482.900000	Y 242.219
Pb (220.353 nm)	0.510844	ppm	0.000187	0.04	1429.870000	Y 242.219
S (181.972 nm)	42.599630 o	ppm	0.093156	0.22	20782.021263	Y 377.433
Sb (206.834 nm)	0.546102	ppm	0.000844	0.15	1417.950000	Y 377.433
Se (196.026 nm)	2.171380	ppm	0.004797	0.22	2054.030000	Y 242.219
Si (288.158 nm)	7.491360	ppm	0.058552	0.78	62196.300000	Y 377.433
Sn (189.925 nm)	2.125500	ppm	0.004139	0.19	4062.820000	Y 377.433
Sr (421.552 nm)	1.588779 o	ppm	0.002392	0.15	327609.941309	Y_R 488.368
Th (288.505 nm)	1.056880	ppm	0.002657	0.25	2750.250000	Y 377.433
Ti (336.122 nm)	1.053820	ppm	0.000682	0.06	147318.000000	Y 377.433
Tl (190.794 nm)	2.054690	ppm	0.003710	0.18	4373.360000	Y 377.433
U (409.013 nm)	2.205900	ppm	0.005449	0.25	9564.560000	Y 377.433
V (292.401 nm)	0.524279	ppm	0.000271	0.05	18353.200000	Y 377.433
Zn (206.200 nm)	0.491967	ppm	0.003012	0.61	2458.770000	Y 377.433
Zr (343.823 nm)	0.524397	ppm	0.000310	0.06	67506.300000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.121818	21194.526363	0.000559	0.05
Y 377.433	1.129213	1145959.144254	0.000334	0.03
Y_R 377.433	1.255040	96439.700000	0.000883	0.07
Y_R 488.368	1.274100	55900.900000	0.000221	0.02
Y_R2 488.368	1.237643	106861.926157	0.006452	0.52

Sample Name: CCVH-5380945

Date: 10/30/2018 12:57:00 AM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000296 u	ppm	0.000162	54.53	-697.649000	Y 377.433
Al (167.019 nm)	46.421700 o	ppm	0.302446	0.65	24558.900000	Y_R 377.433
Al H (396.152 nm)	49.039997	ppm	0.304745	0.62	123871.615771	Y_R 377.433
As (188.980 nm)	-0.000636 u	ppm	0.000929	> 100.00	-3.778140	Y 242.219
B (249.678 nm)	-0.000013 u	ppm	0.000017	> 100.00	17.986300	Y 242.219
Ba (493.408 nm)	-0.000675 u	ppm	0.000001	0.18	544.313000	Y_R 488.368
Be (234.861 nm)	-0.000498 u	ppm	0.000070	14.12	1376.260000	Y_R 488.368
Bi (223.061 nm)	1.043440	ppm	0.000010	0.00	2545.860000	Y 377.433
Ca (315.887 nm)	0.016126	ppm	0.005539	34.35	-52.052180	Y_R 377.433
Cd (214.439 nm)	-0.000209 u	ppm	0.000026	12.30	34.620400	Y 377.433
Co (228.615 nm)	0.003280	ppm	0.000035	1.05	22.573500	Y 242.219
Cr (205.560 nm)	-0.000179 u	ppm	0.000096	53.72	-14.759100	Y 377.433
Cu (324.754 nm)	-0.002771 u	ppm	0.000291	10.50	-144.062000	Y 377.433
Fe (238.204 nm)	50.572053 o	ppm	0.105878	0.21	182511.777791	Y_R 377.433
Fe H (259.940 nm)	52.702100	ppm	0.138271	0.26	96377.100000	Y_R 377.433
K (766.491 nm)	0.255317	ppm	0.049670	19.45	-402.351000	Y_R2 488.368
Li (670.783 nm)	0.017130	ppm	0.001791	10.45	-828.438000	Y_R2 488.368
Mg (279.078 nm)	-0.013273 u	ppm	0.000363	2.74	-397.634000	Y 377.433
Mn (257.610 nm)	0.001525	ppm	0.000035	2.31	405.574000	Y 377.433
Mo (202.032 nm)	0.000541	ppm	0.000180	33.27	2.104810	Y 377.433
Na (589.592 nm)	232.839000 o	ppm	0.318932	0.14	1476040.000000	Y_R2 488.368
Na H (589.593 nm)	237.652250	ppm	0.571768	0.24	875782.057333	Y_R 488.368
Ni (231.604 nm)	0.004093	ppm	0.000250	6.11	26.481600	Y 377.433
P (213.618 nm)	-0.006596 u	ppm	0.000042	0.64	13.332800	Y 242.219
Pb (220.353 nm)	-0.004038 u	ppm	0.001268	31.41	11.071800	Y 242.219
S (181.972 nm)	5.211600	ppm	0.002567	0.05	2569.552485	Y 377.433
Sb (206.834 nm)	-0.001905 u	ppm	0.000712	37.38	-71.816000	Y 377.433
Se (196.026 nm)	-0.000255 u	ppm	0.002188	> 100.00	4.266330	Y 242.219
Si (288.158 nm)	0.017869	ppm	0.001066	5.97	1163.550000	Y 377.433
Sn (189.925 nm)	0.002500	ppm	0.001466	58.64	12.665300	Y 377.433
Sr (421.552 nm)	0.000309	ppm	0.000037	11.97	209.385132	Y_R 488.368
Th (288.505 nm)	5.123760	ppm	0.024660	0.48	12896.100000	Y 377.433
Ti (336.122 nm)	0.002173	ppm	0.000135	6.20	17.091300	Y 377.433
Tl (190.794 nm)	-0.000853 u	ppm	0.000732	85.75	-10.338700	Y 377.433
U (409.013 nm)	10.432700	ppm	0.008182	0.08	46235.800000	Y 377.433
V (292.401 nm)	0.003680	ppm	0.000133	3.62	-24.156200	Y 377.433
Zn (206.200 nm)	0.000946	ppm	0.000128	13.57	3.384090	Y 377.433
Zr (343.823 nm)	-0.004322 u	ppm	0.000072	1.67	-393.513000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.145700	21645.726699	0.014160	1.24
Y 377.433	1.131241	1148016.450088	0.017665	1.56
Y_R 377.433	1.227640	94334.100000	0.010796	0.88
Y_R 488.368	1.251240	54897.800000	0.007034	0.56
Y_R2 488.368	1.222354	105541.854949	0.011760	0.96

Sample Name: CCV-5391053

Date: 10/30/2018 1:00:24 AM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.503479	ppm	0.000675	0.13	21890.400000	Y 377.433
Al (167.019 nm)	0.524401	ppm	0.006822	1.30	279.730000	Y_R 377.433
Al H (396.152 nm)	0.486053 u	ppm	0.004221	0.87	1348.805787	Y_R 377.433
As (188.980 nm)	1.017450	ppm	0.001632	0.16	1218.020000	Y 242.219
B (249.678 nm)	0.503066	ppm	0.000012	0.00	12042.800000	Y 242.219
Ba (493.408 nm)	0.495604	ppm	0.001551	0.31	57308.800000	Y_R 488.368
Be (234.861 nm)	0.456293	ppm	0.002752	0.60	131020.000000	Y_R 488.368
Bi (223.061 nm)	0.000476	ppm	0.000661	> 100.00	8.956840	Y 377.433
Ca (315.887 nm)	5.276055	ppm	0.005918	0.11	3995.072427	Y_R 377.433
Cd (214.439 nm)	0.498724	ppm	0.000721	0.14	28487.000000	Y 377.433
Co (228.615 nm)	0.502698	ppm	0.002278	0.45	8683.760000	Y 242.219
Cr (205.560 nm)	0.510417	ppm	0.000818	0.16	7438.540000	Y 377.433
Cu (324.754 nm)	0.519989	ppm	0.000056	0.01	27415.100000	Y 377.433
Fe (238.204 nm)	2.552330	ppm	0.000366	0.01	9226.999250	Y_R 377.433
Fe H (259.940 nm)	2.591170 u	ppm	0.010815	0.42	4883.460000	Y_R 377.433
K (766.491 nm)	48.253900	ppm	0.068087	0.14	53513.800000	Y_R2 488.368
Li (670.783 nm)	0.958649	ppm	0.000839	0.09	29761.000000	Y_R2 488.368
Mg (279.078 nm)	19.512900	ppm	0.023774	0.12	107373.000000	Y 377.433
Mn (257.610 nm)	0.505480	ppm	0.000544	0.11	114140.000000	Y 377.433
Mo (202.032 nm)	0.513788	ppm	0.001986	0.39	4285.870000	Y 377.433
Na (589.592 nm)	4.790260	ppm	0.004999	0.10	31938.300000	Y_R2 488.368
Na H (589.593 nm)	4.669843 u	ppm	0.049256	1.05	20800.176191	Y_R 488.368
Ni (231.604 nm)	0.522898	ppm	0.001356	0.26	3417.050000	Y 377.433
P (213.618 nm)	1.007010	ppm	0.003104	0.31	2098.840000	Y 242.219
Pb (220.353 nm)	0.995745	ppm	0.003186	0.32	2779.690000	Y 242.219
S (181.972 nm)	0.024310	ppm	0.003180	13.08	44.078581	Y 377.433
Sb (206.834 nm)	1.020280	ppm	0.001729	0.17	2690.450000	Y 377.433
Se (196.026 nm)	1.019420	ppm	0.002506	0.25	971.401000	Y 242.219
Si (288.158 nm)	4.980690	ppm	0.018993	0.38	41692.800000	Y 377.433
Sn (189.925 nm)	1.032520	ppm	0.001346	0.13	1977.700000	Y 377.433
Sr (421.552 nm)	0.494498	ppm	0.002371	0.48	102066.930149	Y_R 488.368
Th (288.505 nm)	0.009152	ppm	0.000120	1.31	116.680000	Y 377.433
Ti (336.122 nm)	0.506650	ppm	0.000558	0.11	70487.300000	Y 377.433
Tl (190.794 nm)	1.020870	ppm	0.000257	0.03	2170.350000	Y 377.433
U (409.013 nm)	0.003218	ppm	0.000374	11.62	-197.818000	Y 377.433
V (292.401 nm)	0.499854	ppm	0.001143	0.23	17461.800000	Y 377.433
Zn (206.200 nm)	0.494618	ppm	0.001332	0.27	2472.030000	Y 377.433
Zr (343.823 nm)	0.510185	ppm	0.000806	0.16	65677.100000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.157199	21862.963277	0.001798	0.16
Y 377.433	1.149144	1166185.071587	0.001981	0.17
Y_R 377.433	1.257890	96658.400000	0.003754	0.30
Y_R 488.368	1.273230	55862.800000	0.007976	0.63
Y_R2 488.368	1.242923	107317.829628	0.010420	0.84

Sample Name: CCB

Date: 10/30/2018 1:03:47 AM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000828	ppm	0.000051	6.15	-396.768000	Y 377.433
Al (167.019 nm)	0.001117	ppm	0.000944	84.51	1.593390	Y_R 377.433
Al H (396.152 nm)	-0.027898 u	ppm	0.005812	20.83	7.369245	Y_R 377.433
As (188.980 nm)	0.000335 u	ppm	0.001792	> 100.00	-2.170880	Y 242.219
B (249.678 nm)	0.000405	ppm	0.000082	20.15	102.818000	Y 242.219
Ba (493.408 nm)	-0.001072 u	ppm	0.000366	34.11	450.607000	Y_R 488.368
Be (234.861 nm)	0.000085	ppm	0.000007	8.64	-35.289800	Y_R 488.368
Bi (223.061 nm)	0.003463	ppm	0.001164	33.61	15.781200	Y 377.433
Ca (315.887 nm)	0.019458	ppm	0.002223	11.42	-49.488640	Y_R 377.433
Cd (214.439 nm)	0.000076	ppm	0.000064	83.67	2.724580	Y 377.433
Co (228.615 nm)	0.000169 u	ppm	0.000407	> 100.00	-31.295000	Y 242.219
Cr (205.560 nm)	-0.000134 u	ppm	0.000122	90.96	-0.265387	Y 377.433
Cu (324.754 nm)	0.002311	ppm	0.000049	2.13	-188.542000	Y 377.433
Fe (238.204 nm)	0.000652	ppm	0.000069	10.55	18.972166	Y_R 377.433
Fe H (259.940 nm)	-0.078194 u	ppm	0.001457	1.86	9.675700	Y_R 377.433
K (766.491 nm)	0.182034	ppm	0.011271	6.19	-484.669000	Y_R2 488.368
Li (670.783 nm)	0.015691 Z	ppm	0.000385	2.45	-875.206000 Z	Y_R2 488.368
Mg (279.078 nm)	0.000558	ppm	0.000709	> 100.00	37.500200	Y 377.433
Mn (257.610 nm)	0.000033	ppm	0.000024	72.29	68.814600	Y 377.433
Mo (202.032 nm)	0.000264	ppm	0.000016	6.09	-0.199167	Y 377.433
Na (589.592 nm)	-0.026721 u	ppm	0.004134	15.47	448.054000	Y_R2 488.368
Na H (589.593 nm)	-0.405926 u	ppm	0.003822	0.94	1694.232920	Y_R 488.368
Ni (231.604 nm)	-0.000841 u	ppm	0.000361	42.95	-7.834250	Y 377.433
P (213.618 nm)	-0.003471 u	ppm	0.000123	3.54	19.763300	Y 242.219
Pb (220.353 nm)	-0.000037 u	ppm	0.000040	> 100.00	3.721650	Y 242.219
S (181.972 nm)	0.015131	ppm	0.003468	22.92	38.425013	Y 377.433
Sb (206.834 nm)	-0.000290 u	ppm	0.000478	> 100.00	-20.934300	Y 377.433
Se (196.026 nm)	-0.000830 u	ppm	0.000426	51.25	12.685200	Y 242.219
Si (288.158 nm)	-0.009327 u	ppm	0.000092	0.98	941.458000	Y 377.433
Sn (189.925 nm)	0.001216	ppm	0.000681	56.02	10.215400	Y 377.433
Sr (421.552 nm)	-0.000202 u	ppm	0.000129	63.93	104.008091	Y_R 488.368
Th (288.505 nm)	0.004542	ppm	0.002287	50.36	88.681500	Y 377.433
Ti (336.122 nm)	0.000384	ppm	0.000017	4.29	-232.855000	Y 377.433
Tl (190.794 nm)	0.002741	ppm	0.001712	62.48	-1.323620	Y 377.433
U (409.013 nm)	0.006262	ppm	0.003246	51.84	-146.336000	Y 377.433
V (292.401 nm)	-0.000123 u	ppm	0.000017	13.78	20.144400	Y 377.433
Zn (206.200 nm)	0.000118 u	ppm	0.000261	> 100.00	-0.752885	Y 377.433
Zr (343.823 nm)	-0.000088 u	ppm	0.000102	> 100.00	2.005200	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.154222	21806.726621	0.000035	0.00
Y 377.433	1.146951	1163959.527826	0.001146	0.10
Y_R 377.433	1.235780	94959.700000	0.004053	0.33
Y_R 488.368	1.238800	54352.200000	0.000196	0.02
Y_R2 488.368	1.234226	106566.894576	0.001593	0.13

Sample Name: CCVL-5398386

Date: 10/30/2018 1:07:11 AM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.010135	ppm	0.000212	2.10	16.082300	Y 377.433
Al (167.019 nm)	0.104889	ppm	0.000050	0.05	56.484800	Y_R 377.433
Al H (396.152 nm)	0.076456 u	ppm	0.002121	2.77	272.447926	Y_R 377.433
As (188.980 nm)	0.013832	ppm	0.000037	0.27	14.020500	Y 242.219
B (249.678 nm)	0.099325	ppm	0.000020	0.02	2449.380000	Y 242.219
Ba (493.408 nm)	0.008992	ppm	0.000088	0.98	1602.540000	Y_R 488.368
Be (234.861 nm)	0.000973	ppm	0.000006	0.66	222.100000	Y_R 488.368
Bi (223.061 nm)	0.106328	ppm	0.001208	1.14	265.227000	Y 377.433
Ca (315.887 nm)	0.236030	ppm	0.001539	0.65	117.138465	Y_R 377.433
Cd (214.439 nm)	0.005195	ppm	0.000022	0.43	295.215000	Y 377.433
Co (228.615 nm)	0.010869	ppm	0.000084	0.77	154.233000	Y 242.219
Cr (205.560 nm)	0.010132	ppm	0.000190	1.87	149.346000	Y 377.433
Cu (324.754 nm)	0.018034	ppm	0.000187	1.03	647.928000	Y 377.433
Fe (238.204 nm)	0.105577	ppm	0.000194	0.18	397.607004	Y_R 377.433
Fe H (259.940 nm)	0.026850 u	ppm	0.000197	0.73	201.468000	Y_R 377.433
K (766.491 nm)	3.192170	ppm	0.055050	1.72	2896.580000	Y_R2 488.368
Li (670.783 nm)	0.036288 Q	ppm	0.001108	3.05	-206.028000 Q	Y_R2 488.368
Mg (279.078 nm)	0.194912	ppm	0.001912	0.98	1105.470000	Y 377.433
Mn (257.610 nm)	0.010412	ppm	0.000011	0.11	2411.280000	Y 377.433
Mo (202.032 nm)	0.019373	ppm	0.000034	0.17	159.284000	Y 377.433
Na (589.592 nm)	0.969520	ppm	0.007900	0.81	6780.480000	Y_R2 488.368
Na H (589.593 nm)	0.540425 u	ppm	0.012017	2.22	5178.489522	Y_R 488.368
Ni (231.604 nm)	0.043553	ppm	0.000451	1.04	282.375000	Y 377.433
P (213.618 nm)	2.842220 o	ppm	0.012695	0.45	5874.780000	Y 242.219
Pb (220.353 nm)	0.009791	ppm	0.000159	1.62	31.139200	Y 242.219
S (181.972 nm)	0.105437	ppm	0.004007	3.80	82.435866	Y 377.433
Sb (206.834 nm)	0.020155	ppm	0.000399	1.98	33.259900	Y 377.433
Se (196.026 nm)	0.017779	ppm	0.000883	4.97	30.163100	Y 242.219
Si (288.158 nm)	0.469978	ppm	0.004236	0.90	4855.730000	Y 377.433
Sn (189.925 nm)	0.100612	ppm	0.000473	0.47	199.839000	Y 377.433
Sr (421.552 nm)	0.009639	ppm	0.000062	0.64	2132.295756	Y_R 488.368
Th (288.505 nm)	0.018729	ppm	0.000830	4.43	124.907000	Y 377.433
Ti (336.122 nm)	0.010629	ppm	0.000027	0.26	1198.510000	Y 377.433
Tl (190.794 nm)	0.015960	ppm	0.000452	2.83	26.838700	Y 377.433
U (409.013 nm)	0.067512	ppm	0.000612	0.91	124.757000	Y 377.433
V (292.401 nm)	0.009817	ppm	0.000043	0.44	364.645000	Y 377.433
Zn (206.200 nm)	0.020671	ppm	0.000088	0.43	102.022000	Y 377.433
Zr (343.823 nm)	0.014960	ppm	0.000101	0.67	1938.880000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.176649	22230.450131	0.002697	0.23
Y 377.433	1.168745	1186077.128337	0.002857	0.24
Y_R 377.433	1.263280	97073.000000	0.001065	0.08
Y_R 488.368	1.289820	56590.800000	0.007948	0.62
Y_R2 488.368	1.265237	109244.521073	0.001900	0.15

Sample Name: 280-115950-G-2-DPDS

Date: 10/30/2018 1:10:34 AM Rack:Tube: 2:79

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.051948	ppm	0.000263	0.51	1857.570000	Y 377.433
Al (167.019 nm)	1.062980	ppm	0.002676	0.25	564.329000	Y_R 377.433
Al H (396.152 nm)	1.031371	ppm	0.002350	0.23	2732.937518	Y_R 377.433
As (188.980 nm)	0.247437	ppm	0.000221	0.09	294.249000	Y 242.219
B (249.678 nm)	0.233495	ppm	0.000453	0.19	5629.580000	Y 242.219
Ba (493.408 nm)	0.136865	ppm	0.002611	1.91	16265.300000	Y_R 488.368
Be (234.861 nm)	0.046905	ppm	0.000452	0.96	13489.100000	Y_R 488.368
Bi (223.061 nm)	-0.003672 u	ppm	0.000957	26.06	-1.084210	Y 377.433
Ca (315.887 nm)	107.763619 o	ppm	0.123209	0.11	82845.994718	Y_R 377.433
Cd (214.439 nm)	0.049542	ppm	0.000008	0.02	2830.650000	Y 377.433
Co (228.615 nm)	0.048755	ppm	0.000287	0.59	811.351000	Y 242.219
Cr (205.560 nm)	0.051450	ppm	0.000131	0.25	750.652000	Y 377.433
Cu (324.754 nm)	0.053559	ppm	0.000371	0.69	2487.170000	Y 377.433
Fe (238.204 nm)	2.654027	ppm	0.003208	0.12	9593.985211	Y_R 377.433
Fe H (259.940 nm)	2.705900 u	ppm	0.006437	0.24	5092.940000	Y_R 377.433
K (766.491 nm)	22.309800	ppm	0.004297	0.02	24371.200000	Y_R2 488.368
Li (670.783 nm)	0.145346	ppm	0.000498	0.34	3337.210000	Y_R2 488.368
Mg (279.078 nm)	55.138500 o	ppm	0.046057	0.08	303340.000000	Y 377.433
Mn (257.610 nm)	0.098839	ppm	0.000053	0.05	22367.800000	Y 377.433
Mo (202.032 nm)	0.056392	ppm	0.000235	0.42	468.260000	Y 377.433
Na (589.592 nm)	44.643300 o	ppm	0.088296	0.20	283776.000000	Y_R2 488.368
Na H (589.593 nm)	45.139903	ppm	0.691371	1.53	169057.087907	Y_R 488.368
Ni (231.604 nm)	0.049288	ppm	0.000694	1.41	320.193000	Y 377.433
P (213.618 nm)	2.128630	ppm	0.002260	0.11	4406.580000	Y 242.219
Pb (220.353 nm)	0.099736	ppm	0.000823	0.82	283.134000	Y 242.219
S (181.972 nm)	39.616066 o	ppm	0.039872	0.10	19327.688247	Y 377.433
Sb (206.834 nm)	0.106146	ppm	0.000381	0.36	259.655000	Y 377.433
Se (196.026 nm)	0.212600	ppm	0.009679	4.55	212.832000	Y 242.219
Si (288.158 nm)	12.318600 o	ppm	0.054304	0.44	101618.000000	Y 377.433
Sn (189.925 nm)	0.103665	ppm	0.000053	0.05	205.663000	Y 377.433
Sr (421.552 nm)	0.613070	ppm	0.009368	1.53	126505.988688	Y_R 488.368
Th (288.505 nm)	0.212617	ppm	0.000829	0.39	613.356000	Y 377.433
Ti (336.122 nm)	0.052742	ppm	0.000031	0.06	7410.320000	Y 377.433
Tl (190.794 nm)	0.204453	ppm	0.000282	0.14	428.999000	Y 377.433
U (409.013 nm)	0.540961	ppm	0.002596	0.48	2208.250000	Y 377.433
V (292.401 nm)	0.051899	ppm	0.000093	0.18	1822.970000	Y 377.433
Zn (206.200 nm)	0.197439	ppm	0.000305	0.15	985.966000	Y 377.433
Zr (343.823 nm)	0.051613	ppm	0.000029	0.06	6663.320000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.129553	21340.653928	0.001101	0.10
Y 377.433	1.133899	1150714.673890	0.000678	0.06
Y_R 377.433	1.254400	96390.700000	0.006716	0.54
Y_R 488.368	1.274430	55915.300000	0.010487	0.82
Y_R2 488.368	1.241929	107231.987280	0.003316	0.27

Sample Name: 280-115950-G-3-B

Date: 10/30/2018 1:13:57 AM Rack:Tube: 2:80

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001576	ppm	0.000046	2.92	-363.843000	Y 377.433
Al (167.019 nm)	0.038284	ppm	0.001202	3.14	22.301200	Y_R 377.433
Al H (396.152 nm)	0.025768 u	ppm	0.001507	5.85	181.335502	Y_R 377.433
As (188.980 nm)	0.035787	ppm	0.001813	5.07	40.346900	Y 242.219
B (249.678 nm)	0.125417	ppm	0.000636	0.51	3065.600000	Y 242.219
Ba (493.408 nm)	0.036697	ppm	0.000268	0.73	4794.690000	Y_R 488.368
Be (234.861 nm)	0.000097	ppm	0.000019	19.24	18.456700	Y_R 488.368
Bi (223.061 nm)	0.000115 u	ppm	0.001859	> 100.00	7.929770	Y 377.433
Ca (315.887 nm)	87.299253 o	ppm	0.054380	0.06	67101.234809	Y_R 377.433
Cd (214.439 nm)	-0.000055 u	ppm	0.000057	> 100.00	-3.204980	Y 377.433
Co (228.615 nm)	-0.000075 u	ppm	0.000247	> 100.00	-35.505900	Y 242.219
Cr (205.560 nm)	0.000148	ppm	0.000001	0.78	3.390760	Y 377.433
Cu (324.754 nm)	0.001572	ppm	0.000084	5.35	-275.774000	Y 377.433
Fe (238.204 nm)	1.623737	ppm	0.000208	0.01	5876.065399	Y_R 377.433
Fe H (259.940 nm)	1.613660 u	ppm	0.001725	0.11	3098.710000	Y_R 377.433
K (766.491 nm)	2.474820	ppm	0.047868	1.93	2090.790000	Y_R2 488.368
Li (670.783 nm)	0.049881	ppm	0.000110	0.22	235.599000	Y_R2 488.368
Mg (279.078 nm)	35.100900	ppm	0.001967	0.01	193126.000000	Y 377.433
Mn (257.610 nm)	0.047776	ppm	0.000039	0.08	10843.700000	Y 377.433
Mo (202.032 nm)	0.004950	ppm	0.000458	9.26	38.908500	Y 377.433
Na (589.592 nm)	25.108700 o	ppm	0.021522	0.09	159797.000000	Y_R2 488.368
Na H (589.593 nm)	25.406948	ppm	0.104406	0.41	96508.227141	Y_R 488.368
Ni (231.604 nm)	-0.000865 u	ppm	0.000057	6.58	-7.927090	Y 377.433
P (213.618 nm)	0.005262	ppm	0.001169	22.22	37.730700	Y 242.219
Pb (220.353 nm)	-0.000400 u	ppm	0.000454	> 100.00	2.809310	Y 242.219
S (181.972 nm)	39.218254 o	ppm	0.018289	0.05	19133.800249	Y 377.433
Sb (206.834 nm)	-0.001877 u	ppm	0.001027	54.75	-25.552600	Y 377.433
Se (196.026 nm)	-0.002806 u	ppm	0.001426	50.82	10.557000	Y 242.219
Si (288.158 nm)	6.726430	ppm	0.053440	0.79	55949.500000	Y 377.433
Sn (189.925 nm)	0.000417	ppm	0.000266	63.78	8.691780	Y 377.433
Sr (421.552 nm)	0.565668	ppm	0.002546	0.45	116735.928477	Y_R 488.368
Th (288.505 nm)	0.004381	ppm	0.003747	85.54	89.219600	Y 377.433
Ti (336.122 nm)	0.001113	ppm	0.000117	10.52	137.032000	Y 377.433
Tl (190.794 nm)	0.002340	ppm	0.000535	22.85	-2.237060	Y 377.433
U (409.013 nm)	0.003051	ppm	0.003835	> 100.00	-175.360000	Y 377.433
V (292.401 nm)	-0.000076 u	ppm	0.000190	> 100.00	22.337800	Y 377.433
Zn (206.200 nm)	0.002514	ppm	0.000031	1.23	11.226500	Y 377.433
Zr (343.823 nm)	-0.000292 u	ppm	0.000056	19.15	-19.443100	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.140835	21553.810665	0.001891	0.17
Y 377.433	1.143753	1160714.878398	0.000435	0.04
Y_R 377.433	1.248490	95936.600000	0.002667	0.21
Y_R 488.368	1.260110	55287.300000	0.005279	0.42
Y_R2 488.368	1.252077	108108.237902	0.006914	0.55

Sample Name: 280-115950-G-4-B

Date: 10/30/2018 1:17:19 AM Rack:Tube: 2:81

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001909	ppm	0.000110	5.75	-349.166000	Y 377.433
Al (167.019 nm)	0.003413	ppm	0.001434	42.02	11.068300	Y_R 377.433
Al H (396.152 nm)	0.004047 u	ppm	0.001780	43.97	152.476374	Y_R 377.433
As (188.980 nm)	0.039035	ppm	0.000480	1.23	44.147900	Y 242.219
B (249.678 nm)	0.636570	ppm	0.000504	0.08	15173.700000	Y 242.219
Ba (493.408 nm)	0.049650	ppm	0.000011	0.02	6301.390000	Y_R 488.368
Be (234.861 nm)	-0.000111 u	ppm	0.000008	7.49	297.651000	Y_R 488.368
Bi (223.061 nm)	-0.003064 u	ppm	0.000512	16.73	2.009010	Y 377.433
Ca (315.887 nm)	147.575673 o	ppm	0.276638	0.19	113476.289390	Y_R 377.433
Cd (214.439 nm)	-0.000061 u	ppm	0.000032	51.38	6.791500	Y 377.433
Co (228.615 nm)	0.003897	ppm	0.000322	8.26	33.218600	Y 242.219
Cr (205.560 nm)	0.000099	ppm	0.000064	64.98	-0.288990	Y 377.433
Cu (324.754 nm)	0.001682	ppm	0.000074	4.38	-294.036000	Y 377.433
Fe (238.204 nm)	12.498854 o	ppm	0.006173	0.05	45120.194479	Y_R 377.433
Fe H (259.940 nm)	13.019100	ppm	0.013763	0.11	23923.100000	Y_R 377.433
K (766.491 nm)	6.863430	ppm	0.001388	0.02	7020.460000	Y_R2 488.368
Li (670.783 nm)	0.026251	ppm	0.001176	4.48	-532.124000	Y_R2 488.368
Mg (279.078 nm)	96.548700 o	ppm	0.063331	0.07	531139.000000	Y 377.433
Mn (257.610 nm)	1.104540 o	ppm	0.000385	0.03	249338.000000	Y 377.433
Mo (202.032 nm)	0.000392	ppm	0.000034	8.60	0.864055	Y 377.433
Na (589.592 nm)	5.077090	ppm	0.020518	0.40	32888.400000	Y_R2 488.368
Na H (589.593 nm)	4.798397 u	ppm	0.000299	0.01	20851.289403	Y_R 488.368
Ni (231.604 nm)	0.009714	ppm	0.000336	3.46	61.673500	Y 377.433
P (213.618 nm)	0.055882	ppm	0.002997	5.36	141.882000	Y 242.219
Pb (220.353 nm)	0.001316	ppm	0.000454	34.53	8.570050	Y 242.219
S (181.972 nm)	48.554894 o	ppm	0.069089	0.14	23684.010466	Y 377.433
Sb (206.834 nm)	-0.000829 u	ppm	0.000594	71.60	-25.331200	Y 377.433
Se (196.026 nm)	-0.005411 u	ppm	0.003404	62.90	6.851400	Y 242.219
Si (288.158 nm)	8.019090	ppm	0.011904	0.15	66506.000000	Y 377.433
Sn (189.925 nm)	-0.001230 u	ppm	0.000878	71.35	5.549680	Y 377.433
Sr (421.552 nm)	0.569697	ppm	0.001884	0.33	117566.207013	Y_R 488.368
Th (288.505 nm)	0.012359	ppm	0.001443	11.68	128.922000	Y 377.433
Ti (336.122 nm)	0.000206	ppm	0.000045	21.84	195.638000	Y 377.433
Tl (190.794 nm)	0.002263	ppm	0.001166	51.50	-2.664960	Y 377.433
U (409.013 nm)	0.007399	ppm	0.003933	53.15	-157.050000	Y 377.433
V (292.401 nm)	0.000120	ppm	0.000042	35.03	30.035000	Y 377.433
Zn (206.200 nm)	0.003232	ppm	0.000021	0.65	14.815100	Y 377.433
Zr (343.823 nm)	-0.000212 u	ppm	0.000034	15.86	22.979800	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.124151	21238.596085	0.002327	0.21
Y 377.433	1.132070	1148858.482101	0.001969	0.17
Y_R 377.433	1.243840	95579.300000	0.002228	0.18
Y_R 488.368	1.268890	55672.500000	0.000926	0.07
Y_R2 488.368	1.236834	106792.059539	0.004505	0.36

Sample Name: 280-115950-G-5-B

Date: 10/30/2018 1:20:42 AM Rack:Tube: 2:82

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001499	ppm	0.000212	14.16	-367.346000	Y 377.433
Al (167.019 nm)	0.007063	ppm	0.001154	16.34	38.557400	Y_R 377.433
Al H (396.152 nm)	-0.001691 u	ppm	0.001740	> 100.00	98.664481	Y_R 377.433
As (188.980 nm)	0.024768	ppm	0.000475	1.92	26.692800	Y 242.219
B (249.678 nm)	0.347998	ppm	0.001067	0.31	8271.660000	Y 242.219
Ba (493.408 nm)	0.055470	ppm	0.000127	0.23	6983.920000	Y_R 488.368
Be (234.861 nm)	-0.000577 u	ppm	0.000078	13.57	1367.940000	Y_R 488.368
Bi (223.061 nm)	-0.005110 u	ppm	0.001117	21.86	3.401350	Y 377.433
Ca (315.887 nm)	57.654069 o	ppm	0.186838	0.32	44293.029142	Y_R 377.433
Cd (214.439 nm)	-0.000195 u	ppm	0.000005	2.56	36.012500	Y 377.433
Co (228.615 nm)	0.003831	ppm	0.000320	8.36	32.085800	Y 242.219
Cr (205.560 nm)	0.000004 u	ppm	0.000114	> 100.00	-12.254500	Y 377.433
Cu (324.754 nm)	0.002359	ppm	0.000039	1.66	-172.493000	Y 377.433
Fe (238.204 nm)	51.216426 o	ppm	0.125171	0.24	184837.073859	Y_R 377.433
Fe H (259.940 nm)	53.312000	ppm	0.108689	0.20	97490.700000	Y_R 377.433
K (766.491 nm)	3.857270	ppm	0.040172	1.04	3643.680000	Y_R2 488.368
Li (670.783 nm)	0.026580	ppm	0.000587	2.21	-521.439000	Y_R2 488.368
Mg (279.078 nm)	49.384100 o	ppm	0.236641	0.48	271616.000000	Y 377.433
Mn (257.610 nm)	0.522026	ppm	0.001756	0.34	117874.000000	Y 377.433
Mo (202.032 nm)	0.000109	ppm	0.000039	36.17	-1.497380	Y 377.433
Na (589.592 nm)	3.591140	ppm	0.006906	0.19	23483.600000	Y_R2 488.368
Na H (589.593 nm)	3.167477 u	ppm	0.021010	0.66	14868.394779	Y_R 488.368
Ni (231.604 nm)	0.010151	ppm	0.001177	11.60	66.108500	Y 377.433
P (213.618 nm)	-0.003487 u	ppm	0.000395	11.32	19.729500	Y 242.219
Pb (220.353 nm)	0.000157	ppm	0.000173	> 100.00	8.717990	Y 242.219
S (181.972 nm)	21.180994 o	ppm	0.020016	0.09	10349.224538	Y 377.433
Sb (206.834 nm)	-0.001988 u	ppm	0.002162	> 100.00	-37.571000	Y 377.433
Se (196.026 nm)	-0.000200 u	ppm	0.000147	73.49	3.907830	Y 242.219
Si (288.158 nm)	8.135670	ppm	0.078673	0.97	67458.100000	Y 377.433
Sn (189.925 nm)	-0.000215 u	ppm	0.000006	2.70	7.486500	Y 377.433
Sr (421.552 nm)	0.149318	ppm	0.000957	0.64	30921.764904	Y_R 488.368
Th (288.505 nm)	0.006787	ppm	0.001218	17.95	101.855000	Y 377.433
Ti (336.122 nm)	0.000823	ppm	0.000007	0.87	5.373040	Y 377.433
Tl (190.794 nm)	0.001656	ppm	0.000921	55.63	-4.991200	Y 377.433
U (409.013 nm)	0.003898	ppm	0.000404	10.37	-119.452000	Y 377.433
V (292.401 nm)	-0.000249 u	ppm	0.000072	29.12	16.439000	Y 377.433
Zn (206.200 nm)	0.878839	ppm	0.006084	0.69	4393.360000	Y 377.433
Zr (343.823 nm)	-0.000614 u	ppm	0.000024	3.91	85.421600	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.149585	21719.114411	0.008886	0.77
Y 377.433	1.148051	1165076.312613	0.014476	1.26
Y_R 377.433	1.255910	96506.600000	0.004612	0.37
Y_R 488.368	1.270660	55749.800000	0.009059	0.71
Y_R2 488.368	1.250219	107947.821229	0.006949	0.56

Sample Name: 280-115877-D-1-B

Date: 10/30/2018 1:24:04 AM Rack:Tube: 2:83

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001220	ppm	0.000169	13.84	-379.521000	Y 377.433
Al (167.019 nm)	0.043024	ppm	0.001203	2.80	27.932500	Y_R 377.433
Al H (396.152 nm)	0.015147 u	ppm	0.002069	13.66	124.678606	Y_R 377.433
As (188.980 nm)	0.008071	ppm	0.000804	9.96	7.054840	Y 242.219
B (249.678 nm)	0.081101	ppm	0.000483	0.60	2007.550000	Y 242.219
Ba (493.408 nm)	0.031282	ppm	0.000156	0.50	4164.180000	Y_R 488.368
Be (234.861 nm)	-0.000030 u	ppm	0.000006	19.11	129.436000	Y_R 488.368
Bi (223.061 nm)	0.001044	ppm	0.001336	> 100.00	10.959100	Y 377.433
Ca (315.887 nm)	19.831994 o	ppm	0.068034	0.34	15193.742513	Y_R 377.433
Cd (214.439 nm)	0.000048	ppm	0.000032	66.78	7.187140	Y 377.433
Co (228.615 nm)	0.003317	ppm	0.000132	3.97	23.202800	Y 242.219
Cr (205.560 nm)	0.000422	ppm	0.000003	0.61	6.102170	Y 377.433
Cu (324.754 nm)	0.003571	ppm	0.000104	2.92	-125.913000	Y 377.433
Fe (238.204 nm)	6.359035 o	ppm	0.017210	0.27	22963.938858	Y_R 377.433
Fe H (259.940 nm)	6.532340	ppm	0.012010	0.18	12079.300000	Y_R 377.433
K (766.491 nm)	3.734490	ppm	0.023562	0.63	3505.760000	Y_R2 488.368
Li (670.783 nm)	0.018484	ppm	0.000427	2.31	-784.476000	Y_R2 488.368
Mg (279.078 nm)	22.700300	ppm	0.030582	0.13	124901.000000	Y 377.433
Mn (257.610 nm)	0.708284	ppm	0.000153	0.02	159910.000000	Y 377.433
Mo (202.032 nm)	0.000403	ppm	0.000148	36.79	0.957154	Y 377.433
Na (589.592 nm)	1.331360	ppm	0.011185	0.84	9116.540000	Y_R2 488.368
Na H (589.593 nm)	0.889524 u	ppm	0.002753	0.31	6481.248193	Y_R 488.368
Ni (231.604 nm)	0.004398	ppm	0.000737	16.77	26.669700	Y 377.433
P (213.618 nm)	0.009347	ppm	0.000020	0.21	46.136400	Y 242.219
Pb (220.353 nm)	0.001192	ppm	0.000057	4.76	7.690370	Y 242.219
S (181.972 nm)	10.686627	ppm	0.011240	0.11	5238.010261	Y 377.433
Sb (206.834 nm)	-0.001233 u	ppm	0.000548	44.46	-24.929400	Y 377.433
Se (196.026 nm)	-0.003702 u	ppm	0.002045	55.22	9.323620	Y 242.219
Si (288.158 nm)	6.384750	ppm	0.009492	0.15	53159.100000	Y 377.433
Sn (189.925 nm)	-0.000060 u	ppm	0.001401	> 100.00	7.780550	Y 377.433
Sr (421.552 nm)	0.072570	ppm	0.000328	0.45	15103.106634	Y_R 488.368
Th (288.505 nm)	0.003497	ppm	0.003628	> 100.00	99.670500	Y 377.433
Ti (336.122 nm)	0.001165	ppm	0.000015	1.25	-63.004600	Y 377.433
Tl (190.794 nm)	0.000216	ppm	0.000220	> 100.00	-6.876690	Y 377.433
U (409.013 nm)	0.002209 u	ppm	0.003492	> 100.00	-162.062000	Y 377.433
V (292.401 nm)	0.000034 u	ppm	0.000343	> 100.00	26.086000	Y 377.433
Zn (206.200 nm)	0.002416	ppm	0.000161	6.66	10.735600	Y 377.433
Zr (343.823 nm)	-0.000136 u	ppm	0.000034	25.29	14.685200	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.164142	21994.151305	0.002317	0.20
Y 377.433	1.160354	1177561.907740	0.002555	0.22
Y_R 377.433	1.258700	96720.800000	0.002819	0.22
Y_R 488.368	1.280870	56197.900000	0.009262	0.72
Y_R2 488.368	1.256389	108480.513847	0.006834	0.54

Sample Name: 280-116053-E-1-A

Date: 10/30/2018 1:27:26 AM Rack:Tube: 2:84

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001411	ppm	0.000027	1.94	-371.022000	Y 377.433
Al (167.019 nm)	0.183639	ppm	0.000328	0.18	102.382000	Y_R 377.433
Al H (396.152 nm)	0.160897 u	ppm	0.005214	3.24	505.425714	Y_R 377.433
As (188.980 nm)	0.007196	ppm	0.000422	5.87	6.002930	Y 242.219
B (249.678 nm)	0.019154	ppm	0.000137	0.72	537.768000	Y 242.219
Ba (493.408 nm)	0.026962	ppm	0.000105	0.39	3676.650000	Y_R 488.368
Be (234.861 nm)	-0.000011 u	ppm	0.000002	15.52	142.782000	Y_R 488.368
Bi (223.061 nm)	-0.000428 u	ppm	0.000174	40.65	7.430980	Y 377.433
Ca (315.887 nm)	49.180420 o	ppm	0.124170	0.25	37773.631404	Y_R 377.433
Cd (214.439 nm)	0.000037	ppm	0.000012	32.75	6.812300	Y 377.433
Co (228.615 nm)	0.001340	ppm	0.000047	3.54	-10.945000	Y 242.219
Cr (205.560 nm)	0.000543	ppm	0.000118	21.76	7.791750	Y 377.433
Cu (324.754 nm)	0.002361	ppm	0.000013	0.54	-208.847000	Y 377.433
Fe (238.204 nm)	6.608266 o	ppm	0.020124	0.30	23863.317681	Y_R 377.433
Fe H (259.940 nm)	6.805220	ppm	0.016526	0.24	12577.600000	Y_R 377.433
K (766.491 nm)	1.792970	ppm	0.052464	2.93	1324.880000	Y_R2 488.368
Li (670.783 nm)	0.022390	ppm	0.000009	0.04	-657.549000	Y_R2 488.368
Mg (279.078 nm)	10.159900	ppm	0.006302	0.06	55914.300000	Y 377.433
Mn (257.610 nm)	0.286453	ppm	0.000198	0.07	64709.400000	Y 377.433
Mo (202.032 nm)	0.000402	ppm	0.000073	18.19	0.949168	Y 377.433
Na (589.592 nm)	5.347550	ppm	0.017104	0.32	34557.800000	Y_R2 488.368
Na H (589.593 nm)	4.987384 u	ppm	0.042452	0.85	21523.672410	Y_R 488.368
Ni (231.604 nm)	0.000097 u	ppm	0.000142	> 100.00	-1.433960	Y 377.433
P (213.618 nm)	0.012143	ppm	0.002597	21.39	51.887800	Y 242.219
Pb (220.353 nm)	0.001555	ppm	0.000505	32.46	8.674190	Y 242.219
S (181.972 nm)	22.218250 o	ppm	0.001871	0.01	10853.907126	Y 377.433
Sb (206.834 nm)	0.000448	ppm	0.000144	32.17	-20.545600	Y 377.433
Se (196.026 nm)	-0.003492 u	ppm	0.001628	46.62	9.149430	Y 242.219
Si (288.158 nm)	5.686310	ppm	0.029194	0.51	47455.200000	Y 377.433
Sn (189.925 nm)	-0.001514 u	ppm	0.000779	51.46	5.007970	Y 377.433
Sr (421.552 nm)	0.074555	ppm	0.000675	0.91	15512.315394	Y_R 488.368
Th (288.505 nm)	0.005177	ppm	0.000404	7.80	95.540300	Y 377.433
Ti (336.122 nm)	0.003519	ppm	0.000157	4.45	356.013000	Y 377.433
Tl (190.794 nm)	0.001685	ppm	0.001273	75.58	-3.764020	Y 377.433
U (409.013 nm)	0.000405 u	ppm	0.000686	> 100.00	-175.332000	Y 377.433
V (292.401 nm)	0.000185	ppm	0.000116	62.38	30.817800	Y 377.433
Zn (206.200 nm)	0.004008	ppm	0.000032	0.80	18.700300	Y 377.433
Zr (343.823 nm)	-0.000142 u	ppm	0.000031	21.46	14.549200	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.176622	22229.934154	0.001357	0.12
Y 377.433	1.179049	1196533.749670	0.002347	0.20
Y_R 377.433	1.288770	99031.300000	0.007426	0.58
Y_R 488.368	1.312250	57574.700000	0.000926	0.07
Y_R2 488.368	1.284283	110888.962805	0.002574	0.20

Sample Name: 280-116053-E-3-A

Date: 10/30/2018 1:30:48 AM Rack:Tube: 2:85

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001614	ppm	0.000174	10.76	-362.564000	Y 377.433
Al (167.019 nm)	2.834140	ppm	0.006274	0.22	1504.990000	Y_R 377.433
Al H (396.152 nm)	2.752309	ppm	0.021790	0.79	7061.955715	Y_R 377.433
As (188.980 nm)	0.007538	ppm	0.000358	4.75	6.381940	Y 242.219
B (249.678 nm)	0.014983	ppm	0.000009	0.06	433.647000	Y 242.219
Ba (493.408 nm)	0.185040	ppm	0.000393	0.21	21780.600000	Y_R 488.368
Be (234.861 nm)	0.000063	ppm	0.000002	2.79	274.726000	Y_R 488.368
Bi (223.061 nm)	0.001763	ppm	0.001862	> 100.00	13.328600	Y 377.433
Ca (315.887 nm)	83.221328 o	ppm	0.203361	0.24	63963.789349	Y_R 377.433
Cd (214.439 nm)	0.000032 u	ppm	0.000068	> 100.00	9.887590	Y 377.433
Co (228.615 nm)	0.003452	ppm	0.000094	2.73	26.629900	Y 242.219
Cr (205.560 nm)	0.005595	ppm	0.000002	0.04	80.480300	Y 377.433
Cu (324.754 nm)	0.010174	ppm	0.000168	1.65	193.815000	Y 377.433
Fe (238.204 nm)	10.160944 o	ppm	0.031721	0.31	36683.570611	Y_R 377.433
Fe H (259.940 nm)	10.563300	ppm	0.046291	0.44	19439.200000	Y_R 377.433
K (766.491 nm)	8.463640	ppm	0.094179	1.11	8817.950000	Y_R2 488.368
Li (670.783 nm)	0.057960	ppm	0.000216	0.37	498.086000	Y_R2 488.368
Mg (279.078 nm)	50.416300 o	ppm	0.034393	0.07	277363.000000	Y 377.433
Mn (257.610 nm)	0.559360	ppm	0.000032	0.01	126300.000000	Y 377.433
Mo (202.032 nm)	0.000938	ppm	0.000176	18.76	5.425240	Y 377.433
Na (589.592 nm)	7.114450	ppm	0.031197	0.44	46061.800000	Y_R2 488.368
Na H (589.593 nm)	6.821958 u	ppm	0.012025	0.18	28409.063407	Y_R 488.368
Ni (231.604 nm)	0.010043	ppm	0.000877	8.73	63.722800	Y 377.433
P (213.618 nm)	0.231404	ppm	0.004853	2.10	503.019000	Y 242.219
Pb (220.353 nm)	0.006482	ppm	0.000010	0.15	21.901900	Y 242.219
S (181.972 nm)	31.032640 o	ppm	0.026331	0.08	15147.904594	Y 377.433
Sb (206.834 nm)	0.000563	ppm	0.000601	> 100.00	-21.126600	Y 377.433
Se (196.026 nm)	-0.005146 u	ppm	0.002040	39.65	7.172440	Y 242.219
Si (288.158 nm)	11.826000 o	ppm	0.052350	0.44	97595.100000	Y 377.433
Sn (189.925 nm)	-0.000255 u	ppm	0.000461	> 100.00	7.408850	Y 377.433
Sr (421.552 nm)	0.487455	ppm	0.001331	0.27	100615.293933	Y_R 488.368
Th (288.505 nm)	0.008891	ppm	0.002650	29.81	110.058000	Y 377.433
Ti (336.122 nm)	0.034135	ppm	0.000009	0.03	4736.360000	Y 377.433
Tl (190.794 nm)	0.002591	ppm	0.001044	40.28	-2.045370	Y 377.433
U (409.013 nm)	0.000177 u	ppm	0.000302	> 100.00	-179.515000	Y 377.433
V (292.401 nm)	0.005470	ppm	0.000156	2.86	216.961000	Y 377.433
Zn (206.200 nm)	0.027026	ppm	0.000150	0.55	133.801000	Y 377.433
Zr (343.823 nm)	0.002097	ppm	0.000065	3.09	313.246000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.149342	21714.532213	0.002321	0.20
Y 377.433	1.153646	1170753.902199	0.002368	0.21
Y_R 377.433	1.252560	96248.700000	0.001902	0.15
Y_R 488.368	1.273640	55880.800000	0.000887	0.07
Y_R2 488.368	1.238173	106907.739118	0.005105	0.41

Sample Name: 280-116053-E-4-A

Date: 10/30/2018 1:34:11 AM Rack:Tube: 2:86

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001401	ppm	0.000100	7.15	-371.413000	Y 377.433
Al (167.019 nm)	0.017297	ppm	0.000211	1.22	12.102500	Y_R 377.433
Al H (396.152 nm)	-0.003770 u	ppm	0.001838	48.75	78.107277	Y_R 377.433
As (188.980 nm)	0.001911	ppm	0.000104	5.45	-0.305963	Y 242.219
B (249.678 nm)	0.003688	ppm	0.000021	0.57	176.321000	Y 242.219
Ba (493.408 nm)	0.019830	ppm	0.000399	2.01	2850.880000	Y_R 488.368
Be (234.861 nm)	0.000026	ppm	0.000004	16.51	40.133700	Y_R 488.368
Bi (223.061 nm)	-0.000238 u	ppm	0.002154	> 100.00	7.295070	Y 377.433
Ca (315.887 nm)	22.521627 o	ppm	0.017917	0.08	17263.074124	Y_R 377.433
Cd (214.439 nm)	-0.000018 u	ppm	0.000030	> 100.00	0.179506	Y 377.433
Co (228.615 nm)	0.001814	ppm	0.000001	0.04	-2.817600	Y 242.219
Cr (205.560 nm)	-0.000074 u	ppm	0.000107	> 100.00	-0.199123	Y 377.433
Cu (324.754 nm)	0.002453	ppm	0.000233	9.50	-191.791000	Y 377.433
Fe (238.204 nm)	2.967669	ppm	0.011351	0.38	10725.800209	Y_R 377.433
Fe H (259.940 nm)	3.013930 u	ppm	0.017280	0.57	5655.340000	Y_R 377.433
K (766.491 nm)	1.089280	ppm	0.048314	4.44	534.434000	Y_R2 488.368
Li (670.783 nm)	0.023398	ppm	0.001117	4.77	-624.801000	Y_R2 488.368
Mg (279.078 nm)	4.785050	ppm	0.007145	0.15	26352.600000	Y 377.433
Mn (257.610 nm)	0.090272	ppm	0.000095	0.11	20434.500000	Y 377.433
Mo (202.032 nm)	0.000152	ppm	0.000004	2.53	-1.140270	Y 377.433
Na (589.592 nm)	5.508090	ppm	0.004969	0.09	35561.300000	Y_R2 488.368
Na H (589.593 nm)	5.163762 u	ppm	0.058445	1.13	22164.584983	Y_R 488.368
Ni (231.604 nm)	0.000602	ppm	0.000204	33.84	1.716100	Y 377.433
P (213.618 nm)	0.004585	ppm	0.001528	33.32	36.338200	Y 242.219
Pb (220.353 nm)	-0.000777 u	ppm	0.001263	> 100.00	1.908260	Y 242.219
S (181.972 nm)	15.128964 o	ppm	0.029085	0.19	7400.361233	Y 377.433
Sb (206.834 nm)	0.000317	ppm	0.000379	> 100.00	-20.031200	Y 377.433
Se (196.026 nm)	-0.003787 u	ppm	0.001676	44.26	9.410660	Y 242.219
Si (288.158 nm)	5.642730	ppm	0.019181	0.34	47099.400000	Y 377.433
Sn (189.925 nm)	-0.001554 u	ppm	0.000269	17.29	4.931750	Y 377.433
Sr (421.552 nm)	0.044023	ppm	0.000474	1.08	9219.313161	Y_R 488.368
Th (288.505 nm)	0.002018 u	ppm	0.004296	> 100.00	84.105900	Y 377.433
Ti (336.122 nm)	0.000555	ppm	0.000119	21.49	-139.971000	Y 377.433
Tl (190.794 nm)	0.000577 u	ppm	0.001290	> 100.00	-6.017640	Y 377.433
U (409.013 nm)	0.005633	ppm	0.000789	14.00	-150.534000	Y 377.433
V (292.401 nm)	-0.000056 u	ppm	0.000101	> 100.00	22.272400	Y 377.433
Zn (206.200 nm)	0.002837	ppm	0.000482	17.00	12.843300	Y 377.433
Zr (343.823 nm)	-0.000161 u	ppm	0.000100	62.33	1.480590	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.168667	22079.630654	0.000725	0.06
Y 377.433	1.162937	1180183.308501	0.002043	0.18
Y_R 377.433	1.269510	97551.300000	0.004921	0.39
Y_R 488.368	1.290180	56606.400000	0.014877	1.15
Y_R2 488.368	1.254763	108340.137805	0.006064	0.48

Sample Name: 280-116053-E-5-A

Date: 10/30/2018 1:37:34 AM Rack:Tube: 2:87

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001488	ppm	0.000225	15.11	-367.650000	Y 377.433
Al (167.019 nm)	0.014072	ppm	0.006434	45.72	8.457630	Y_R 377.433
Al H (396.152 nm)	0.002490 u	ppm	0.000639	25.68	121.071750	Y_R 377.433
As (188.980 nm)	0.003111	ppm	0.000906	29.12	1.159760	Y 242.219
B (249.678 nm)	0.017739	ppm	0.000219	1.23	513.922000	Y 242.219
Ba (493.408 nm)	0.051285	ppm	0.000273	0.53	6462.410000	Y_R 488.368
Be (234.861 nm)	0.000103	ppm	0.000007	6.55	-29.270200	Y_R 488.368
Bi (223.061 nm)	0.000870	ppm	0.000487	55.98	9.497710	Y 377.433
Ca (315.887 nm)	84.700650 o	ppm	0.408831	0.48	65101.939677	Y_R 377.433
Cd (214.439 nm)	0.000001 u	ppm	0.000069	> 100.00	-1.496640	Y 377.433
Co (228.615 nm)	-0.000013 u	ppm	0.000174	> 100.00	-34.440400	Y 242.219
Cr (205.560 nm)	0.000450	ppm	0.000282	62.69	8.232650	Y 377.433
Cu (324.754 nm)	0.001783	ppm	0.000115	6.48	-264.970000	Y 377.433
Fe (238.204 nm)	0.031152	ppm	0.001367	4.39	129.036504	Y_R 377.433
Fe H (259.940 nm)	-0.052195 u	ppm	0.001526	2.92	57.146000	Y_R 377.433
K (766.491 nm)	1.318310	ppm	0.025625	1.94	791.698000	Y_R2 488.368
Li (670.783 nm)	0.029176	ppm	0.000197	0.68	-437.098000	Y_R2 488.368
Mg (279.078 nm)	19.362900	ppm	0.016262	0.08	106552.000000	Y 377.433
Mn (257.610 nm)	0.108863	ppm	0.000052	0.05	24630.100000	Y 377.433
Mo (202.032 nm)	0.001132	ppm	0.000036	3.16	7.042450	Y 377.433
Na (589.592 nm)	11.185900 o	ppm	0.011015	0.10	71601.100000	Y_R2 488.368
Na H (589.593 nm)	10.859365	ppm	0.005903	0.05	43107.173526	Y_R 488.368
Ni (231.604 nm)	-0.001703 u	ppm	0.000074	4.34	-13.469200	Y 377.433
P (213.618 nm)	-0.003261 u	ppm	0.001037	31.79	20.194700	Y 242.219
Pb (220.353 nm)	0.001127 u	ppm	0.001620	> 100.00	6.957600	Y 242.219
S (181.972 nm)	20.123306 o	ppm	0.063568	0.32	9833.075381	Y 377.433
Sb (206.834 nm)	-0.000503 u	ppm	0.000537	> 100.00	-21.498600	Y 377.433
Se (196.026 nm)	-0.004661 u	ppm	0.001570	33.69	9.165350	Y 242.219
Si (288.158 nm)	7.087510	ppm	0.036276	0.51	58898.200000	Y 377.433
Sn (189.925 nm)	-0.001851 u	ppm	0.000051	2.75	4.365450	Y 377.433
Sr (421.552 nm)	0.167409	ppm	0.000065	0.04	34650.502869	Y_R 488.368
Th (288.505 nm)	0.001465	ppm	0.001296	88.45	83.287900	Y 377.433
Ti (336.122 nm)	0.000741	ppm	0.000093	12.58	76.695100	Y 377.433
Tl (190.794 nm)	0.002077	ppm	0.000953	45.89	-2.745170	Y 377.433
U (409.013 nm)	0.003514	ppm	0.000303	8.63	-174.300000	Y 377.433
V (292.401 nm)	-0.000143 u	ppm	0.000019	13.56	19.725700	Y 377.433
Zn (206.200 nm)	0.002112	ppm	0.000692	32.75	9.216470	Y 377.433
Zr (343.823 nm)	-0.000271 u	ppm	0.000129	47.57	-21.339800	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.161357	21941.525029	0.001553	0.13
Y 377.433	1.166670	1183971.713680	0.003166	0.27
Y_R 377.433	1.270630	97637.800000	0.004989	0.39
Y_R 488.368	1.292410	56704.300000	0.000568	0.04
Y_R2 488.368	1.252784	108169.255141	0.004198	0.34

Sample Name: CCVH-5380945

Date: 10/30/2018 1:40:57 AM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000247 u	ppm	0.000159	64.65	-694.984000	Y 377.433
Al (167.019 nm)	45.888100 o	ppm	0.128513	0.28	24276.900000	Y_R 377.433
Al H (396.152 nm)	48.889253	ppm	0.183630	0.38	123491.060149	Y_R 377.433
As (188.980 nm)	0.000234 u	ppm	0.000894	> 100.00	-2.732740	Y 242.219
B (249.678 nm)	-0.001831 u	ppm	0.000200	10.93	-24.878300	Y 242.219
Ba (493.408 nm)	-0.000836 u	ppm	0.000279	33.33	525.762000	Y_R 488.368
Be (234.861 nm)	-0.000552 u	ppm	0.000028	5.10	1356.060000	Y_R 488.368
Bi (223.061 nm)	1.036600	ppm	0.000311	0.03	2529.230000	Y 377.433
Ca (315.887 nm)	0.019439	ppm	0.005516	28.38	-49.502616	Y_R 377.433
Cd (214.439 nm)	-0.000134 u	ppm	0.000003	2.56	38.762000	Y 377.433
Co (228.615 nm)	0.003549	ppm	0.000107	3.01	27.230200	Y 242.219
Cr (205.560 nm)	-0.000213 u	ppm	0.000063	29.33	-15.216900	Y 377.433
Cu (324.754 nm)	-0.002910 u	ppm	0.000391	13.43	-156.271000	Y 377.433
Fe (238.204 nm)	50.448926 o	ppm	0.106822	0.21	182067.459741	Y_R 377.433
Fe H (259.940 nm)	52.523300	ppm	0.127070	0.24	96050.700000	Y_R 377.433
K (766.491 nm)	0.196465	ppm	0.006781	3.45	-468.459000	Y_R2 488.368
Li (670.783 nm)	0.017829	ppm	0.000202	1.13	-805.732000	Y_R2 488.368
Mg (279.078 nm)	-0.015258 u	ppm	0.000076	0.50	-407.754000	Y 377.433
Mn (257.610 nm)	0.001542	ppm	0.000019	1.21	409.509000	Y 377.433
Mo (202.032 nm)	0.000349	ppm	0.000010	2.74	0.508178	Y 377.433
Na (589.592 nm)	233.286000 o	ppm	0.467298	0.20	1478870.000000	Y_R2 488.368
Na H (589.593 nm)	239.025234	ppm	4.129221	1.73	880822.866953	Y_R 488.368
Ni (231.604 nm)	0.003991	ppm	0.000606	15.19	25.812000	Y 377.433
P (213.618 nm)	-0.009648 u	ppm	0.000698	7.23	7.053060	Y 242.219
Pb (220.353 nm)	-0.005386 u	ppm	0.001488	27.63	7.290780	Y 242.219
S (181.972 nm)	5.145938	ppm	0.003435	0.07	2537.569631	Y 377.433
Sb (206.834 nm)	-0.004020 u	ppm	0.002471	61.47	-77.304600	Y 377.433
Se (196.026 nm)	-0.002018 u	ppm	0.001430	70.86	2.636630	Y 242.219
Si (288.158 nm)	0.061290	ppm	0.000835	1.36	1518.150000	Y 377.433
Sn (189.925 nm)	0.002172	ppm	0.001529	70.42	12.039400	Y 377.433
Sr (421.552 nm)	0.000319	ppm	0.000003	1.03	211.472074	Y_R 488.368
Th (288.505 nm)	5.085510	ppm	0.002205	0.04	12801.500000	Y 377.433
Ti (336.122 nm)	0.001977	ppm	0.000003	0.16	-10.192700	Y 377.433
Tl (190.794 nm)	-0.002870 u	ppm	0.000865	30.13	-14.637400	Y 377.433
U (409.013 nm)	10.412900	ppm	0.006098	0.06	46147.700000	Y 377.433
V (292.401 nm)	0.003880	ppm	0.000061	1.57	-18.507800	Y 377.433
Zn (206.200 nm)	0.001272	ppm	0.000231	18.15	5.018550	Y 377.433
Zr (343.823 nm)	-0.004527 u	ppm	0.000104	2.30	-420.349000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.159996	21915.812645	0.003420	0.29
Y 377.433	1.148508	1165540.194390	0.002806	0.24
Y_R 377.433	1.262450	97009.200000	0.001262	0.10
Y_R 488.368	1.282030	56248.800000	0.015715	1.23
Y_R2 488.368	1.251156	108028.663432	0.003102	0.25

Sample Name: CCV-5391053

Date: 10/30/2018 1:44:20 AM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.502562	ppm	0.000139	0.03	21849.600000	Y 377.433
Al (167.019 nm)	0.521054	ppm	0.000766	0.15	277.954000	Y_R 377.433
Al H (396.152 nm)	0.486279 u	ppm	0.009635	1.98	1348.970578	Y_R 377.433
As (188.980 nm)	1.015630	ppm	0.000369	0.04	1215.830000	Y 242.219
B (249.678 nm)	0.503361	ppm	0.000395	0.08	12049.800000	Y 242.219
Ba (493.408 nm)	0.495221	ppm	0.002171	0.44	57265.000000	Y_R 488.368
Be (234.861 nm)	0.456362	ppm	0.001084	0.24	131039.000000	Y_R 488.368
Bi (223.061 nm)	-0.002255 u	ppm	0.000079	3.51	2.332400	Y 377.433
Ca (315.887 nm)	5.271511	ppm	0.002173	0.04	3991.574036	Y_R 377.433
Cd (214.439 nm)	0.494424	ppm	0.000640	0.13	28241.400000	Y 377.433
Co (228.615 nm)	0.501602	ppm	0.001065	0.21	8664.690000	Y 242.219
Cr (205.560 nm)	0.506926	ppm	0.002838	0.56	7387.650000	Y 377.433
Cu (324.754 nm)	0.519322	ppm	0.000607	0.12	27378.200000	Y 377.433
Fe (238.204 nm)	2.538891	ppm	0.001638	0.06	9178.504789	Y_R 377.433
Fe H (259.940 nm)	2.593310 u	ppm	0.009411	0.36	4887.360000	Y_R 377.433
K (766.491 nm)	48.078600	ppm	0.097015	0.20	53317.000000	Y_R2 488.368
Li (670.783 nm)	0.956837	ppm	0.000101	0.01	29702.100000	Y_R2 488.368
Mg (279.078 nm)	19.367400	ppm	0.004845	0.03	106572.000000	Y 377.433
Mn (257.610 nm)	0.502681	ppm	0.000126	0.03	113509.000000	Y 377.433
Mo (202.032 nm)	0.509063	ppm	0.000467	0.09	4246.430000	Y 377.433
Na (589.592 nm)	4.782020	ppm	0.016275	0.34	31885.200000	Y_R2 488.368
Na H (589.593 nm)	4.594350 u	ppm	0.037025	0.81	20522.538606	Y_R 488.368
Ni (231.604 nm)	0.519547	ppm	0.000414	0.08	3395.120000	Y 377.433
P (213.618 nm)	0.948375	ppm	0.000875	0.09	1978.190000	Y 242.219
Pb (220.353 nm)	0.995050	ppm	0.003500	0.35	2777.770000	Y 242.219
S (181.972 nm)	0.013003	ppm	0.003601	27.70	38.564265	Y 377.433
Sb (206.834 nm)	1.017980	ppm	0.000884	0.09	2684.280000	Y 377.433
Se (196.026 nm)	1.012770	ppm	0.001516	0.15	965.152000	Y 242.219
Si (288.158 nm)	5.001580	ppm	0.004869	0.10	41863.400000	Y 377.433
Sn (189.925 nm)	1.022600	ppm	0.000241	0.02	1958.760000	Y 377.433
Sr (421.552 nm)	0.493641	ppm	0.002542	0.51	101890.421190	Y_R 488.368
Th (288.505 nm)	0.005696	ppm	0.000877	15.40	108.024000	Y 377.433
Ti (336.122 nm)	0.504048	ppm	0.000015	0.00	70123.800000	Y 377.433
Tl (190.794 nm)	1.010100	ppm	0.002662	0.26	2147.390000	Y 377.433
U (409.013 nm)	0.003342	ppm	0.001883	56.32	-197.078000	Y 377.433
V (292.401 nm)	0.497809	ppm	0.000220	0.04	17390.400000	Y 377.433
Zn (206.200 nm)	0.489317	ppm	0.001359	0.28	2445.520000	Y 377.433
Zr (343.823 nm)	0.507645	ppm	0.000588	0.12	65350.200000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.178756	22270.246704	0.000350	0.03
Y 377.433	1.176089	1193529.813669	0.000092	0.01
Y_R 377.433	1.279500	98318.700000	0.000877	0.07
Y_R 488.368	1.295060	56820.400000	0.003282	0.25
Y_R2 488.368	1.274337	110030.223218	0.004665	0.37

Sample Name: CCB

Date: 10/30/2018 1:47:44 AM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000908	ppm	0.000093	10.21	-393.235000	Y 377.433
Al (167.019 nm)	-0.000331 u	ppm	0.001019	> 100.00	0.828018	Y_R 377.433
Al H (396.152 nm)	-0.026176 u	ppm	0.000009	0.04	11.737628	Y_R 377.433
As (188.980 nm)	-0.000226 u	ppm	0.001276	> 100.00	-2.843150	Y 242.219
B (249.678 nm)	-0.000185 u	ppm	0.000761	> 100.00	88.844400	Y 242.219
Ba (493.408 nm)	-0.001376 u	ppm	0.000079	5.77	415.853000	Y_R 488.368
Be (234.861 nm)	0.000082	ppm	0.000014	17.69	-36.333700	Y_R 488.368
Bi (223.061 nm)	0.001132	ppm	0.000016	1.45	10.127400	Y 377.433
Ca (315.887 nm)	0.015911	ppm	0.005551	34.89	-52.217751	Y_R 377.433
Cd (214.439 nm)	0.000050	ppm	0.000006	12.39	1.240510	Y 377.433
Co (228.615 nm)	0.000244	ppm	0.000057	23.60	-30.009300	Y 242.219
Cr (205.560 nm)	-0.000154 u	ppm	0.000009	5.52	-0.563690	Y 377.433
Cu (324.754 nm)	0.001816	ppm	0.000072	3.97	-215.379000	Y 377.433
Fe (238.204 nm)	0.000434	ppm	0.000570	> 100.00	18.184720	Y_R 377.433
Fe H (259.940 nm)	-0.079925 u	ppm	0.001658	2.07	6.515860	Y_R 377.433
K (766.491 nm)	0.175130	ppm	0.030214	17.25	-492.424000	Y_R2 488.368
Li (670.783 nm)	0.016418 Z	ppm	0.000741	4.51	-851.598000 Z	Y_R2 488.368
Mg (279.078 nm)	0.001017	ppm	0.000669	65.78	39.972300	Y 377.433
Mn (257.610 nm)	0.000027	ppm	0.000010	36.36	67.608500	Y 377.433
Mo (202.032 nm)	0.000527	ppm	0.000056	10.62	1.991360	Y 377.433
Na (589.592 nm)	-0.038578 u	ppm	0.004231	10.97	372.580000	Y_R2 488.368
Na H (589.593 nm)	-0.475695 u	ppm	0.003164	0.67	1437.897215	Y_R 488.368
Ni (231.604 nm)	-0.000048 u	ppm	0.000086	> 100.00	-2.651520	Y 377.433
P (213.618 nm)	-0.003466 u	ppm	0.001243	35.86	19.772500	Y 242.219
Pb (220.353 nm)	-0.000176 u	ppm	0.000062	35.18	3.337930	Y 242.219
S (181.972 nm)	0.002187	ppm	0.000469	21.42	32.120021	Y 377.433
Sb (206.834 nm)	0.000534 u	ppm	0.001040	> 100.00	-18.758600	Y 377.433
Se (196.026 nm)	-0.000892 u	ppm	0.002185	> 100.00	12.627300	Y 242.219
Si (288.158 nm)	0.006453	ppm	0.003435	53.23	1070.320000	Y 377.433
Sn (189.925 nm)	-0.000078 u	ppm	0.000219	> 100.00	7.746820	Y 377.433
Sr (421.552 nm)	-0.000178 u	ppm	0.000116	64.87	108.874197	Y_R 488.368
Th (288.505 nm)	0.004579	ppm	0.000820	17.91	88.815800	Y 377.433
Ti (336.122 nm)	0.000411	ppm	0.000048	11.60	-229.080000	Y 377.433
Tl (190.794 nm)	0.001811	ppm	0.000524	28.93	-3.308780	Y 377.433
U (409.013 nm)	0.003968	ppm	0.001376	34.68	-156.545000	Y 377.433
V (292.401 nm)	-0.000099 u	ppm	0.000036	36.32	20.690600	Y 377.433
Zn (206.200 nm)	0.000493	ppm	0.000138	27.97	1.121240	Y 377.433
Zr (343.823 nm)	-0.000028 u	ppm	0.000072	> 100.00	9.783500	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.181961	22330.809450	0.000566	0.05
Y 377.433	1.180120	1197620.516301	0.001644	0.14
Y_R 377.433	1.269020	97513.900000	0.003565	0.28
Y_R 488.368	1.287990	56510.200000	0.005970	0.46
Y_R2 488.368	1.257304	108559.511768	0.012788	1.02

Sample Name: CCVL-5398386

Date: 10/30/2018 1:51:07 AM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.010150	ppm	0.000090	0.89	16.614200	Y 377.433
Al (167.019 nm)	0.105389	ppm	0.002048	1.94	56.747500	Y_R 377.433
Al H (396.152 nm)	0.075525 u	ppm	0.001454	1.93	270.068127	Y_R 377.433
As (188.980 nm)	0.014358	ppm	0.000062	0.43	14.651900	Y 242.219
B (249.678 nm)	0.098339	ppm	0.000513	0.52	2425.990000	Y 242.219
Ba (493.408 nm)	0.008851	ppm	0.000002	0.02	1586.370000	Y_R 488.368
Be (234.861 nm)	0.001006	ppm	0.000001	0.07	231.569000	Y_R 488.368
Bi (223.061 nm)	0.106280	ppm	0.002104	1.98	265.110000	Y 377.433
Ca (315.887 nm)	0.225755	ppm	0.000022	0.01	109.233327	Y_R 377.433
Cd (214.439 nm)	0.005193	ppm	0.000025	0.48	295.097000	Y 377.433
Co (228.615 nm)	0.010679	ppm	0.000011	0.11	150.928000	Y 242.219
Cr (205.560 nm)	0.009868	ppm	0.000005	0.05	145.493000	Y 377.433
Cu (324.754 nm)	0.018088	ppm	0.000090	0.50	650.376000	Y 377.433
Fe (238.204 nm)	0.103390	ppm	0.001034	1.00	389.714443	Y_R 377.433
Fe H (259.940 nm)	0.026980 u	ppm	0.000502	1.86	201.704000	Y_R 377.433
K (766.491 nm)	3.187730	ppm	0.007079	0.22	2891.590000	Y_R2 488.368
Li (670.783 nm)	0.036322 Q	ppm	0.000563	1.55	-204.922000 Q	Y_R2 488.368
Mg (279.078 nm)	0.192306	ppm	0.002149	1.12	1091.000000	Y 377.433
Mn (257.610 nm)	0.010282	ppm	0.000014	0.14	2381.840000	Y 377.433
Mo (202.032 nm)	0.019256	ppm	0.000119	0.62	158.314000	Y 377.433
Na (589.592 nm)	0.968545	ppm	0.005851	0.60	6774.310000	Y_R2 488.368
Na H (589.593 nm)	0.536392 u	ppm	0.007253	1.35	5163.687054	Y_R 488.368
Ni (231.604 nm)	0.042092	ppm	0.000233	0.55	272.825000	Y 377.433
P (213.618 nm)	2.814350 o	ppm	0.007212	0.26	5817.450000	Y 242.219
Pb (220.353 nm)	0.010851	ppm	0.000168	1.55	34.113600	Y 242.219
S (181.972 nm)	0.091523	ppm	0.001597	1.75	75.657915	Y 377.433
Sb (206.834 nm)	0.021577	ppm	0.003383	15.68	36.991600	Y 377.433
Se (196.026 nm)	0.013275 Q	ppm	0.002016	15.18	25.931200 Q	Y 242.219
Si (288.158 nm)	0.469919	ppm	0.004860	1.03	4855.250000	Y 377.433
Sn (189.925 nm)	0.098668	ppm	0.001801	1.83	196.130000	Y 377.433
Sr (421.552 nm)	0.009883	ppm	0.000030	0.31	2182.734058	Y_R 488.368
Th (288.505 nm)	0.014302	ppm	0.000791	5.53	114.109000	Y 377.433
Ti (336.122 nm)	0.010585	ppm	0.000001	0.01	1192.370000	Y 377.433
Tl (190.794 nm)	0.015562	ppm	0.000537	3.45	25.990100	Y 377.433
U (409.013 nm)	0.071574	ppm	0.003043	4.25	142.816000	Y 377.433
V (292.401 nm)	0.009715	ppm	0.000174	1.79	360.842000	Y 377.433
Zn (206.200 nm)	0.020787	ppm	0.001093	5.26	102.603000	Y 377.433
Zr (343.823 nm)	0.014773	ppm	0.000051	0.35	1914.880000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.200139	22674.246725	0.001499	0.12
Y 377.433	1.197670	1215430.590403	0.000530	0.04
Y_R 377.433	1.279220	98297.500000	0.001500	0.12
Y_R 488.368	1.282300	56260.900000	0.005928	0.46
Y_R2 488.368	1.267141	109408.886359	0.001957	0.15

Sample Name: 280-116053-E-6-A

Date: 10/30/2018 1:54:30 AM Rack:Tube: 2:88

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001478	ppm	0.000087	5.89	-368.095000	Y 377.433
Al (167.019 nm)	0.000924	ppm	0.000766	82.92	4.036330	Y_R 377.433
Al H (396.152 nm)	-0.017160 u	ppm	0.002791	16.26	49.156557	Y_R 377.433
As (188.980 nm)	0.002078	ppm	0.000922	44.40	-0.113461	Y 242.219
B (249.678 nm)	0.006295	ppm	0.000007	0.12	236.819000	Y 242.219
Ba (493.408 nm)	0.015464	ppm	0.000488	3.16	2354.600000	Y_R 488.368
Be (234.861 nm)	0.000084	ppm	0.000024	29.04	84.326000	Y_R 488.368
Bi (223.061 nm)	0.001375	ppm	0.001666	> 100.00	11.349700	Y 377.433
Ca (315.887 nm)	33.647442 o	ppm	0.211350	0.63	25822.976165	Y_R 377.433
Cd (214.439 nm)	0.000055	ppm	0.000039	72.34	5.174990	Y 377.433
Co (228.615 nm)	0.000832	ppm	0.000264	31.69	-19.832500	Y 242.219
Cr (205.560 nm)	-0.000132 u	ppm	0.000138	> 100.00	-1.289860	Y 377.433
Cu (324.754 nm)	0.002371	ppm	0.000339	14.29	-201.589000	Y 377.433
Fe (238.204 nm)	3.855197	ppm	0.026082	0.68	13928.548528	Y_R 377.433
Fe H (259.940 nm)	3.935730 u	ppm	0.024431	0.62	7338.390000	Y_R 377.433
K (766.491 nm)	0.885475	ppm	0.040974	4.63	305.497000	Y_R2 488.368
Li (670.783 nm)	0.024159	ppm	0.000743	3.08	-600.091000	Y_R2 488.368
Mg (279.078 nm)	10.161900	ppm	0.000616	0.01	55929.900000	Y 377.433
Mn (257.610 nm)	0.318286	ppm	0.000499	0.16	71893.500000	Y 377.433
Mo (202.032 nm)	0.000213	ppm	0.000073	34.09	-0.627259	Y 377.433
Na (589.592 nm)	3.886010	ppm	0.015129	0.39	25273.700000	Y_R2 488.368
Na H (589.593 nm)	3.426049 u	ppm	0.074907	2.19	15779.755607	Y_R 488.368
Ni (231.604 nm)	0.002263	ppm	0.000646	28.56	12.612300	Y 377.433
P (213.618 nm)	0.046065	ppm	0.000215	0.47	121.683000	Y 242.219
Pb (220.353 nm)	0.000449	ppm	0.000171	38.21	5.403080	Y 242.219
S (181.972 nm)	9.303287	ppm	0.010326	0.11	4563.293347	Y 377.433
Sb (206.834 nm)	-0.000921 u	ppm	0.000422	45.87	-23.528200	Y 377.433
Se (196.026 nm)	-0.004719 u	ppm	0.000003	0.06	8.543460	Y 242.219
Si (288.158 nm)	7.443630	ppm	0.031379	0.42	61806.500000	Y 377.433
Sn (189.925 nm)	-0.000565 u	ppm	0.001438	> 100.00	6.818990	Y 377.433
Sr (421.552 nm)	0.042714	ppm	0.000821	1.92	8949.539518	Y_R 488.368
Th (288.505 nm)	0.003993	ppm	0.000453	11.35	93.359900	Y 377.433
Ti (336.122 nm)	0.000810	ppm	0.000009	1.14	-70.191700	Y 377.433
Tl (190.794 nm)	0.002154	ppm	0.000451	20.94	-2.679790	Y 377.433
U (409.013 nm)	0.005688	ppm	0.001246	21.91	-151.514000	Y 377.433
V (292.401 nm)	-0.000352 u	ppm	0.000078	22.07	12.184900	Y 377.433
Zn (206.200 nm)	0.001464	ppm	0.000465	31.77	5.975290	Y 377.433
Zr (343.823 nm)	-0.000282 u	ppm	0.000089	31.59	-11.472300	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.192469	22529.337942	0.001033	0.09
Y 377.433	1.194821	1212539.425518	0.000251	0.02
Y_R 377.433	1.307270	100453.000000	0.003131	0.24
Y_R 488.368	1.319910	57910.900000	0.021110	1.60
Y_R2 488.368	1.292946	111636.990339	0.002871	0.22

Sample Name: 280-116053-E-7-A

Date: 10/30/2018 1:57:52 AM Rack:Tube: 2:89

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001559	ppm	0.000105	6.71	-364.530000	Y 377.433
Al (167.019 nm)	0.035012	ppm	0.000209	0.60	19.547500	Y_R 377.433
Al H (396.152 nm)	0.028688 u	ppm	0.000023	0.08	191.628398	Y_R 377.433
As (188.980 nm)	0.002455	ppm	0.000462	18.84	0.372277	Y 242.219
B (249.678 nm)	0.108398	ppm	0.000386	0.36	2664.210000	Y 242.219
Ba (493.408 nm)	0.021697	ppm	0.000336	1.55	3078.420000	Y_R 488.368
Be (234.861 nm)	0.000100	ppm	0.000002	1.77	-28.888600	Y_R 488.368
Bi (223.061 nm)	0.000102 u	ppm	0.000200	> 100.00	7.643220	Y 377.433
Ca (315.887 nm)	94.988356 o	ppm	0.193301	0.20	73017.023357	Y_R 377.433
Cd (214.439 nm)	0.000061	ppm	0.000040	64.92	1.951730	Y 377.433
Co (228.615 nm)	-0.000095 u	ppm	0.000034	35.43	-35.864300	Y 242.219
Cr (205.560 nm)	0.000224	ppm	0.000035	15.82	4.925490	Y 377.433
Cu (324.754 nm)	0.002066	ppm	0.000070	3.37	-254.748000	Y 377.433
Fe (238.204 nm)	0.072458	ppm	0.000238	0.33	278.091878	Y_R 377.433
Fe H (259.940 nm)	-0.011781 u	ppm	0.001430	12.14	130.934000	Y_R 377.433
K (766.491 nm)	1.060450	ppm	0.033853	3.19	502.042000	Y_R2 488.368
Li (670.783 nm)	0.041020	ppm	0.002428	5.92	-52.285900	Y_R2 488.368
Mg (279.078 nm)	36.096200	ppm	0.053159	0.15	198604.000000	Y 377.433
Mn (257.610 nm)	0.003248	ppm	0.000013	0.39	794.567000	Y 377.433
Mo (202.032 nm)	0.000225	ppm	0.000044	19.58	-0.530233	Y 377.433
Na (589.592 nm)	4.121230	ppm	0.005331	0.13	26776.500000	Y_R2 488.368
Na H (589.593 nm)	3.824441 u	ppm	0.052652	1.38	17248.506813	Y_R 488.368
Ni (231.604 nm)	-0.000606 u	ppm	0.000021	3.46	-6.294820	Y 377.433
P (213.618 nm)	0.001613	ppm	0.000414	25.69	30.224100	Y 242.219
Pb (220.353 nm)	-0.000187 u	ppm	0.001700	> 100.00	3.290890	Y 242.219
S (181.972 nm)	23.880071 o	ppm	0.017065	0.07	11662.693058	Y 377.433
Sb (206.834 nm)	-0.000695 u	ppm	0.000521	74.88	-22.020300	Y 377.433
Se (196.026 nm)	-0.003479 u	ppm	0.000760	21.85	10.186000	Y 242.219
Si (288.158 nm)	8.346600	ppm	0.055537	0.67	69180.600000	Y 377.433
Sn (189.925 nm)	0.000363 u	ppm	0.001229	> 100.00	8.587580	Y 377.433
Sr (421.552 nm)	0.201846	ppm	0.002330	1.15	41748.234272	Y_R 488.368
Th (288.505 nm)	0.005229	ppm	0.001022	19.55	90.488800	Y 377.433
Ti (336.122 nm)	0.000884	ppm	0.000014	1.55	128.293000	Y 377.433
Tl (190.794 nm)	0.002254	ppm	0.002653	> 100.00	-2.366280	Y 377.433
U (409.013 nm)	0.007443	ppm	0.001952	26.23	-158.720000	Y 377.433
V (292.401 nm)	-0.000195 u	ppm	0.000261	> 100.00	18.484400	Y 377.433
Zn (206.200 nm)	0.001483	ppm	0.000310	20.87	6.073860	Y 377.433
Zr (343.823 nm)	-0.000323 u	ppm	0.000104	32.09	-28.006200	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.168474	22075.985831	0.000030	0.00
Y 377.433	1.176352	1193796.961335	0.000751	0.06
Y_R 377.433	1.294750	99491.300000	0.002598	0.20
Y_R 488.368	1.292050	56688.300000	0.013695	1.06
Y_R2 488.368	1.280302	110545.298370	0.009657	0.75

Sample Name: 280-116053-E-8-A

Date: 10/30/2018 2:01:15 AM Rack:Tube: 2:90

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001457	ppm	0.000131	8.99	-369.151000	Y 377.433
Al (167.019 nm)	0.015165	ppm	0.001420	9.36	9.039950	Y_R 377.433
Al H (396.152 nm)	0.008156 u	ppm	0.001731	21.22	132.333293	Y_R 377.433
As (188.980 nm)	0.000860 u	ppm	0.001350	> 100.00	-1.540880	Y 242.219
B (249.678 nm)	0.084141	ppm	0.000270	0.32	2088.920000	Y 242.219
Ba (493.408 nm)	0.022151	ppm	0.000292	1.32	3126.380000	Y_R 488.368
Be (234.861 nm)	0.000106	ppm	0.000004	3.48	-28.224600	Y_R 488.368
Bi (223.061 nm)	-0.000844 u	ppm	0.000143	16.95	5.343980	Y 377.433
Ca (315.887 nm)	77.512774 o	ppm	0.051159	0.07	59571.781529	Y_R 377.433
Cd (214.439 nm)	0.000100	ppm	0.000078	77.65	4.159050	Y 377.433
Co (228.615 nm)	0.000410	ppm	0.000067	16.36	-27.131200	Y 242.219
Cr (205.560 nm)	0.000180	ppm	0.000085	47.30	4.298350	Y 377.433
Cu (324.754 nm)	0.002007	ppm	0.000101	5.03	-248.720000	Y 377.433
Fe (238.204 nm)	0.039358	ppm	0.001504	3.82	158.645790	Y_R 377.433
Fe H (259.940 nm)	-0.040908 u	ppm	0.001592	3.89	77.753800	Y_R 377.433
K (766.491 nm)	1.092410	ppm	0.033198	3.04	537.947000	Y_R2 488.368
Li (670.783 nm)	0.035575	ppm	0.000458	1.29	-229.187000	Y_R2 488.368
Mg (279.078 nm)	23.968100	ppm	0.017936	0.07	131886.000000	Y 377.433
Mn (257.610 nm)	0.151311	ppm	0.000192	0.13	34209.900000	Y 377.433
Mo (202.032 nm)	0.001666	ppm	0.000131	7.89	11.495800	Y 377.433
Na (589.592 nm)	5.472980	ppm	0.015442	0.28	35342.900000	Y_R2 488.368
Na H (589.593 nm)	5.148150 u	ppm	0.027844	0.54	22109.239999	Y_R 488.368
Ni (231.604 nm)	-0.000562 u	ppm	0.000587	> 100.00	-6.012980	Y 377.433
P (213.618 nm)	-0.001510 u	ppm	0.001230	81.49	23.798100	Y 242.219
Pb (220.353 nm)	0.000766 u	ppm	0.001293	> 100.00	5.951600	Y 242.219
S (181.972 nm)	9.235670	ppm	0.016756	0.18	4529.967321	Y 377.433
Sb (206.834 nm)	-0.001270 u	ppm	0.000854	67.23	-23.544400	Y 377.433
Se (196.026 nm)	-0.005960 u	ppm	0.000214	3.59	7.975780	Y 242.219
Si (288.158 nm)	6.827840	ppm	0.028385	0.42	56777.600000	Y 377.433
Sn (189.925 nm)	-0.000511 u	ppm	0.000728	> 100.00	6.921300	Y 377.433
Sr (421.552 nm)	0.114002	ppm	0.000705	0.62	23642.747705	Y_R 488.368
Th (288.505 nm)	0.001606 u	ppm	0.004143	> 100.00	84.492700	Y 377.433
Ti (336.122 nm)	0.000814	ppm	0.000031	3.86	65.215200	Y 377.433
Tl (190.794 nm)	0.001316	ppm	0.000248	18.84	-4.369890	Y 377.433
U (409.013 nm)	0.005392	ppm	0.002615	48.50	-164.609000	Y 377.433
V (292.401 nm)	-0.000021 u	ppm	0.000086	> 100.00	24.123300	Y 377.433
Zn (206.200 nm)	0.001786	ppm	0.000866	48.51	7.585230	Y 377.433
Zr (343.823 nm)	-0.000295 u	ppm	0.000115	38.96	-24.502200	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.178774	22270.597290	0.001310	0.11
Y 377.433	1.187223	1204828.897350	0.001395	0.12
Y_R 377.433	1.309620	100634.000000	0.004460	0.34
Y_R 488.368	1.322380	58019.200000	0.003351	0.25
Y_R2 488.368	1.293480	111683.081271	0.001410	0.11

Sample Name: 280-116053-E-9-A

Date: 10/30/2018 2:04:39 AM Rack:Tube: 4:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001635	ppm	0.000209	12.81	-361.082000	Y 377.433
Al (167.019 nm)	0.006499	ppm	0.000130	2.00	4.965340	Y_R 377.433
Al H (396.152 nm)	-0.004910 u	ppm	0.001413	28.79	99.443797	Y_R 377.433
As (188.980 nm)	0.008691	ppm	0.001508	17.35	7.847420	Y 242.219
B (249.678 nm)	0.030444	ppm	0.000393	1.29	814.141000	Y 242.219
Ba (493.408 nm)	0.056044	ppm	0.000314	0.56	7006.330000	Y_R 488.368
Be (234.861 nm)	0.000092	ppm	0.000009	9.53	-8.322750	Y_R 488.368
Bi (223.061 nm)	0.000800 u	ppm	0.001388	> 100.00	9.454350	Y 377.433
Ca (315.887 nm)	77.910932 o	ppm	0.367186	0.47	59878.113398	Y_R 377.433
Cd (214.439 nm)	-0.000010 u	ppm	0.000020	> 100.00	-1.416150	Y 377.433
Co (228.615 nm)	0.000220	ppm	0.000161	73.49	-30.425900	Y 242.219
Cr (205.560 nm)	0.000008	ppm	0.000011	> 100.00	1.585260	Y 377.433
Cu (324.754 nm)	0.001771	ppm	0.000084	4.73	-260.649000	Y 377.433
Fe (238.204 nm)	0.802421	ppm	0.003733	0.47	2912.250379	Y_R 377.433
Fe H (259.940 nm)	0.754701 u	ppm	0.002636	0.35	1530.390000	Y_R 377.433
K (766.491 nm)	1.514570	ppm	0.031998	2.11	1012.150000	Y_R2 488.368
Li (670.783 nm)	0.028268	ppm	0.000079	0.28	-466.588000	Y_R2 488.368
Mg (279.078 nm)	18.083600	ppm	0.049836	0.28	99513.300000	Y 377.433
Mn (257.610 nm)	0.306448	ppm	0.000572	0.19	69221.800000	Y 377.433
Mo (202.032 nm)	0.000886	ppm	0.000056	6.32	4.985100	Y 377.433
Na (589.592 nm)	4.742460	ppm	0.006007	0.13	30780.100000	Y_R2 488.368
Na H (589.593 nm)	4.389887 u	ppm	0.032207	0.73	19357.262017	Y_R 488.368
Ni (231.604 nm)	-0.001036 u	ppm	0.000326	31.42	-9.078240	Y 377.433
P (213.618 nm)	0.015692	ppm	0.000968	6.17	59.190900	Y 242.219
Pb (220.353 nm)	0.000362 u	ppm	0.001012	> 100.00	4.888050	Y 242.219
S (181.972 nm)	12.869935 o	ppm	0.008332	0.06	6300.527228	Y 377.433
Sb (206.834 nm)	0.000013 u	ppm	0.000986	> 100.00	-20.323700	Y 377.433
Se (196.026 nm)	-0.005739 u	ppm	0.001358	23.67	8.158250	Y 242.219
Si (288.158 nm)	7.122070	ppm	0.008285	0.12	59180.500000	Y 377.433
Sn (189.925 nm)	0.000192 u	ppm	0.000822	> 100.00	8.263120	Y 377.433
Sr (421.552 nm)	0.136164	ppm	0.001104	0.81	28210.589135	Y_R 488.368
Th (288.505 nm)	0.001954	ppm	0.001737	88.89	88.264000	Y 377.433
Ti (336.122 nm)	0.000471	ppm	0.000015	3.24	18.516600	Y 377.433
Tl (190.794 nm)	0.001830	ppm	0.000656	35.86	-3.289160	Y 377.433
U (409.013 nm)	0.005295	ppm	0.000222	4.20	-164.413000	Y 377.433
V (292.401 nm)	-0.000088 u	ppm	0.000095	> 100.00	22.045600	Y 377.433
Zn (206.200 nm)	0.001698	ppm	0.000172	10.12	7.145010	Y 377.433
Zr (343.823 nm)	-0.000252 u	ppm	0.000009	3.64	-16.629900	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.172430	22150.730040	0.001120	0.10
Y 377.433	1.177305	1194764.277083	0.002811	0.24
Y_R 377.433	1.286730	98874.600000	0.001543	0.12
Y_R 488.368	1.302970	57167.400000	0.012224	0.94
Y_R2 488.368	1.274166	110015.495716	0.006370	0.50

Sample Name: 240-102733-F-1-E

Date: 10/30/2018 2:08:03 AM Rack:Tube: 4:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001710	ppm	0.000138	8.09	-357.905000	Y 377.433
Al (167.019 nm)	0.007496	ppm	0.002920	38.95	5.368950	Y_R 377.433
Al H (396.152 nm)	-0.003855 u	ppm	0.003859	> 100.00	101.344031	Y_R 377.433
As (188.980 nm)	0.002335	ppm	0.000123	5.26	0.223879	Y 242.219
B (249.678 nm)	0.115926	ppm	0.000505	0.44	2841.990000	Y 242.219
Ba (493.408 nm)	0.044225	ppm	0.000782	1.77	5653.030000	Y_R 488.368
Be (234.861 nm)	0.000083	ppm	0.000004	4.96	-16.661300	Y_R 488.368
Bi (223.061 nm)	-0.001476 u	ppm	0.001769	> 100.00	3.906420	Y 377.433
Ca (315.887 nm)	76.228494 o	ppm	0.230196	0.30	58583.690916	Y_R 377.433
Cd (214.439 nm)	0.000038	ppm	0.000045	> 100.00	1.127010	Y 377.433
Co (228.615 nm)	-0.000076 u	ppm	0.000152	> 100.00	-35.536800	Y 242.219
Cr (205.560 nm)	-0.000152 u	ppm	0.000083	54.64	-0.701238	Y 377.433
Cu (324.754 nm)	0.004233	ppm	0.000376	8.89	-128.472000	Y 377.433
Fe (238.204 nm)	0.614722	ppm	0.002071	0.34	2234.913613	Y_R 377.433
Fe H (259.940 nm)	0.556803 u	ppm	0.005254	0.94	1169.070000	Y_R 377.433
K (766.491 nm)	2.949790	ppm	0.033800	1.15	2624.310000	Y_R2 488.368
Li (670.783 nm)	0.028639	ppm	0.000873	3.05	-454.519000	Y_R2 488.368
Mg (279.078 nm)	29.297000	ppm	0.000824	0.00	161199.000000	Y 377.433
Mn (257.610 nm)	0.112739	ppm	0.000314	0.28	25504.900000	Y 377.433
Mo (202.032 nm)	0.000280	ppm	0.000221	78.87	-0.073212	Y 377.433
Na (589.592 nm)	43.485900 o	ppm	0.167499	0.39	276262.000000	Y_R2 488.368
Na H (589.593 nm)	43.414983	ppm	0.596791	1.37	162636.266161	Y_R 488.368
Ni (231.604 nm)	0.010572	ppm	0.000021	0.20	66.791300	Y 377.433
P (213.618 nm)	0.001983	ppm	0.000425	21.43	30.983700	Y 242.219
Pb (220.353 nm)	-0.000382 u	ppm	0.000946	> 100.00	2.810390	Y 242.219
S (181.972 nm)	16.486240 o	ppm	0.010815	0.07	8061.523040	Y 377.433
Sb (206.834 nm)	-0.000462 u	ppm	0.000580	> 100.00	-21.542200	Y 377.433
Se (196.026 nm)	-0.006884 u	ppm	0.003837	55.73	6.967490	Y 242.219
Si (288.158 nm)	4.999760	ppm	0.012637	0.25	41848.500000	Y 377.433
Sn (189.925 nm)	-0.000686 u	ppm	0.000829	> 100.00	6.587280	Y 377.433
Sr (421.552 nm)	0.509276	ppm	0.006862	1.35	105112.937076	Y_R 488.368
Th (288.505 nm)	0.004645	ppm	0.000791	17.03	91.193600	Y 377.433
Ti (336.122 nm)	0.000441	ppm	0.000011	2.43	9.211270	Y 377.433
Tl (190.794 nm)	0.001132	ppm	0.000811	71.67	-4.773460	Y 377.433
U (409.013 nm)	0.002951 u	ppm	0.004772	> 100.00	-174.695000	Y 377.433
V (292.401 nm)	-0.000072 u	ppm	0.000264	> 100.00	22.513800	Y 377.433
Zn (206.200 nm)	0.018548	ppm	0.000289	1.56	91.406200	Y 377.433
Zr (343.823 nm)	-0.000308 u	ppm	0.000102	33.12	-24.489500	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.166297	22034.855828	0.001251	0.11
Y 377.433	1.172918	1190311.645182	0.002320	0.20
Y_R 377.433	1.299600	99863.700000	0.004327	0.33
Y_R 488.368	1.328570	58290.600000	0.018570	1.40
Y_R2 488.368	1.291907	111547.310205	0.001640	0.13

Sample Name: 280-116004-E-5-A

Date: 10/30/2018 2:11:28 AM Rack:Tube: 4:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000850	ppm	0.000088	10.32	-395.820000	Y 377.433
Al (167.019 nm)	0.009603	ppm	0.004790	49.88	6.081880	Y_R 377.433
Al H (396.152 nm)	-0.021522 u	ppm	0.006133	28.50	23.496083	Y_R 377.433
As (188.980 nm)	0.001537	ppm	0.000642	41.77	-0.728992	Y 242.219
B (249.678 nm)	-0.001389 u	ppm	0.000075	5.38	60.275500	Y 242.219
Ba (493.408 nm)	-0.001349 u	ppm	0.000020	1.48	418.913000	Y_R 488.368
Be (234.861 nm)	0.000112	ppm	0.000012	10.90	-27.356100	Y_R 488.368
Bi (223.061 nm)	0.003245	ppm	0.000991	30.54	15.253700	Y 377.433
Ca (315.887 nm)	0.066510	ppm	0.000100	0.15	-13.288045	Y_R 377.433
Cd (214.439 nm)	0.000065	ppm	0.000052	79.23	2.137840	Y 377.433
Co (228.615 nm)	0.000449	ppm	0.000252	56.13	-26.462000	Y 242.219
Cr (205.560 nm)	-0.000065 u	ppm	0.000054	82.92	0.740209	Y 377.433
Cu (324.754 nm)	0.002595	ppm	0.000386	14.87	-173.654000	Y 377.433
Fe (238.204 nm)	0.009113	ppm	0.000467	5.13	49.505249	Y_R 377.433
Fe H (259.940 nm)	-0.069863 u	ppm	0.000513	0.73	24.886500	Y_R 377.433
K (766.491 nm)	0.179474	ppm	0.064918	36.17	-487.545000	Y_R2 488.368
Li (670.783 nm)	0.018667	ppm	0.001990	10.66	-778.514000	Y_R2 488.368
Mg (279.078 nm)	0.001922	ppm	0.001185	61.65	44.985000	Y 377.433
Mn (257.610 nm)	0.000106	ppm	0.000030	28.49	85.414600	Y 377.433
Mo (202.032 nm)	0.000236	ppm	0.000213	90.44	-0.440978	Y 377.433
Na (589.592 nm)	0.010408	ppm	0.008170	78.50	682.439000	Y_R2 488.368
Na H (589.593 nm)	-0.512579 u	ppm	0.004374	0.85	1302.200386	Y_R 488.368
Ni (231.604 nm)	0.000186	ppm	0.000215	> 100.00	-1.122100	Y 377.433
P (213.618 nm)	-0.005005 u	ppm	0.001278	25.53	16.607100	Y 242.219
Pb (220.353 nm)	0.001190	ppm	0.000221	18.60	7.143370	Y 242.219
S (181.972 nm)	-0.016514 u	ppm	0.000969	5.87	23.011097	Y 377.433
Sb (206.834 nm)	-0.001489 u	ppm	0.000106	7.10	-24.109100	Y 377.433
Se (196.026 nm)	-0.002051 u	ppm	0.000259	12.62	11.536700	Y 242.219
Si (288.158 nm)	0.026706	ppm	0.004854	18.18	1235.720000	Y 377.433
Sn (189.925 nm)	-0.001136 u	ppm	0.000659	58.00	5.728240	Y 377.433
Sr (421.552 nm)	-0.000090 u	ppm	0.000023	26.01	127.109881	Y_R 488.368
Th (288.505 nm)	0.005840	ppm	0.001510	25.85	91.885200	Y 377.433
Ti (336.122 nm)	0.000979	ppm	0.000081	8.30	-149.704000	Y 377.433
Tl (190.794 nm)	0.001328	ppm	0.000094	7.10	-4.340080	Y 377.433
U (409.013 nm)	0.006039	ppm	0.001586	26.26	-147.312000	Y 377.433
V (292.401 nm)	-0.000218 u	ppm	0.000188	86.37	16.675000	Y 377.433
Zn (206.200 nm)	0.002002	ppm	0.000422	21.07	8.664410	Y 377.433
Zr (343.823 nm)	-0.000338 u	ppm	0.000027	8.01	-30.026000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.206337	22791.340833	0.001454	0.12
Y 377.433	1.210056	1228000.241248	0.002188	0.18
Y_R 377.433	1.324260	101758.000000	0.000917	0.07
Y_R 488.368	1.341480	58857.400000	0.001345	0.10
Y_R2 488.368	1.311694	113255.775558	0.011474	0.87

Sample Name: Ce 10

Date: 10/30/2018 2:14:52 AM Rack:Tube: 4:15

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.012825 u	ppm	0.000023	0.18	-1002.270000	Y 377.433
Al (167.019 nm)	0.002151	ppm	0.000260	12.07	2.138750	Y_R 377.433
Al H (396.152 nm)	-0.240294 u	ppm	0.006646	2.77	-528.808734	Y_R 377.433
As (188.980 nm)	-0.005073 u	ppm	0.000053	1.04	-8.658490	Y 242.219
B (249.678 nm)	-0.001423 u	ppm	0.000045	3.13	59.478400	Y 242.219
Ba (493.408 nm)	-0.000968 u	ppm	0.000125	12.92	462.472000	Y_R 488.368
Be (234.861 nm)	0.000111	ppm	0.000015	13.47	-27.942600	Y_R 488.368
Bi (223.061 nm)	-0.002541 u	ppm	0.000758	29.81	1.222560	Y 377.433
Ca (315.887 nm)	0.036628	ppm	0.000448	1.22	-36.278893	Y_R 377.433
Cd (214.439 nm)	0.000066	ppm	0.000033	49.80	2.172670	Y 377.433
Co (228.615 nm)	0.000043 u	ppm	0.000133	> 100.00	-33.480900	Y 242.219
Cr (205.560 nm)	0.000062 u	ppm	0.000112	> 100.00	2.596480	Y 377.433
Cu (324.754 nm)	0.002166	ppm	0.000023	1.05	-192.710000	Y 377.433
Fe (238.204 nm)	-0.000428 u	ppm	0.000345	80.61	15.074156	Y_R 377.433
Fe H (259.940 nm)	-0.078083 u	ppm	0.001345	1.72	9.878580	Y_R 377.433
K (766.491 nm)	0.161360	ppm	0.033149	20.54	-507.891000	Y_R2 488.368
Li (670.783 nm)	0.017017	ppm	0.001123	6.60	-832.116000	Y_R2 488.368
Mg (279.078 nm)	-0.044888 u	ppm	0.000276	0.62	-213.651000	Y 377.433
Mn (257.610 nm)	-0.001162 u	ppm	0.000001	0.09	-200.802000	Y 377.433
Mo (202.032 nm)	0.000060	ppm	0.000056	93.38	-1.909660	Y 377.433
Na (589.592 nm)	-0.043402 u	ppm	0.004886	11.26	342.176000	Y_R2 488.368
Na H (589.593 nm)	-0.525599 u	ppm	0.008701	1.66	1254.741499	Y_R 488.368
Ni (231.604 nm)	0.000105 u	ppm	0.000401	> 100.00	-1.652860	Y 377.433
P (213.618 nm)	-0.010410 u	ppm	0.000693	6.66	5.485020	Y 242.219
Pb (220.353 nm)	0.000279 u	ppm	0.001470	> 100.00	4.731280	Y 242.219
S (181.972 nm)	0.002763	ppm	0.002933	> 100.00	32.400557	Y 377.433
Sb (206.834 nm)	-0.031464 u	ppm	0.001637	5.20	-103.529000	Y 377.433
Se (196.026 nm)	-0.002908 u	ppm	0.001697	58.36	10.732900	Y 242.219
Si (288.158 nm)	0.007706	ppm	0.003851	49.97	1080.550000	Y 377.433
Sn (189.925 nm)	-0.000661 u	ppm	0.000149	22.50	6.635340	Y 377.433
Sr (421.552 nm)	-0.000067 u	ppm	0.000005	8.13	131.757243	Y_R 488.368
Th (288.505 nm)	-0.087421 u	ppm	0.000761	0.87	-136.896000	Y 377.433
Ti (336.122 nm)	-0.000183 u	ppm	0.000134	73.45	-312.047000	Y 377.433
Tl (190.794 nm)	-0.028291 u	ppm	0.001458	5.15	-67.560100	Y 377.433
U (409.013 nm)	-1.530440 u	ppm	0.002196	0.14	-6975.370000	Y 377.433
V (292.401 nm)	-0.001524 u	ppm	0.000192	12.60	-28.897600	Y 377.433
Zn (206.200 nm)	0.001172	ppm	0.000371	31.68	4.517850	Y 377.433
Zr (343.823 nm)	-0.003569 u	ppm	0.000005	0.13	-445.908000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.193954	22557.382203	0.000458	0.04
Y 377.433	1.189382	1207019.564862	0.001002	0.08
Y_R 377.433	1.286800	98880.000000	0.001888	0.15
Y_R 488.368	1.311130	57525.500000	0.010781	0.82
Y_R2 488.368	1.279387	110466.265769	0.005128	0.40

Sample Name: CCVH-5380945

Date: 10/30/2018 2:18:16 AM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000404 u	ppm	0.000084	20.90	-700.254000	Y 377.433
Al (167.019 nm)	45.792500 o	ppm	0.000697	0.00	24226.300000	Y_R 377.433
Al H (396.152 nm)	48.740350	ppm	0.146550	0.30	123115.154251	Y_R 377.433
As (188.980 nm)	0.000647	ppm	0.000110	17.03	-2.236170	Y 242.219
B (249.678 nm)	-0.001774 u	ppm	0.000307	17.30	-23.328700	Y 242.219
Ba (493.408 nm)	-0.000761 u	ppm	0.000104	13.67	534.227000	Y_R 488.368
Be (234.861 nm)	-0.000543 u	ppm	0.000089	16.35	1353.790000	Y_R 488.368
Bi (223.061 nm)	1.029860	ppm	0.002031	0.20	2512.880000	Y 377.433
Ca (315.887 nm)	0.017919	ppm	0.003019	16.85	-50.672277	Y_R 377.433
Cd (214.439 nm)	-0.000181 u	ppm	0.000026	14.24	35.914600	Y 377.433
Co (228.615 nm)	0.003234	ppm	0.000271	8.39	21.772900	Y 242.219
Cr (205.560 nm)	-0.000236 u	ppm	0.000017	7.03	-15.510000	Y 377.433
Cu (324.754 nm)	-0.002983 u	ppm	0.000075	2.51	-155.527000	Y 377.433
Fe (238.204 nm)	50.382888 o	ppm	0.045399	0.09	181829.154668	Y_R 377.433
Fe H (259.940 nm)	52.359600	ppm	0.107859	0.21	95751.700000	Y_R 377.433
K (766.491 nm)	0.182362	ppm	0.094721	51.94	-484.300000	Y_R2 488.368
Li (670.783 nm)	0.017305	ppm	0.000184	1.06	-822.755000	Y_R2 488.368
Mg (279.078 nm)	-0.015467 u	ppm	0.001962	12.69	-406.814000	Y 377.433
Mn (257.610 nm)	0.001486	ppm	0.000002	0.11	396.801000	Y 377.433
Mo (202.032 nm)	0.000127 u	ppm	0.000263	> 100.00	-1.343320	Y 377.433
Na (589.592 nm)	231.863000 o	ppm	0.434317	0.19	1469850.000000	Y_R2 488.368
Na H (589.593 nm)	237.889971	ppm	0.608489	0.26	876654.504687	Y_R 488.368
Ni (231.604 nm)	0.004405	ppm	0.000554	12.58	28.510300	Y 377.433
P (213.618 nm)	-0.007691 u	ppm	0.003356	43.64	11.079300	Y 242.219
Pb (220.353 nm)	-0.002509 u	ppm	0.003209	> 100.00	15.166600	Y 242.219
S (181.972 nm)	5.109233	ppm	0.028157	0.55	2519.690743	Y 377.433
Sb (206.834 nm)	-0.002641 u	ppm	0.000840	31.80	-73.396400	Y 377.433
Se (196.026 nm)	-0.002482 u	ppm	0.000354	14.28	2.227840	Y 242.219
Si (288.158 nm)	0.018213	ppm	0.002906	15.96	1166.360000	Y 377.433
Sn (189.925 nm)	-0.000256 u	ppm	0.000311	> 100.00	7.406640	Y 377.433
Sr (421.552 nm)	0.000403	ppm	0.000085	21.14	228.708936	Y_R 488.368
Th (288.505 nm)	5.093660	ppm	0.022651	0.44	12820.200000	Y 377.433
Ti (336.122 nm)	0.002019	ppm	0.000026	1.31	-4.395490	Y 377.433
Tl (190.794 nm)	-0.003718 u	ppm	0.001677	45.12	-16.444900	Y 377.433
U (409.013 nm)	10.359300	ppm	0.034379	0.33	45909.400000	Y 377.433
V (292.401 nm)	0.003804	ppm	0.000049	1.29	-17.208700	Y 377.433
Zn (206.200 nm)	0.001727	ppm	0.000008	0.49	7.293970	Y 377.433
Zr (343.823 nm)	-0.004514 u	ppm	0.000007	0.16	-419.224000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.164950	22009.413025	0.000831	0.07
Y 377.433	1.155717	1172855.986232	0.000734	0.06
Y_R 377.433	1.269780	97572.300000	0.004885	0.38
Y_R 488.368	1.290220	56608.000000	0.015378	1.19
Y_R2 488.368	1.249979	107927.081619	0.002205	0.18

Sample Name: CCV-5391053

Date: 10/30/2018 2:21:40 AM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.500583	ppm	0.000797	0.16	21761.700000	Y 377.433
Al (167.019 nm)	0.522267	ppm	0.000915	0.18	278.593000	Y_R 377.433
Al H (396.152 nm)	0.484426 u	ppm	0.004968	1.03	1344.215913	Y_R 377.433
As (188.980 nm)	1.008050	ppm	0.003406	0.34	1206.740000	Y 242.219
B (249.678 nm)	0.500979	ppm	0.000938	0.19	11993.300000	Y 242.219
Ba (493.408 nm)	0.494058	ppm	0.000986	0.20	57132.000000	Y_R 488.368
Be (234.861 nm)	0.458506	ppm	0.002302	0.50	131655.000000	Y_R 488.368
Bi (223.061 nm)	-0.001470 u	ppm	0.001015	69.03	4.235690	Y 377.433
Ca (315.887 nm)	5.255623	ppm	0.001206	0.02	3979.349803	Y_R 377.433
Cd (214.439 nm)	0.494251	ppm	0.002187	0.44	28231.500000	Y 377.433
Co (228.615 nm)	0.502434	ppm	0.000726	0.14	8679.000000	Y 242.219
Cr (205.560 nm)	0.506282	ppm	0.000065	0.01	7378.250000	Y 377.433
Cu (324.754 nm)	0.515957	ppm	0.001263	0.24	27199.600000	Y 377.433
Fe (238.204 nm)	2.544646	ppm	0.001124	0.04	9199.272239	Y_R 377.433
Fe H (259.940 nm)	2.587090 u	ppm	0.004163	0.16	4876.010000	Y_R 377.433
K (766.491 nm)	48.136700	ppm	0.007252	0.02	53382.200000	Y_R2 488.368
Li (670.783 nm)	0.954353	ppm	0.003247	0.34	29621.400000	Y_R2 488.368
Mg (279.078 nm)	19.361800	ppm	0.027378	0.14	106541.000000	Y 377.433
Mn (257.610 nm)	0.501787	ppm	0.001179	0.24	113307.000000	Y 377.433
Mo (202.032 nm)	0.508698	ppm	0.001700	0.33	4243.390000	Y 377.433
Na (589.592 nm)	4.767610	ppm	0.013185	0.28	31791.200000	Y_R2 488.368
Na H (589.593 nm)	4.583802 u	ppm	0.026132	0.57	20482.521968	Y_R 488.368
Ni (231.604 nm)	0.517071	ppm	0.001872	0.36	3378.930000	Y 377.433
P (213.618 nm)	0.995973	ppm	0.002481	0.25	2076.120000	Y 242.219
Pb (220.353 nm)	0.993919	ppm	0.001104	0.11	2774.620000	Y 242.219
S (181.972 nm)	-0.007892 u	ppm	0.001242	15.74	28.383067	Y 377.433
Sb (206.834 nm)	1.012310	ppm	0.004026	0.40	2669.260000	Y 377.433
Se (196.026 nm)	1.008030	ppm	0.001450	0.14	960.701000	Y 242.219
Si (288.158 nm)	4.993610	ppm	0.029799	0.60	41798.200000	Y 377.433
Sn (189.925 nm)	1.022430	ppm	0.001914	0.19	1958.440000	Y 377.433
Sr (421.552 nm)	0.493387	ppm	0.000328	0.07	101838.021642	Y_R 488.368
Th (288.505 nm)	0.006697	ppm	0.002588	38.64	110.380000	Y 377.433
Ti (336.122 nm)	0.501983	ppm	0.001144	0.23	69835.400000	Y 377.433
Tl (190.794 nm)	1.007730	ppm	0.004770	0.47	2142.340000	Y 377.433
U (409.013 nm)	0.003439	ppm	0.001545	44.94	-196.490000	Y 377.433
V (292.401 nm)	0.497154	ppm	0.000868	0.17	17367.800000	Y 377.433
Zn (206.200 nm)	0.490640	ppm	0.001148	0.23	2452.140000	Y 377.433
Zr (343.823 nm)	0.505998	ppm	0.001131	0.22	65138.200000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.173674	22174.240005	0.000561	0.05
Y 377.433	1.170950	1188314.891060	0.001492	0.13
Y_R 377.433	1.264010	97129.200000	0.006060	0.48
Y_R 488.368	1.280130	56165.700000	0.007233	0.57
Y_R2 488.368	1.258942	108700.960969	0.005276	0.42

Sample Name: CCB

Date: 10/30/2018 2:25:03 AM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000836	ppm	0.000097	11.55	-396.410000	Y 377.433
Al (167.019 nm)	-0.000144 u	ppm	0.000672	> 100.00	0.927521	Y_R 377.433
Al H (396.152 nm)	-0.025394 u	ppm	0.005937	23.38	13.700470	Y_R 377.433
As (188.980 nm)	0.000409 u	ppm	0.001482	> 100.00	-2.082080	Y 242.219
B (249.678 nm)	-0.000637 u	ppm	0.000428	67.27	78.119200	Y 242.219
Ba (493.408 nm)	-0.001005 u	ppm	0.000070	7.00	458.267000	Y_R 488.368
Be (234.861 nm)	0.000082	ppm	0.000011	13.32	-36.158100	Y_R 488.368
Bi (223.061 nm)	0.001408	ppm	0.000354	25.17	10.798500	Y 377.433
Ca (315.887 nm)	0.015238	ppm	0.000908	5.96	-52.735839	Y_R 377.433
Cd (214.439 nm)	0.000099	ppm	0.000055	55.73	4.029490	Y 377.433
Co (228.615 nm)	0.000347	ppm	0.000092	26.56	-28.214000	Y 242.219
Cr (205.560 nm)	-0.000029 u	ppm	0.000133	> 100.00	1.255980	Y 377.433
Cu (324.754 nm)	0.002406	ppm	0.000091	3.79	-184.119000	Y 377.433
Fe (238.204 nm)	0.001380	ppm	0.000813	58.87	21.599210	Y_R 377.433
Fe H (259.940 nm)	-0.079366 u	ppm	0.000149	0.19	7.536310	Y_R 377.433
K (766.491 nm)	0.181444	ppm	0.011665	6.43	-485.331000	Y_R2 488.368
Li (670.783 nm)	0.015157 Z	ppm	0.001190	7.85	-892.572000 Z	Y_R2 488.368
Mg (279.078 nm)	-0.000722 u	ppm	0.000252	34.93	30.439300	Y 377.433
Mn (257.610 nm)	0.000024	ppm	0.000007	29.32	66.844600	Y 377.433
Mo (202.032 nm)	0.000407	ppm	0.000058	14.36	0.992832	Y 377.433
Na (589.592 nm)	-0.037153 u	ppm	0.005046	13.58	381.557000	Y_R2 488.368
Na H (589.593 nm)	-0.475741 u	ppm	0.000372	0.08	1437.702313	Y_R 488.368
Ni (231.604 nm)	-0.000373 u	ppm	0.000317	85.07	-4.773960	Y 377.433
P (213.618 nm)	-0.001718 u	ppm	0.001043	60.75	23.370000	Y 242.219
Pb (220.353 nm)	-0.001141 u	ppm	0.000407	35.71	0.642837	Y 242.219
S (181.972 nm)	-0.001998 u	ppm	0.001114	55.79	30.081833	Y 377.433
Sb (206.834 nm)	0.001517	ppm	0.000909	59.92	-16.149700	Y 377.433
Se (196.026 nm)	-0.003808 u	ppm	0.001713	44.97	9.886710	Y 242.219
Si (288.158 nm)	0.001394 u	ppm	0.003440	> 100.00	1029.010000	Y 377.433
Sn (189.925 nm)	-0.000066 u	ppm	0.000480	> 100.00	7.769570	Y 377.433
Sr (421.552 nm)	-0.000189 u	ppm	0.000106	55.79	106.628838	Y_R 488.368
Th (288.505 nm)	0.002553	ppm	0.002555	> 100.00	83.796700	Y 377.433
Ti (336.122 nm)	0.000279	ppm	0.000094	33.67	-247.560000	Y 377.433
Tl (190.794 nm)	0.001270	ppm	0.000174	13.73	-4.462990	Y 377.433
U (409.013 nm)	0.005772	ppm	0.003891	67.42	-148.515000	Y 377.433
V (292.401 nm)	-0.000108 u	ppm	0.000084	77.61	20.330300	Y 377.433
Zn (206.200 nm)	0.000239	ppm	0.000050	20.83	-0.148485	Y 377.433
Zr (343.823 nm)	-0.000129 u	ppm	0.000053	40.98	-3.244660	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.179224	22279.098925	0.002827	0.24
Y 377.433	1.177889	1195356.131975	0.002649	0.22
Y_R 377.433	1.262640	97023.200000	0.006385	0.51
Y_R 488.368	1.277110	56032.900000	0.002725	0.21
Y_R2 488.368	1.252268	108124.747762	0.001733	0.14

Sample Name: CCVL-5398386

Date: 10/30/2018 2:28:26 AM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.009842	ppm	0.000009	0.09	3.024530	Y 377.433
Al (167.019 nm)	0.102989	ppm	0.001516	1.47	55.479500	Y_R 377.433
Al H (396.152 nm)	0.076026 u	ppm	0.000565	0.74	271.365217	Y_R 377.433
As (188.980 nm)	0.014941	ppm	0.000736	4.92	15.350700	Y 242.219
B (249.678 nm)	0.098556	ppm	0.000412	0.42	2431.140000	Y 242.219
Ba (493.408 nm)	0.008696	ppm	0.000016	0.18	1568.700000	Y_R 488.368
Be (234.861 nm)	0.001002	ppm	0.000013	1.28	230.489000	Y_R 488.368
Bi (223.061 nm)	0.104678	ppm	0.003537	3.38	261.225000	Y 377.433
Ca (315.887 nm)	0.231502	ppm	0.000675	0.29	113.654652	Y_R 377.433
Cd (214.439 nm)	0.005161	ppm	0.000016	0.30	293.303000	Y 377.433
Co (228.615 nm)	0.010908	ppm	0.000087	0.80	154.903000	Y 242.219
Cr (205.560 nm)	0.010134	ppm	0.000266	2.63	149.384000	Y 377.433
Cu (324.754 nm)	0.017529	ppm	0.000193	1.10	621.946000	Y 377.433
Fe (238.204 nm)	0.103775	ppm	0.001359	1.31	391.102167	Y_R 377.433
Fe H (259.940 nm)	0.025667 u	ppm	0.001036	4.04	199.307000	Y_R 377.433
K (766.491 nm)	3.197060	ppm	0.028969	0.91	2902.070000	Y_R2 488.368
Li (670.783 nm)	0.037010 Q	ppm	0.001386	3.74	-182.579000 Q	Y_R2 488.368
Mg (279.078 nm)	0.193173	ppm	0.000672	0.35	1095.860000	Y 377.433
Mn (257.610 nm)	0.010328	ppm	0.000015	0.14	2392.390000	Y 377.433
Mo (202.032 nm)	0.019431	ppm	0.000267	1.37	159.772000	Y 377.433
Na (589.592 nm)	0.967166	ppm	0.001707	0.18	6764.620000	Y_R2 488.368
Na H (589.593 nm)	0.512941 u	ppm	0.005846	1.14	5077.116139	Y_R 488.368
Ni (231.604 nm)	0.041796	ppm	0.000080	0.19	270.895000	Y 377.433
P (213.618 nm)	2.834170 o	ppm	0.004960	0.18	5858.230000	Y 242.219
Pb (220.353 nm)	0.008547	ppm	0.000702	8.21	27.676200	Y 242.219
S (181.972 nm)	0.081052	ppm	0.004153	5.12	70.557636	Y 377.433
Sb (206.834 nm)	0.021408	ppm	0.000110	0.51	36.557200	Y 377.433
Se (196.026 nm)	0.015942	ppm	0.000171	1.07	28.437700	Y 242.219
Si (288.158 nm)	0.478567	ppm	0.005530	1.16	4925.870000	Y 377.433
Sn (189.925 nm)	0.099745	ppm	0.000899	0.90	198.184000	Y 377.433
Sr (421.552 nm)	0.009850	ppm	0.000047	0.47	2175.930793	Y_R 488.368
Th (288.505 nm)	0.019865 Q	ppm	0.001026	5.16	127.734000 Q	Y 377.433
Ti (336.122 nm)	0.010629	ppm	0.000059	0.56	1198.510000	Y 377.433
Tl (190.794 nm)	0.016451	ppm	0.001258	7.65	27.887900	Y 377.433
U (409.013 nm)	0.066122	ppm	0.002149	3.25	118.589000	Y 377.433
V (292.401 nm)	0.009741	ppm	0.000135	1.39	362.449000	Y 377.433
Zn (206.200 nm)	0.020832	ppm	0.000005	0.02	102.829000	Y 377.433
Zr (343.823 nm)	0.014885	ppm	0.000056	0.38	1929.260000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.199212	22656.725635	0.003291	0.27
Y 377.433	1.198158	1215926.338525	0.004568	0.38
Y_R 377.433	1.295550	99552.300000	0.004673	0.36
Y_R 488.368	1.308930	57429.200000	0.010399	0.79
Y_R2 488.368	1.278009	110347.289533	0.002715	0.21

Sample Name: 280-115852-B-7-A

Date: 10/30/2018 2:31:51 AM Rack:Tube: 4:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.001121	ppm	0.000109	9.76	-383.839000	Y 377.433
Al (167.019 nm)	0.001377	ppm	0.001087	78.96	1.736780	Y_R 377.433
Al H (396.152 nm)	-0.025556 u	ppm	0.008230	32.20	13.285415	Y_R 377.433
As (188.980 nm)	0.000726 u	ppm	0.001802	> 100.00	-1.701860	Y 242.219
B (249.678 nm)	0.011566	ppm	0.000103	0.89	367.532000	Y 242.219
Ba (493.408 nm)	-0.001019 u	ppm	0.000117	11.48	456.676000	Y_R 488.368
Be (234.861 nm)	0.000086	ppm	0.000035	40.19	-34.630200	Y_R 488.368
Bi (223.061 nm)	0.002102	ppm	0.001295	61.60	12.482100	Y 377.433
Ca (315.887 nm)	0.063335	ppm	0.001415	2.23	-15.731234	Y_R 377.433
Cd (214.439 nm)	0.000070	ppm	0.000017	24.03	2.410810	Y 377.433
Co (228.615 nm)	0.000421	ppm	0.000068	16.17	-26.932500	Y 242.219
Cr (205.560 nm)	-0.000077 u	ppm	0.000081	> 100.00	0.556701	Y 377.433
Cu (324.754 nm)	0.001974	ppm	0.000277	14.06	-206.830000	Y 377.433
Fe (238.204 nm)	0.010246	ppm	0.000620	6.05	53.594326	Y_R 377.433
Fe H (259.940 nm)	-0.067507 u	ppm	0.001722	2.55	29.188900	Y_R 377.433
K (766.491 nm)	0.223041	ppm	0.004526	2.03	-438.605000	Y_R2 488.368
Li (670.783 nm)	0.017654	ppm	0.000997	5.65	-811.432000	Y_R2 488.368
Mg (279.078 nm)	0.025503	ppm	0.000085	0.33	174.679000	Y 377.433
Mn (257.610 nm)	0.000259	ppm	0.000012	4.46	119.859000	Y 377.433
Mo (202.032 nm)	0.000148	ppm	0.000068	45.80	-1.174460	Y 377.433
Na (589.592 nm)	1.808730	ppm	0.004789	0.26	12078.300000	Y_R2 488.368
Na H (589.593 nm)	1.373885 u	ppm	0.006237	0.45	8229.080301	Y_R 488.368
Ni (231.604 nm)	-0.000035 u	ppm	0.000039	> 100.00	-2.568980	Y 377.433
P (213.618 nm)	-0.003693 u	ppm	0.000944	25.55	19.305300	Y 242.219
Pb (220.353 nm)	-0.000710 u	ppm	0.000182	25.69	1.850680	Y 242.219
S (181.972 nm)	0.219567	ppm	0.005323	2.42	138.003320	Y 377.433
Sb (206.834 nm)	0.000685 u	ppm	0.002115	> 100.00	-18.357800	Y 377.433
Se (196.026 nm)	-0.003528 u	ppm	0.000188	5.34	10.148800	Y 242.219
Si (288.158 nm)	0.011627	ppm	0.000424	3.64	1112.570000	Y 377.433
Sn (189.925 nm)	-0.000637 u	ppm	0.000404	63.35	6.679780	Y 377.433
Sr (421.552 nm)	0.000628	ppm	0.000107	16.99	275.113216	Y_R 488.368
Th (288.505 nm)	0.006220	ppm	0.000632	10.17	92.843500	Y 377.433
Ti (336.122 nm)	0.000734	ppm	0.000087	11.84	-183.955000	Y 377.433
Tl (190.794 nm)	0.000796 u	ppm	0.001482	> 100.00	-5.475060	Y 377.433
U (409.013 nm)	0.008524	ppm	0.002328	27.32	-136.272000	Y 377.433
V (292.401 nm)	-0.000022 u	ppm	0.000018	84.41	23.533900	Y 377.433
Zn (206.200 nm)	0.001227	ppm	0.000362	29.54	4.789960	Y 377.433
Zr (343.823 nm)	-0.000265 u	ppm	0.000071	27.00	-20.653900	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.201212	22694.518096	0.001624	0.14
Y 377.433	1.201725	1219545.882364	0.000657	0.05
Y_R 377.433	1.299210	99833.400000	0.004631	0.36
Y_R 488.368	1.311310	57533.400000	0.004024	0.31
Y_R2 488.368	1.296813	111970.860459	0.002025	0.16

Sample Name: 280-115891-C-2-A

Date: 10/30/2018 2:35:15 AM Rack:Tube: 4:5

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000943	ppm	0.000130	13.78	-391.712000	Y 377.433
Al (167.019 nm)	0.003147	ppm	0.000141	4.48	2.672550	Y_R 377.433
Al H (396.152 nm)	-0.022471 u	ppm	0.003727	16.58	21.064711	Y_R 377.433
As (188.980 nm)	-0.000022 u	ppm	0.001444	> 100.00	-2.599060	Y 242.219
B (249.678 nm)	0.006570	ppm	0.000107	1.63	249.055000	Y 242.219
Ba (493.408 nm)	-0.001056 u	ppm	0.000113	10.65	452.414000	Y_R 488.368
Be (234.861 nm)	0.000088	ppm	0.000012	13.32	-34.204100	Y_R 488.368
Bi (223.061 nm)	-0.000079 u	ppm	0.001532	> 100.00	7.194990	Y 377.433
Ca (315.887 nm)	0.045434	ppm	0.001189	2.62	-29.503426	Y_R 377.433
Cd (214.439 nm)	0.000038 u	ppm	0.000059	> 100.00	0.573489	Y 377.433
Co (228.615 nm)	0.000529	ppm	0.000037	6.99	-25.070700	Y 242.219
Cr (205.560 nm)	-0.000210 u	ppm	0.000150	71.59	-1.372950	Y 377.433
Cu (324.754 nm)	0.002232	ppm	0.000367	16.43	-193.448000	Y 377.433
Fe (238.204 nm)	0.011522	ppm	0.000711	6.17	58.196006	Y_R 377.433
Fe H (259.940 nm)	-0.068915 u	ppm	0.001856	2.69	26.618700	Y_R 377.433
K (766.491 nm)	0.217425	ppm	0.022049	10.14	-444.914000	Y_R2 488.368
Li (670.783 nm)	0.017256	ppm	0.001732	10.04	-824.371000	Y_R2 488.368
Mg (279.078 nm)	0.012336	ppm	0.000674	5.46	102.268000	Y 377.433
Mn (257.610 nm)	0.001560	ppm	0.000023	1.49	413.530000	Y 377.433
Mo (202.032 nm)	0.000058	ppm	0.000044	76.16	-1.923970	Y 377.433
Na (589.592 nm)	1.043960	ppm	0.007770	0.74	7232.520000	Y_R2 488.368
Na H (589.593 nm)	0.573156 u	ppm	0.013138	2.29	5289.126010	Y_R 488.368
Ni (231.604 nm)	0.000429	ppm	0.000066	15.48	0.468454	Y 377.433
P (213.618 nm)	-0.003527 u	ppm	0.001131	32.06	19.646900	Y 242.219
Pb (220.353 nm)	0.000943	ppm	0.001170	> 100.00	6.455150	Y 242.219
S (181.972 nm)	0.089756	ppm	0.003384	3.77	74.777395	Y 377.433
Sb (206.834 nm)	0.002340	ppm	0.001295	55.35	-13.977800	Y 377.433
Se (196.026 nm)	-0.005812 u	ppm	0.001045	17.97	8.003270	Y 242.219
Si (288.158 nm)	-0.011652 u	ppm	0.000234	2.00	922.470000	Y 377.433
Sn (189.925 nm)	-0.000976 u	ppm	0.000621	63.68	6.034100	Y 377.433
Sr (421.552 nm)	0.000334	ppm	0.000036	10.80	214.433907	Y_R 488.368
Th (288.505 nm)	0.004272	ppm	0.002532	59.28	88.060000	Y 377.433
Ti (336.122 nm)	0.000755	ppm	0.000004	0.53	-180.987000	Y 377.433
Tl (190.794 nm)	0.001078	ppm	0.000727	67.42	-4.871350	Y 377.433
U (409.013 nm)	0.004200	ppm	0.002438	58.04	-155.484000	Y 377.433
V (292.401 nm)	0.000163	ppm	0.000121	74.09	29.897500	Y 377.433
Zn (206.200 nm)	0.001049	ppm	0.000059	5.62	3.902930	Y 377.433
Zr (343.823 nm)	-0.000268 u	ppm	0.000044	16.55	-21.009300	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.200831	22687.303873	0.000192	0.02
Y 377.433	1.203552	1221399.816049	0.001543	0.13
Y_R 377.433	1.305150	100290.000000	0.005822	0.45
Y_R 488.368	1.315980	57738.300000	0.013763	1.05
Y_R2 488.368	1.280502	110562.491348	0.000628	0.05

Sample Name: CCVH-5380945

Date: 10/30/2018 2:55:43 AM Rack:Tube: S1:1

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	-0.000380 u	ppm	0.000052	13.56	-699.308000	Y 377.433
Al (167.019 nm)	46.113400 o	ppm	0.040853	0.09	24395.900000	Y_R 377.433
Al H (396.152 nm)	48.887922	ppm	0.229867	0.47	123487.689448	Y_R 377.433
As (188.980 nm)	0.000447 u	ppm	0.001128	> 100.00	-2.477870	Y 242.219
B (249.678 nm)	0.012817	ppm	0.000199	1.55	322.525000	Y 242.219
Ba (493.408 nm)	-0.000615 u	ppm	0.000220	35.73	551.069000	Y_R 488.368
Be (234.861 nm)	-0.000495 u	ppm	0.000015	2.95	1372.510000	Y_R 488.368
Bi (223.061 nm)	1.032750	ppm	0.004728	0.46	2519.900000	Y 377.433
Ca (315.887 nm)	0.015726	ppm	0.001060	6.74	-52.359827	Y_R 377.433
Cd (214.439 nm)	-0.000119 u	ppm	0.000085	71.33	39.612300	Y 377.433
Co (228.615 nm)	0.003234	ppm	0.000153	4.74	21.776500	Y 242.219
Cr (205.560 nm)	0.000069	ppm	0.000025	35.54	-11.099000	Y 377.433
Cu (324.754 nm)	-0.002733 u	ppm	0.000130	4.75	-141.130000	Y 377.433
Fe (238.204 nm)	50.468503 o	ppm	0.186610	0.37	182138.105601	Y_R 377.433
Fe H (259.940 nm)	52.377900	ppm	0.138246	0.26	95785.100000	Y_R 377.433
K (766.491 nm)	0.241371	ppm	0.007977	3.30	-418.016000	Y_R2 488.368
Li (670.783 nm)	0.016372	ppm	0.000787	4.80	-853.073000	Y_R2 488.368
Mg (279.078 nm)	-0.015972 u	ppm	0.000063	0.40	-409.960000	Y 377.433
Mn (257.610 nm)	0.001536	ppm	0.000055	3.58	408.194000	Y 377.433
Mo (202.032 nm)	0.000138	ppm	0.000077	55.41	-1.252160	Y 377.433
Na (589.592 nm)	232.969000 o	ppm	0.139090	0.06	1476860.000000	Y_R2 488.368
Na H (589.593 nm)	239.673678	ppm	0.210620	0.09	883203.649564	Y_R 488.368
Ni (231.604 nm)	0.004209	ppm	0.000085	2.01	27.235800	Y 377.433
P (213.618 nm)	-0.008479 u	ppm	0.000101	1.19	9.458390	Y 242.219
Pb (220.353 nm)	-0.004011 u	ppm	0.001235	30.78	10.941100	Y 242.219
S (181.972 nm)	5.230518	ppm	0.008837	0.17	2578.766908	Y 377.433
Sb (206.834 nm)	-0.001635 u	ppm	0.001941	> 100.00	-70.793500	Y 377.433
Se (196.026 nm)	-0.001519 u	ppm	0.003527	> 100.00	3.104920	Y 242.219
Si (288.158 nm)	0.011618	ppm	0.002142	18.44	1112.510000	Y 377.433
Sn (189.925 nm)	-0.001462 u	ppm	0.000811	55.47	5.107340	Y 377.433
Sr (421.552 nm)	0.000374	ppm	0.000032	8.52	222.768667	Y_R 488.368
Th (288.505 nm)	5.101760	ppm	0.020669	0.41	12840.200000	Y 377.433
Ti (336.122 nm)	0.001963	ppm	0.000035	1.79	-12.226800	Y 377.433
Tl (190.794 nm)	-0.002849 u	ppm	0.000385	13.50	-14.594100	Y 377.433
U (409.013 nm)	10.367200	ppm	0.013941	0.13	45944.700000	Y 377.433
V (292.401 nm)	0.004005	ppm	0.000201	5.02	-9.914720	Y 377.433
Zn (206.200 nm)	0.001325	ppm	0.000314	23.73	5.279370	Y 377.433
Zr (343.823 nm)	-0.004408 u	ppm	0.000003	0.07	-405.093000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.150076	21728.388121	0.001234	0.11
Y 377.433	1.136537	1153391.794312	0.002233	0.20
Y_R 377.433	1.236820	95039.200000	0.002712	0.22
Y_R 488.368	1.252430	54950.100000	0.000715	0.06
Y_R2 488.368	1.232047	106378.733278	0.002448	0.20

Sample Name: CCV-5391053

Date: 10/30/2018 2:59:07 AM Rack:Tube: S1:2

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.502371	ppm	0.000551	0.11	21840.900000	Y 377.433
Al (167.019 nm)	0.524558	ppm	0.003026	0.58	279.807000	Y_R 377.433
Al H (396.152 nm)	0.482761 u	ppm	0.003739	0.77	1340.087108	Y_R 377.433
As (188.980 nm)	1.014660	ppm	0.002661	0.26	1214.670000	Y 242.219
B (249.678 nm)	0.514305	ppm	0.001240	0.24	12309.400000	Y 242.219
Ba (493.408 nm)	0.495094	ppm	0.002690	0.54	57250.700000	Y_R 488.368
Be (234.861 nm)	0.461401	ppm	0.000165	0.04	132486.000000	Y_R 488.368
Bi (223.061 nm)	-0.002638 u	ppm	0.001028	38.96	1.404940	Y 377.433
Ca (315.887 nm)	5.268849	ppm	0.054304	1.03	3989.526795	Y_R 377.433
Cd (214.439 nm)	0.497498	ppm	0.001647	0.33	28417.000000	Y 377.433
Co (228.615 nm)	0.503339	ppm	0.003987	0.79	8694.740000	Y 242.219
Cr (205.560 nm)	0.508149	ppm	0.002032	0.40	7405.430000	Y 377.433
Cu (324.754 nm)	0.518237	ppm	0.000257	0.05	27321.100000	Y 377.433
Fe (238.204 nm)	2.549056	ppm	0.013378	0.52	9215.184618	Y_R 377.433
Fe H (259.940 nm)	2.587820 u	ppm	0.018298	0.71	4877.340000	Y_R 377.433
K (766.491 nm)	48.443600	ppm	0.117593	0.24	53727.000000	Y_R2 488.368
Li (670.783 nm)	0.959900	ppm	0.005576	0.58	29801.600000	Y_R2 488.368
Mg (279.078 nm)	19.451000	ppm	0.034891	0.18	107032.000000	Y 377.433
Mn (257.610 nm)	0.504362	ppm	0.000917	0.18	113888.000000	Y 377.433
Mo (202.032 nm)	0.509380	ppm	0.000445	0.09	4249.080000	Y 377.433
Na (589.592 nm)	4.847240	ppm	0.019329	0.40	32298.400000	Y_R2 488.368
Na H (589.593 nm)	5.591972 u	ppm	0.018072	0.32	24185.502453	Y_R 488.368
Ni (231.604 nm)	0.518756	ppm	0.000070	0.01	3389.960000	Y 377.433
P (213.618 nm)	0.954317	ppm	0.000288	0.03	1990.420000	Y 242.219
Pb (220.353 nm)	0.998370	ppm	0.002469	0.25	2787.040000	Y 242.219
S (181.972 nm)	0.080396	ppm	0.002582	3.21	71.393972	Y 377.433
Sb (206.834 nm)	1.021100	ppm	0.001175	0.12	2692.570000	Y 377.433
Se (196.026 nm)	1.017810	ppm	0.000648	0.06	969.890000	Y 242.219
Si (288.158 nm)	5.037450	ppm	0.041506	0.82	42156.300000	Y 377.433
Sn (189.925 nm)	1.025620	ppm	0.001171	0.11	1964.520000	Y 377.433
Sr (421.552 nm)	0.494990	ppm	0.000879	0.18	102168.303205	Y_R 488.368
Th (288.505 nm)	0.007743	ppm	0.000082	1.06	113.054000	Y 377.433
Ti (336.122 nm)	0.503586	ppm	0.000066	0.01	70059.200000	Y 377.433
Tl (190.794 nm)	1.013820	ppm	0.004475	0.44	2155.340000	Y 377.433
U (409.013 nm)	0.005599	ppm	0.000328	5.86	-187.032000	Y 377.433
V (292.401 nm)	0.499213	ppm	0.000694	0.14	17439.700000	Y 377.433
Zn (206.200 nm)	0.493257	ppm	0.001017	0.21	2465.220000	Y 377.433
Zr (343.823 nm)	0.507860	ppm	0.000116	0.02	65377.800000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.165727	22024.099053	0.000220	0.02
Y 377.433	1.161440	1178664.068334	0.001930	0.17
Y_R 377.433	1.252550	96248.300000	0.001715	0.14
Y_R 488.368	1.266990	55589.000000	0.000346	0.03
Y_R2 488.368	1.229964	106198.907229	0.001857	0.15

Sample Name: CCB

Date: 10/30/2018 3:02:30 AM Rack:Tube: S1:4

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.000764	ppm	0.000087	11.37	-399.566000	Y 377.433
Al (167.019 nm)	0.000233 u	ppm	0.000990	> 100.00	1.126180	Y_R 377.433
Al H (396.152 nm)	-0.025981 u	ppm	0.000591	2.28	12.224594	Y_R 377.433
As (188.980 nm)	0.002266	ppm	0.000660	29.13	0.145784	Y 242.219
B (249.678 nm)	0.007991	ppm	0.000269	3.37	282.762000	Y 242.219
Ba (493.408 nm)	-0.000984 u	ppm	0.000011	1.16	460.604000	Y_R 488.368
Be (234.861 nm)	0.000089	ppm	0.000002	1.70	-34.030900	Y_R 488.368
Bi (223.061 nm)	0.000246 u	ppm	0.000532	> 100.00	7.979020	Y 377.433
Ca (315.887 nm)	0.022033	ppm	0.005355	24.30	-47.507410	Y_R 377.433
Cd (214.439 nm)	0.000097	ppm	0.000030	31.03	3.923700	Y 377.433
Co (228.615 nm)	0.000307	ppm	0.000197	64.14	-28.906500	Y 242.219
Cr (205.560 nm)	0.000017 u	ppm	0.000070	> 100.00	1.926690	Y 377.433
Cu (324.754 nm)	0.002127	ppm	0.000015	0.72	-199.303000	Y 377.433
Fe (238.204 nm)	0.000548 u	ppm	0.001190	> 100.00	18.597071	Y_R 377.433
Fe H (259.940 nm)	-0.078515 u	ppm	0.000406	0.52	9.090470	Y_R 377.433
K (766.491 nm)	0.202520	ppm	0.034136	16.86	-461.657000	Y_R2 488.368
Li (670.783 nm)	0.015634 Z	ppm	0.000877	5.61	-877.073000 Z	Y_R2 488.368
Mg (279.078 nm)	0.001788	ppm	0.000606	33.91	44.274200	Y 377.433
Mn (257.610 nm)	0.000054	ppm	0.000002	3.41	73.747700	Y 377.433
Mo (202.032 nm)	0.000467	ppm	0.000010	2.06	1.487650	Y 377.433
Na (589.592 nm)	0.009946	ppm	0.000131	1.32	680.854000	Y_R2 488.368
Na H (589.593 nm)	0.240009 u	ppm	0.021645	9.02	4066.163739	Y_R 488.368
Ni (231.604 nm)	-0.000501 u	ppm	0.000894	> 100.00	-5.610520	Y 377.433
P (213.618 nm)	-0.002444 u	ppm	0.003742	> 100.00	21.876100	Y 242.219
Pb (220.353 nm)	0.000066 u	ppm	0.000869	> 100.00	4.007380	Y 242.219
S (181.972 nm)	0.047727	ppm	0.004259	8.92	54.301828	Y 377.433
Sb (206.834 nm)	0.000795	ppm	0.000018	2.27	-18.051000	Y 377.433
Se (196.026 nm)	-0.002209 u	ppm	0.000967	43.76	11.389900	Y 242.219
Si (288.158 nm)	-0.013408 u	ppm	0.001595	11.90	908.130000	Y 377.433
Sn (189.925 nm)	-0.000291 u	ppm	0.001186	> 100.00	7.339900	Y 377.433
Sr (421.552 nm)	-0.000119 u	ppm	0.000043	35.73	121.046171	Y_R 488.368
Th (288.505 nm)	0.002195	ppm	0.001163	52.97	82.909800	Y 377.433
Ti (336.122 nm)	0.000400	ppm	0.000050	12.50	-230.704000	Y 377.433
Tl (190.794 nm)	0.002400	ppm	0.000993	41.38	-2.051220	Y 377.433
U (409.013 nm)	0.001665	ppm	0.000583	35.00	-166.776000	Y 377.433
V (292.401 nm)	0.000105 u	ppm	0.000173	> 100.00	27.637500	Y 377.433
Zn (206.200 nm)	0.000359	ppm	0.000174	48.59	0.450460	Y 377.433
Zr (343.823 nm)	0.000069	ppm	0.000004	6.16	22.258500	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.171022	22124.130264	0.001346	0.11
Y 377.433	1.169685	1187030.825441	0.000202	0.02
Y_R 377.433	1.251680	96181.500000	0.003010	0.24
Y_R 488.368	1.276880	56022.700000	0.005036	0.39
Y_R2 488.368	1.235048	106637.890230	0.001306	0.11

Sample Name: CCVL-5398386

Date: 10/30/2018 3:05:53 AM Rack:Tube: S1:3

Weight (g): 1 Volume (mL): 1 Dilution: 1

Analyte Results

Label	Solution Concentration	Unit	SD	%RSD	Intensity	Internal Standard
Ag (328.068 nm)	0.010004	ppm	0.000106	1.06	10.136200	Y 377.433
Al (167.019 nm)	0.107246	ppm	0.000591	0.55	57.729300	Y_R 377.433
Al H (396.152 nm)	0.073559 u	ppm	0.000020	0.03	265.117225	Y_R 377.433
As (188.980 nm)	0.012840	ppm	0.000019	0.15	12.830400	Y 242.219
B (249.678 nm)	0.103549	ppm	0.000228	0.22	2549.550000	Y 242.219
Ba (493.408 nm)	0.008962	ppm	0.000160	1.78	1599.110000	Y_R 488.368
Be (234.861 nm)	0.001004	ppm	0.000021	2.12	231.166000	Y_R 488.368
Bi (223.061 nm)	0.104392	ppm	0.000854	0.82	260.533000	Y 377.433
Ca (315.887 nm)	0.230593	ppm	0.002227	0.97	112.955563	Y_R 377.433
Cd (214.439 nm)	0.005176	ppm	0.000067	1.29	294.131000	Y 377.433
Co (228.615 nm)	0.010791	ppm	0.000176	1.63	152.875000	Y 242.219
Cr (205.560 nm)	0.009933	ppm	0.000340	3.42	146.447000	Y 377.433
Cu (324.754 nm)	0.017905	ppm	0.000293	1.63	640.735000	Y 377.433
Fe (238.204 nm)	0.104211	ppm	0.000862	0.83	392.677313	Y_R 377.433
Fe H (259.940 nm)	0.026791 u	ppm	0.000511	1.91	201.360000	Y_R 377.433
K (766.491 nm)	3.174830	ppm	0.036475	1.15	2877.110000	Y_R2 488.368
Li (670.783 nm)	0.035726 Q	ppm	0.000988	2.76	-224.266000 Q	Y_R2 488.368
Mg (279.078 nm)	0.193448	ppm	0.001500	0.78	1097.210000	Y 377.433
Mn (257.610 nm)	0.010368	ppm	0.000033	0.32	2401.340000	Y 377.433
Mo (202.032 nm)	0.019259	ppm	0.000187	0.97	158.334000	Y 377.433
Na (589.592 nm)	1.012280	ppm	0.008723	0.86	7050.840000	Y_R2 488.368
Na H (589.593 nm)	1.047630 u	ppm	0.002245	0.21	7040.539686	Y_R 488.368
Ni (231.604 nm)	0.042702	ppm	0.000274	0.64	276.815000	Y 377.433
P (213.618 nm)	2.841000 o	ppm	0.010860	0.38	5872.270000	Y 242.219
Pb (220.353 nm)	0.008943	ppm	0.000989	11.06	28.800000	Y 242.219
S (181.972 nm)	0.122095	ppm	0.005854	4.79	90.549557	Y 377.433
Sb (206.834 nm)	0.022173	ppm	0.000980	4.42	38.560900	Y 377.433
Se (196.026 nm)	0.016928	ppm	0.003040	17.96	29.363700	Y 242.219
Si (288.158 nm)	0.473211	ppm	0.002728	0.58	4882.130000	Y 377.433
Sn (189.925 nm)	0.099416	ppm	0.000393	0.40	197.556000	Y 377.433
Sr (421.552 nm)	0.009708	ppm	0.000064	0.66	2146.679977	Y_R 488.368
Th (288.505 nm)	0.018925	ppm	0.003066	16.20	125.541000	Y 377.433
Ti (336.122 nm)	0.010639	ppm	0.000031	0.30	1199.930000	Y 377.433
Tl (190.794 nm)	0.017301	ppm	0.001777	10.27	29.703100	Y 377.433
U (409.013 nm)	0.072028	ppm	0.000940	1.30	144.821000	Y 377.433
V (292.401 nm)	0.009960	ppm	0.000017	0.17	369.407000	Y 377.433
Zn (206.200 nm)	0.020887	ppm	0.000377	1.81	103.101000	Y 377.433
Zr (343.823 nm)	0.014997	ppm	0.000073	0.49	1943.730000	Y 377.433

Internal Standards Results

Label	Ratio	Intensity	SD	%RSD
Y 242.219	1.191972	22519.939774	0.000704	0.06
Y 377.433	1.188816	1206445.282457	0.000316	0.03
Y_R 377.433	1.286400	98849.100000	0.000897	0.07
Y_R 488.368	1.300210	57046.500000	0.000973	0.07
Y_R2 488.368	1.266948	109392.231068	0.003450	0.27

PAFactor.txt

P/A Factor Tuning Report

===Current Sample===
Sample Name: 280-116021-a-6-b ms
Data File: 039SMPL.d
Acquired: 11/02/2018 18:08:05

===Detector Parameters and P/A Factors===
Discriminator: 4.5 mV
AnalogHV: 1987 V
PulseHV: 989 V

Acquired: 11/02/2018 15:35:07

Mass[u]	Element	P/A Factor
9		0.095774
23		0.102364
24		0.106734
27		0.109121
39		0.111391
45		0.111722
51		0.112707
55		0.119697
56		0.110821
59		0.121915
60		0.121190
63		0.123736
66		0.122940
72		0.122259
75		0.121180
95		0.121687
101		0.124645
100		0.124652
102		0.126716
104		0.126959
105		0.127626
106		0.128735
111		0.128440

Page 1

PAFactor.txt

114	0.131981
115	0.131616
118	0.129804
121	0.129419
175	0.135635
193	0.137580
208	0.138181
209	0.137427
232	0.139229
238	0.138956
77	Signal too low
82	Signal too low
137	Signal too low

US EPA Tune Check Sample Report

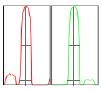
Batch Folder D:\MassHunter Data\li110218.b
Report Comment
Instrument Name G3281A JP09320047

[HMI H2]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	3568	1.15	5.00	
9	12750	0.49	5.00	

Mas	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	3562	3540	3534	3637	3565
9	12692	12749	12690	12839	12778

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
7	587	6.95	6.9 - 7.1		0.773	0.750	[F]
9	2027	8.90	8.9 - 9.1		0.779	0.750	[F]

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 60.9 **Y Axis =** Linear

Tune Parameters
Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.75	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.14	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.7	V	Deflect	1.8	V
Extract 2	-140.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-65	V	Cell Exit	-58	V			

Cell Parameters

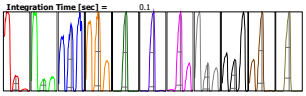
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-18.0	V	He Flow	0.0	mL/min	Energy Discrimination	3.0	V
OctP RF	160	V	H2 Flow	4.0	mL/min			
Use Gas	true		3rd Gas Flow	0	%			

[HMI He]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
24	4223	2.54	5.00	
25	612	4.28	5.00	
26	728	4.32	5.00	
59	17473	2.42	5.00	
103	48613	2.30	5.00	
115	14412	3.90	5.00	
205	52944	2.45	5.00	
206	18625	2.95	5.00	
207	16159	2.73	5.00	
208	38773	3.25	5.00	
238	92470	2.60	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
24	4062	4231	4183	4322	4315
25	600	588	625	652	596
26	680	727	722	757	757
59	16947	17129	17650	17668	17971
103	47003	48214	48527	49481	49841
115	13574	14185	14568	14674	15058
205	51252	52376	52810	53571	54709
206	17937	18263	18608	19029	19287
207	15614	15826	16250	16388	16718
208	37099	37975	39008	39470	40314
238	88895	91464	92784	94332	94876

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
24	717	23.900	23.9 - 24.1		0.732	0.750	
25	108	24.950	24.9 - 25.1		0.729	0.750	
26	128	26.000	25.9 - 26.1		0.736	0.750	
59	3107	59.000	58.9 - 59.1		0.721	0.750	
103	9473	103.000	102.9 - 103.1		0.697	0.750	
115	2735	115.050	114.9 - 115.1		0.702	0.750	
205	10073	205.000	204.9 - 205.1		0.732	0.750	
206	3513	206.000	205.9 - 206.1		0.737	0.750	
207	2976	207.000	206.9 - 207.1		0.722	0.750	
208	7469	208.000	207.9 - 208.1		0.723	0.750	
238	16920	238.000	237.9 - 238.1		0.725	0.750	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 283 **Y Axis =** Linear

Tune Parameters
Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.66	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.23	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.8	V	Deflect	0.8	V
Extract 2	-145.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-65	V	Cell Exit	-60	V			

Cell Parameters

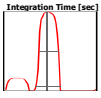
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-18.0	V	He Flow	5.0	mL/min	Energy Discrimination	3.0	V
OctP RF	160	V	H2 Flow	0.0	mL/min			
Use Gas	true		3rd Gas Flow	0	%			

[No Gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	119234	1.34	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	121880	119196	119068	118384	117642

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
7	19869	6.900	6.9 - 7.1		0.772	0.750	[F]

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 36.9 **Y Axis =** Linear

Tune Parameters
Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.90	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.00	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.4	V	Deflect	15.6	V
Extract 2	-130.0	V	Cell Entrance	-40	V	Plate Bias	-50	V
Omega Bias	-60	V	Cell Exit	-60	V			

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-8.0	V	He Flow	0.0	mL/min	Energy Discrimination	3.0	V
OctP RF	160	V	H2 Flow	0.0	mL/min			
Use Gas	false		3rd Gas Flow	0	%			

US EPA Tune Check Sample Report

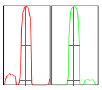
Batch Folder D:\MassHunter Data\ji110218.b
Report Comment
Instrument Name G3281A JP09320047

[HMI H2]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	3568	1.15	5.00	
9	12750	0.49	5.00	

Mas	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	3562	3540	3534	3637	3565
9	12692	12749	12690	12839	12778

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
7	587	6.95	6.9 - 7.1		0.773	0.750	[F]
9	2027	8.90	8.9 - 9.1		0.779	0.750	[F]

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 60.9 **Y Axis =** Linear

Tune Parameters
Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.75	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.14	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.7	V	Deflect	1.8	V
Extract 2	-140.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-65	V	Cell Exit	-58	V			

Cell Parameters

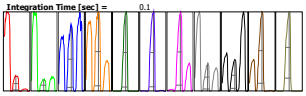
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-18.0	V	He Flow	0.0	mL/min	Energy Discrimination	3.0	V
OctP RF	160	V	H2 Flow	4.0	mL/min			
Use Gas	true		3rd Gas Flow	0	%			

[HMI He]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
24	4223	2.54	5.00	
25	612	4.28	5.00	
26	728	4.32	5.00	
59	17473	2.42	5.00	
103	48613	2.30	5.00	
115	14412	3.90	5.00	
205	52944	2.45	5.00	
206	18625	2.95	5.00	
207	16159	2.73	5.00	
208	38773	3.25	5.00	
238	92470	2.60	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
24	4062	4231	4183	4322	4315
25	600	588	625	652	596
26	680	727	722	757	757
59	16947	17129	17650	17668	17971
103	47003	48214	48527	49481	49841
115	13574	14185	14568	14674	15058
205	51252	52376	52810	53571	54709
206	17937	18263	18608	19029	19287
207	15614	15826	16250	16388	16718
208	37099	37975	39008	39470	40314
238	88895	91464	92784	94332	94876

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
24	717	23.900	23.9 - 24.1		0.732	0.750	
25	108	24.950	24.9 - 25.1		0.729	0.750	
26	128	26.000	25.9 - 26.1		0.736	0.750	
59	3107	59.000	58.9 - 59.1		0.721	0.750	
103	9473	103.000	102.9 - 103.1		0.697	0.750	
115	2735	115.050	114.9 - 115.1		0.702	0.750	
205	10073	205.000	204.9 - 205.1		0.732	0.750	
206	3513	206.000	205.9 - 206.1		0.737	0.750	
207	2976	207.000	206.9 - 207.1		0.722	0.750	
208	7469	208.000	207.9 - 208.1		0.723	0.750	
238	16920	238.000	237.9 - 238.1		0.725	0.750	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 283 **Y Axis =** Linear

Tune Parameters
Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.66	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.23	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.8	V	Deflect	0.8	V
Extract 2	-145.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-65	V	Cell Exit	-60	V			

Cell Parameters

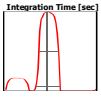
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-18.0	V	He Flow	5.0	mL/min	Energy Discrimination	3.0	V
OctP RF	160	V	H2 Flow	0.0	mL/min			
Use Gas	true		3rd Gas Flow	0	%			

[No Gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	119234	1.34	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	121880	119196	119068	118384	117642

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
7	19869	6.900	6.9 - 7.1		0.772	0.750	[F]

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 36.9 **Y Axis =** Linear

Tune Parameters
Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	0.90	L/min	S/C Temp	2	°C
RF Matching	1.67	V	Option Gas	0.0	%	Makeup/Dilution Gas	0.00	L/min
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Gas Switch	Dilution Gas	

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.4	V	Deflect	15.6	V
Extract 2	-130.0	V	Cell Entrance	-40	V	Plate Bias	-50	V
Omega Bias	-60	V	Cell Exit	-60	V			

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
OctP Bias	-8.0	V	He Flow	0.0	mL/min	Energy Discrimination	3.0	V
OctP RF	160	V	H2 Flow	0.0	mL/min			
Use Gas	false		3rd Gas Flow	0	%			

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	001WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T15:39:20-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	002WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T15:43:08-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	003WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T15:47:26-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	004WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T15:51:16-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	005WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T15:55:38-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

Calibration Blank Report

Sample Table

Sample Name	ICIS-5408711
Data File Name	006CALB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T15:59:46-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	184334	0.00
Li	7	2	HMI He	10051	0.05
Li	7	3	No Gas	6622513	0.00
Be	9	1	HMI H2	10	1732.05
B	11	1	HMI H2	613	1.07
Na	23	1	HMI H2	383599	0.00
Na	23	2	HMI He	27536	0.01
Mg	24	2	HMI He	187	8.28
Al	27	2	HMI He	110	28.63
K	39	2	HMI He	20942	0.01
Ca	44	2	HMI He	50	105.83
Ti	47	2	HMI He	10	1000.00
V	51	2	HMI He	2110	0.38
Cr	52	2	HMI He	273	3.86
Mn	55	2	HMI He	70	54.00
Fe	57	2	HMI He	220	0.00
Co	59	2	HMI He	20	250.00
Ni	60	2	HMI He	180	19.27
Cu	63	2	HMI He	1567	0.33
Zn	66	2	HMI He	290	7.80
As	75	2	HMI He	28	14.33
Se	78	1	HMI H2	27	32.48
Sr	88	2	HMI He	27	292.73
Zr	90	2	HMI He	140	51.78
Nb	93	2	HMI He	160	20.67
Mo	95	2	HMI He	30	333.33
Pd	105	2	HMI He	17	207.85
Ag	107	2	HMI He	33	51.96
Cd	111	2	HMI He	7	1299.04
Sn	120	2	HMI He	150	23.51
Sb	121	2	HMI He	37	227.24
Ba	137	2	HMI He	10	1732.05
W	182	2	HMI He	1797	0.20
Pt	195	2	HMI He	7	1299.04
Tl	205	2	HMI He	103	78.54
Pb	208	2	HMI He	1153	0.04
Th	232	2	HMI He	317	3.05
U	238	2	HMI He	113	49.44

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li-6 Internal Standard	6	1	HMI H2	1719455	0.88
Sc (IS)	45	1	HMI H2	32996152	0.28
Sc (IS)	45	2	HMI He	1019192	1.88
Sc (IS)	45	3	No Gas	56217091	0.38
Ge Internal Standard	72	1	HMI H2	13920513	1.08
Ge Internal Standard	72	2	HMI He	1242268	2.81
In Internal Standard	115	2	HMI He	4043894	0.86
Ho-165	165	2	HMI He	19631094	0.35

Calibration Standard Report

Sample Table

Sample Name	IC-5408712
Data File Name	007CALS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:03:35-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	673204	0.00
Li	7	2	HMI He	36141	0.00
Li	7	3	No Gas	23487577	0.00
Be	9	1	HMI H2	45680	0.01
B	11	1	HMI H2	48694	0.00
Na	23	1	HMI H2	38324971	0.00
Na	23	2	HMI He	2413136	0.00
Mg	24	2	HMI He	1131118	0.00
Al	27	2	HMI He	263755	0.00
K	39	1	HMI H2	49913384	0.00
K	39	2	HMI He	577608	0.00
Ca	40	1	HMI H2	57467666	0.00
Ca	44	2	HMI He	30840	0.00
Ti	47	2	HMI He	2687	0.30
V	51	2	HMI He	117837	0.00
Cr	52	2	HMI He	151628	0.00
Mn	55	2	HMI He	56926	0.00
Fe	57	2	HMI He	277671	0.00
Co	59	2	HMI He	265689	0.00
Ni	60	2	HMI He	76468	0.00
Cu	63	2	HMI He	209884	0.00
Zn	66	2	HMI He	27170	0.00
As	75	2	HMI He	19693	0.01
Se	78	1	HMI H2	33448	0.00
Sr	88	2	HMI He	63868	0.00
Zr	90	2	HMI He	1400	1.10
Nb	93	2	HMI He	784881	0.00
Mo	95	2	HMI He	103741	0.00
Pd	105	2	HMI He	169284	0.00
Ag	107	2	HMI He	346726	0.00
Cd	111	2	HMI He	44278	0.01
Sn	120	2	HMI He	117946	0.00
Sb	121	2	HMI He	108158	0.00
Ba	137	2	HMI He	37171	0.01
Nd	146	2	HMI He	134145	0.00
Sm	147	2	HMI He	116559	0.00
Sm	150	2	HMI He	113949	0.00
Gd	156	1	HMI H2	787472	0.00
Gd	157	1	HMI H2	598823	0.00
W	182	2	HMI He	500682	0.00
Pt	195	2	HMI He	413181	0.00
Tl	205	2	HMI He	909637	0.00
Pb	208	2	HMI He	1230878	0.00
Th	232	2	HMI He	1555895	0.00
U	238	2	HMI He	1664574	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1674442	1.25	1719455	97.38	60	120	
Sc (IS)	45	1	HMI H2	32850460	0.74	32996152	99.56	60	120	
Sc (IS)	45	2	HMI He	981998	0.74	1019192	96.35	60	120	
Sc (IS)	45	3	No Gas	54636769	0.19	56217091	97.19	60	120	
Ge Internal Standard	72	1	HMI H2	13793661	0.50	13920513	99.09	60	120	
Ge Internal Standard	72	2	HMI He	1190378	2.39	1242268	95.82	60	120	
In Internal Standard	115	2	HMI He	3903658	1.71	4043894	96.53	60	120	
Ho-165	165	2	HMI He	19628015	0.29	19631094	99.98	60	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV-5408714
Data File Name	008_ICV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:07:22-06:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	475.920	ppb	0.738	414951	400	119.0	90	110	>+\-10%
Li	7	2	45	465.469	ppb	1.404	22097	400	116.4	90	110	>+\-10%
Li	7	3	45	478.734	ppb	3.280	14708067	400	119.7	90	110	>+\-10%
Be	9	1	6	41.475	ppb	6.531	18672	40	103.7	90	110	
B	11	1	6	35.754	ppb	3.941	17544	40	89.4	90	110	>+\-10%
Na	23	1	45	3983.181	ppb	0.246	15434187	4000	99.6	90	110	>+\-10%
Na	23	2	45	4069.437	ppb	0.493	1002233	4000	101.7	90	110	
Mg	24	2	45	3716.968	ppb	0.857	422482	4000	92.9	90	110	
Al	27	2	45	7982.978	ppb	1.480	211544	4000	199.6	90	110	>+\-10%
K	39	1	45	3955.455	ppb	0.542	26970069	4000	98.9	90	110	
K	39	2	45	4066.791	ppb	0.643	247985	4000	101.7	90	110	
Ca	40	1	45	4041.429	ppb	1.162	23166642	4000	101.0	90	110	
Ca	44	2	45	3887.347	ppb	4.422	12072	4000	97.2	90	110	
Ti	47	2	45	41.406	ppb	4.906	1123	40	103.5	90	110	
V	51	2	72	40.851	ppb	1.022	48726	40	102.1	90	110	
Cr	52	2	72	40.739	ppb	0.758	61159	40	101.8	90	110	
Mn	55	2	72	42.620	ppb	2.397	23994	40	106.5	90	110	
Fe	57	2	72	8140.047	ppb	2.211	223186	4000	203.5	90	110	>+\-10%
Co	59	2	72	40.395	ppb	2.575	105979	40	101.0	90	110	
Ni	60	2	72	40.858	ppb	0.949	30964	40	102.1	90	110	
Cu	63	2	72	41.288	ppb	0.567	86455	40	103.2	90	110	
Zn	66	2	72	42.077	ppb	3.671	11455	40	105.2	90	110	
As	75	2	72	38.299	ppb	0.678	7464	40	95.7	90	110	
Se	78	1	72	39.843	ppb	0.678	13313	40	99.6	90	110	
Sr	88	2	72	42.333	ppb	0.820	26713	40	105.8	90	110	
Zr	90	2	72	9.083	ppb	78.808	243	40	22.7	90	110	>+\-10%
Nb	93	2	72	73.800	ppb	1.203	286134	80	92.2	90	110	
Mo	95	2	115	39.645	ppb	2.694	41545	40	99.1	90	110	
Pd	105	2	115	40.002	ppb	0.982	68387	40	100.0	90	110	
Ag	107	2	115	38.392	ppb	0.887	134434	40	96.0	90	110	
Cd	111	2	115	39.481	ppb	5.406	17655	40	98.7	90	110	
Sn	120	2	115	40.829	ppb	2.086	48707	40	102.1	90	110	
Sb	121	2	115	42.788	ppb	1.404	46746	40	107.0	90	110	
Ba	137	2	115	41.273	ppb	1.702	15493	40	103.2	90	110	
W	182	2	165	80.652	ppb	0.886	402545	40	201.6	90	110	>+\-10%
Pt	195	2	165	39.215	ppb	1.294	161380	40	98.0	90	110	
Tl	205	2	165	40.820	ppb	1.918	369878	40	102.0	90	110	
Pb	208	2	165	40.245	ppb	1.198	494071	40	100.6	90	110	
Th	232	2	165	37.565	ppb	1.972	582326	40	93.9	90	110	
U	238	2	165	37.521	ppb	1.497	622106	40	93.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1651092	2.26	1719455	96.02	60	120	
Sc (IS)	45	1	HMI H2	32721101	0.46	32996152	99.17	60	120	
Sc (IS)	45	2	HMI He	986412	0.49	1019192	96.78	60	120	
Sc (IS)	45	3	No Gas	55047651	0.60	56217091	97.92	60	120	
Ge Internal Standard	72	1	HMI H2	13762856	0.25	13920513	98.87	60	120	
Ge Internal Standard	72	2	HMI He	1175315	1.44	1242268	94.61	60	120	
In Internal Standard	115	2	HMI He	3941376	1.23	4043894	97.46	60	120	
Ho-165	165	2	HMI He	19550560	0.92	19631094	99.59	60	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB-5408711
Data File Name	009_ICB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:11:36-06:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	-9.710	ppb	-26.7	6551827	10	
Be	9	1	0.014	ppb	235.7	17	0.5	
B	11	1	0.387	ppb	53.5	817	0.5	
Na	23	1	4.309	ppb	45.0	404243	25	
Na	23	2	2.989	ppb	57.6	28271	25	
Mg	24	2	0.843	ppb	64.5	287	25	
Al	27	2	25.967	ppb	4.8	820	15	>RL
K	39	1	-62.110	ppb	-32.8	12078180	50	
K	39	2	2.616	ppb	662.7	21093	50	
Ca	40	1	1.550	ppb	5.7	65504	50	
Ca	44	2	-2.262	ppb	-338.4	43	25	
Ti	47	2	-0.361	ppb	0.0	0	0.5	
V	51	2	1.105	ppb	3.4	3521	1	>RL
Cr	52	2	0.034	ppb	142.2	333	1	
Mn	55	2	-0.018	ppb	-184.8	60	0.5	
Fe	57	2	2.881	ppb	53.4	310	25	
Co	59	2	-0.004	ppb	-169.4	10	0.5	
Ni	60	2	-0.002	ppb	-7777.6	183	1	
Cu	63	2	-0.015	ppb	-479.0	1567	1	
Zn	66	2	-0.054	ppb	-118.5	280	5	
As	75	2	0.047	ppb	45.1	39	1	
Se	78	1	0.042	ppb	42.6	41	1	
Sr	88	2	0.023	ppb	221.7	43	0.5	
Zr	90	2	-4.053	ppb	-41.6	87	1	
Nb	93	2	3.613	ppb	8.1	15292	2	>RL
Mo	95	2	0.021	ppb	67.9	53	0.5	
Pd	105	2	0.039	ppb	33.4	87	1	
Ag	107	2	0.015	ppb	17.7	90	1	
Cd	111	2	-0.007	ppb	-171.8	3	0.5	
Sn	120	2	0.135	ppb	45.9	320	1	
Sb	121	2	0.252	ppb	35.0	323	0.6	
Ba	137	2	-0.009	ppb	-163.8	7	0.5	
W	182	2	0.123	ppb	41.4	2437	1	
Pt	195	2	0.017	ppb	51.1	77	1	
Tl	205	2	0.015	ppb	20.1	247	0.1	
Pb	208	2	0.007	ppb	90.2	1253	0.5	
Th	232	2	0.042	ppb	19.2	977	1	
U	238	2	0.018	ppb	39.6	420	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1742636	1.47	1719455	101.35	60	120	
Sc (IS)	45	1	HMI H2	33347871	0.96	32996152	101.07	60	120	
Sc (IS)	45	2	HMI He	1019243	1.66	1019192	100.00	60	120	
Sc (IS)	45	3	No Gas	57085014	0.31	56217091	101.54	60	120	
Ge Internal Standard	72	1	HMI H2	14050560	0.15	13920513	100.93	60	120	
Ge Internal Standard	72	2	HMI He	1269500	0.83	1242268	102.19	60	120	
In Internal Standard	115	2	HMI He	4107191	0.63	4043894	101.57	60	120	
Ho-165	165	2	HMI He	19865056	1.48	19631094	101.19	60	120	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	ICVL-5408715
Data File Name	010LICV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:16:18-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	3.610	ppb	371.879	10998319	50	7.2	70	130	>+/-30%
Be	9	1	6	-0.008	ppb	-157.147	10	1	-0.8	70	130	>+/-30%
Na	23	2	45	-31.144	ppb	-39.962	30529	50	-62.3	70	130	>+/-30%
Mg	24	2	45	0.482	ppb	290.908	367	50	1.0	70	130	>+/-30%
Al	27	2	45	0.539	ppb	517.773	190	30	1.8	70	130	>+/-30%
K	39	2	45	-161.625	ppb	-14.316	17942	100	-161.6	70	130	>+/-30%
Ca	44	2	45	-5.745	ppb	-128.716	50	50	-11.5	70	130	>+/-30%
V	51	2	72	-0.552	ppb	-11.212	2177	5	-11.0	70	130	>+/-30%
Cr	52	2	72	-0.048	ppb	-77.323	290	2	-2.4	70	130	>+/-30%
Mn	55	2	72	-0.052	ppb	-25.221	60	1	-5.2	70	130	>+/-30%
Fe	57	2	72	1.216	ppb	113.606	383	50	2.4	70	130	>+/-30%
Co	59	2	72	0.008	ppb	147.047	63	1	0.8	70	130	>+/-30%
Ni	60	2	72	-0.025	ppb	-354.884	250	2	-1.2	70	130	>+/-30%
Cu	63	2	72	-0.105	ppb	-31.445	2034	2	-5.2	70	130	>+/-30%
Zn	66	2	72	-0.405	ppb	-50.219	273	10	-4.1	70	130	>+/-30%
As	75	2	72	-0.060	ppb	-51.105	25	5	-1.2	70	130	>+/-30%
Se	78	1	72	-0.019	ppb	-115.073	29	5	-0.4	70	130	>+/-30%
Sr	88	2	72	0.004	ppb	516.141	47	1	0.4	70	130	>+/-30%
Zr	90	2	72	8.578	ppb	106.049	383	0.5	1715.6	70	130	>+/-30%
Nb	93	2	72	1.112	ppb	63.649	6841	2	55.6	70	130	>+/-30%
Mo	95	2	115	0.024	ppb	136.235	77	2	1.2	70	130	>+/-30%
Pd	105	2	115	0.053	ppb	75.766	153	1	5.3	70	130	>+/-30%
Ag	107	2	115	0.008	ppb	216.822	83	5	0.2	70	130	>+/-30%
Cd	111	2	115	-0.002	ppb	-1294.964	10	1	-0.2	70	130	>+/-30%
Sn	120	2	115	0.069	ppb	45.264	347	10	0.7	70	130	>+/-30%
Sb	121	2	115	0.108	ppb	71.796	217	2	5.4	70	130	>+/-30%
Ba	137	2	115	-0.006	ppb	-616.719	13	1	-0.6	70	130	>+/-30%
W	182	2	165	-0.018	ppb	-79.602	2567	1	-1.8	70	130	>+/-30%
Pt	195	2	165	0.025	ppb	73.823	157	1	2.5	70	130	>+/-30%
Tl	205	2	165	0.020	ppb	59.899	413	1	2.0	70	130	>+/-30%
Pb	208	2	165	-0.013	ppb	-177.043	1493	1	-1.3	70	130	>+/-30%
Th	232	2	165	0.041	ppb	33.866	1424	2	2.1	70	130	>+/-30%
U	238	2	165	0.012	ppb	92.675	447	1	1.2	70	130	>+/-30%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	2835978	0.79	1719455	164.93	60	120	IS Failed
Sc (IS)	45	1	HMI H2	49096448	2.93	32996152	148.79	60	120	IS Failed
Sc (IS)	45	2	HMI He	1592789	14.11	1019192	156.28	60	120	IS Failed
Sc (IS)	45	3	No Gas	92582445	8.07	56217091	164.69	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	20327314	3.09	13920513	146.02	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	1877578	14.90	1242268	151.14	60	120	IS Failed
In Internal Standard	115	2	HMI He	5881873	15.95	4043894	145.45	60	120	IS Failed
Ho-165	165	2	HMI He	29574433	15.21	19631094	150.65	60	120	IS Failed

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	ICVL-5408715
Data File Name	011LICV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:20:39-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	10.409	ppb	14.643	7033602	50	20.8	70	130	>+/-30%
Be	9	1	6	0.981	ppb	21.032	483	1	98.1	70	130	
Na	23	2	45	42.933	ppb	17.651	39804	50	85.9	70	130	>+/-30%
Mg	24	2	45	45.566	ppb	7.928	5768	50	91.1	70	130	
Al	27	2	45	32.644	ppb	3.445	1047	30	108.8	70	130	
K	39	2	45	95.276	ppb	25.885	27594	100	95.3	70	130	
Ca	44	2	45	27.514	ppb	81.338	147	50	55.0	70	130	>+/-30%
V	51	2	72	5.301	ppb	11.460	8933	5	106.0	70	130	
Cr	52	2	72	1.793	ppb	14.361	3254	2	89.7	70	130	
Mn	55	2	72	0.852	ppb	21.638	603	1	85.2	70	130	
Fe	57	2	72	45.739	ppb	21.378	1617	50	91.5	70	130	
Co	59	2	72	0.975	ppb	8.188	2854	1	97.5	70	130	
Ni	60	2	72	1.792	ppb	14.686	1687	2	89.6	70	130	
Cu	63	2	72	1.914	ppb	11.883	6002	2	95.7	70	130	
Zn	66	2	72	9.980	ppb	7.376	3241	10	99.8	70	130	
As	75	2	72	4.176	ppb	6.136	927	5	83.5	70	130	
Se	78	1	72	4.657	ppb	4.728	1633	5	93.1	70	130	
Sr	88	2	72	0.975	ppb	14.761	710	1	97.5	70	130	
Zr	90	2	72	12.407	ppb	18.768	317	0.5	2481.3	70	130	>+/-30%
Nb	93	2	72	4.704	ppb	6.578	20372	2	235.2	70	130	>+/-30%
Mo	95	2	115	1.884	ppb	8.925	2087	2	94.2	70	130	
Pd	105	2	115	0.007	ppb	201.284	30	1	0.7	70	130	>+/-30%
Ag	107	2	115	5.015	ppb	6.317	18333	5	100.3	70	130	
Cd	111	2	115	0.916	ppb	15.669	433	1	91.6	70	130	
Sn	120	2	115	9.986	ppb	5.259	12536	10	99.9	70	130	
Sb	121	2	115	2.114	ppb	10.918	2444	2	105.7	70	130	
Ba	137	2	115	0.869	ppb	10.826	350	1	86.9	70	130	
W	182	2	165	4.844	ppb	2.590	26357	1	484.4	70	130	>+/-30%
Pt	195	2	165	0.038	ppb	32.188	167	1	3.8	70	130	>+/-30%
Tl	205	2	165	1.046	ppb	6.660	9764	1	104.6	70	130	
Pb	208	2	165	0.954	ppb	0.880	13087	1	95.4	70	130	
Th	232	2	165	1.915	ppb	2.105	30571	2	95.8	70	130	
U	238	2	165	0.972	ppb	0.923	16545	1	97.2	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1767929	0.53	1719455	102.82	60	120	
Sc (IS)	45	1	HMI H2	34008028	0.84	32996152	103.07	60	120	
Sc (IS)	45	2	HMI He	1064608	4.91	1019192	104.46	60	120	
Sc (IS)	45	3	No Gas	58103214	1.27	56217091	103.36	60	120	
Ge Internal Standard	72	1	HMI H2	14232784	0.59	13920513	102.24	60	120	
Ge Internal Standard	72	2	HMI He	1301929	1.07	1242268	104.80	60	120	
In Internal Standard	115	2	HMI He	4110279	1.52	4043894	101.64	60	120	
Ho-165	165	2	HMI He	19930081	0.82	19631094	101.52	60	120	

CRI Report

Sample Table

Sample Name	CRI-5408716
Data File Name	012RLST_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:24:52-06:00
Sample Type	CRI
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	10.865	ppb	30.923	195854	10	108.7	80	120	
Li	7	2	45	-9.384	ppb	-90.902	10324	10	-93.8	80	120	>+\-20%
Li	7	3	45	3.225	ppb	26.102	7030013	10	32.3	80	120	>+\-20%
Be	9	1	6	0.886	ppb	3.144	447	1	88.6	80	120	
B	11	1	6	0.942	ppb	54.199	1133	1	94.2	80	120	
Na	23	1	45	98.310	ppb	1.752	782960	100	98.3	80	120	
Na	23	2	45	88.089	ppb	6.951	52022	100	88.1	80	120	
Mg	24	2	45	93.505	ppb	3.959	11772	100	93.5	80	120	
Al	27	2	45	95.134	ppb	5.522	2860	100	95.1	80	120	
K	39	2	45	99.891	ppb	20.528	28168	100	99.9	80	120	
Ca	40	1	45	105.128	ppb	0.410	683689	100	105.1	80	120	
Ca	44	2	45	93.942	ppb	9.285	370	100	93.9	80	120	
Ti	47	2	45	0.894	ppb	25.342	37	1	89.4	80	120	
V	51	2	72	1.485	ppb	5.762	4044	1	148.5	80	120	>+\-20%
Cr	52	2	72	0.892	ppb	11.313	1744	1	89.2	80	120	
Mn	55	2	72	1.070	ppb	12.861	730	1	107.0	80	120	
Fe	57	2	72	97.551	ppb	17.325	3151	100	97.6	80	120	
Co	59	2	72	0.947	ppb	10.976	2744	1	94.7	80	120	
Ni	60	2	72	1.009	ppb	4.131	1020	1	100.9	80	120	
Cu	63	2	72	1.035	ppb	4.266	3954	1	103.5	80	120	
Zn	66	2	72	1.147	ppb	25.874	633	1	114.7	80	120	
As	75	2	72	0.903	ppb	11.178	221	1	90.3	80	120	
Se	78	1	72	1.024	ppb	9.057	384	1	102.4	80	120	
Sr	88	2	72	0.957	ppb	22.647	690	1	95.7	80	120	
Zr	90	2	72	-1.951	ppb	-72.549	117	1	-195.1	80	120	>+\-20%
Nb	93	2	72	2.220	ppb	0.372	9584	2	111.0	80	120	
Mo	95	2	115	0.955	ppb	5.286	1080	1	95.5	80	120	
Pd	105	2	115	0.838	ppb	10.185	1520	1	83.8	80	120	
Ag	107	2	115	1.003	ppb	4.692	3717	1	100.3	80	120	
Cd	111	2	115	0.980	ppb	30.140	467	1	98.0	80	120	
Sn	120	2	115	1.029	ppb	9.529	1437	1	102.9	80	120	
Sb	121	2	115	0.955	ppb	19.342	1133	1	95.5	80	120	
Ba	137	2	115	0.905	ppb	7.785	367	1	90.5	80	120	
W	182	2	165	0.962	ppb	6.590	6675	1	96.2	80	120	
Pt	195	2	165	0.954	ppb	3.835	3997	1	95.4	80	120	
Tl	205	2	165	0.974	ppb	2.741	9067	1	97.4	80	120	
Pb	208	2	165	0.934	ppb	1.793	12790	1	93.4	80	120	
Th	232	2	165	0.841	ppb	6.315	13561	1	84.1	80	120	
U	238	2	165	0.910	ppb	3.289	15447	1	91.0	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1804447	0.66	1719455	104.94	60	120	
Sc (IS)	45	1	HMI H2	34070302	0.19	32996152	103.26	60	120	
Sc (IS)	45	2	HMI He	1074965	2.98	1019192	105.47	60	120	
Sc (IS)	45	3	No Gas	59171764	0.88	56217091	105.26	60	120	
Ge Internal Standard	72	1	HMI H2	14359012	0.67	13920513	103.15	60	120	
Ge Internal Standard	72	2	HMI He	1286876	1.20	1242268	103.59	60	120	
In Internal Standard	115	2	HMI He	4136932	1.49	4043894	102.30	60	120	
Ho-165	165	2	HMI He	19863838	0.20	19631094	101.19	60	120	

CRI Report

Sample Table

Sample Name	CRI-
Data File Name	013RLST_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:29:38-06:00
Sample Type	CRI
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	-3.738	ppb	-169.798	190113	10	-37.4	80	120	>+\-20%
Li	7	2	45	-32.566	ppb	-41.480	9704	10	-325.7	80	120	>+\-20%
Li	7	3	45	-6.983	ppb	-59.474	6828168	10	-69.8	80	120	>+\-20%
Be	9	1	6	0.041	ppb	133.606	30	1	4.1	80	120	>+\-20%
B	11	1	6	-0.195	ppb	-12.645	533	1	-19.5	80	120	>+\-20%
Na	23	1	45	18.893	ppb	2.499	474646	100	18.9	80	120	>+\-20%
Na	23	2	45	15.286	ppb	28.975	33168	100	15.3	80	120	>+\-20%
Mg	24	2	45	0.846	ppb	57.753	303	100	0.8	80	120	>+\-20%
Al	27	2	45	0.939	ppb	62.553	143	100	0.9	80	120	>+\-20%
K	39	2	45	5.670	ppb	324.061	22528	100	5.7	80	120	>+\-20%
Ca	40	1	45	15.329	ppb	2.865	150301	100	15.3	80	120	>+\-20%
Ca	44	2	45	16.554	ppb	57.747	110	100	16.6	80	120	>+\-20%
Ti	47	2	45	-0.361	ppb	0.000	0	1	-36.1	80	120	>+\-20%
V	51	2	72	5.462	ppb	3.620	9057	1	546.2	80	120	>+\-20%
Cr	52	2	72	0.105	ppb	10.543	457	1	10.5	80	120	>+\-20%
Mn	55	2	72	0.229	ppb	14.089	213	1	22.9	80	120	>+\-20%
Fe	57	2	72	16.423	ppb	17.752	723	100	16.4	80	120	>+\-20%
Co	59	2	72	0.007	ppb	52.168	40	1	0.7	80	120	>+\-20%
Ni	60	2	72	0.200	ppb	36.302	353	1	20.0	80	120	>+\-20%
Cu	63	2	72	0.097	ppb	59.410	1847	1	9.7	80	120	>+\-20%
Zn	66	2	72	1.141	ppb	5.417	633	1	114.1	80	120	
As	75	2	72	0.016	ppb	168.953	33	1	1.6	80	120	>+\-20%
Se	78	1	72	-0.041	ppb	-32.647	13	1	-4.1	80	120	>+\-20%
Sr	88	2	72	0.042	ppb	232.699	57	1	4.2	80	120	>+\-20%
Zr	90	2	72	-2.929	ppb	-113.510	103	1	-292.9	80	120	>+\-20%
Nb	93	2	72	0.294	ppb	23.626	1417	2	14.7	80	120	>+\-20%
Mo	95	2	115	0.014	ppb	71.669	47	1	1.4	80	120	>+\-20%
Pd	105	2	115	0.005	ppb	240.081	27	1	0.5	80	120	>+\-20%
Ag	107	2	115	0.002	ppb	315.728	43	1	0.2	80	120	>+\-20%
Cd	111	2	115	0.021	ppb	155.240	17	1	2.1	80	120	>+\-20%
Sn	120	2	115	0.146	ppb	10.843	337	1	14.6	80	120	>+\-20%
Sb	121	2	115	0.063	ppb	27.397	110	1	6.3	80	120	>+\-20%
Ba	137	2	115	0.067	ppb	43.254	37	1	6.7	80	120	>+\-20%
W	182	2	165	0.006	ppb	316.605	1864	1	0.6	80	120	>+\-20%
Pt	195	2	165	0.006	ppb	131.922	33	1	0.6	80	120	>+\-20%
Tl	205	2	165	0.003	ppb	35.330	137	1	0.3	80	120	>+\-20%
Pb	208	2	165	0.003	ppb	163.981	1213	1	0.3	80	120	>+\-20%
Th	232	2	165	0.009	ppb	35.470	460	1	0.9	80	120	>+\-20%
U	238	2	165	0.006	ppb	86.319	210	1	0.6	80	120	>+\-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1772539	1.67	1719455	103.09	60	120	
Sc (IS)	45	1	HMI H2	34375200	0.51	32996152	104.18	60	120	
Sc (IS)	45	2	HMI He	1080117	3.05	1019192	105.98	60	120	
Sc (IS)	45	3	No Gas	59059162	1.69	56217091	105.06	60	120	
Ge Internal Standard	72	1	HMI H2	14330566	0.50	13920513	102.95	60	120	
Ge Internal Standard	72	2	HMI He	1291220	0.57	1242268	103.94	60	120	
In Internal Standard	115	2	HMI He	4148127	0.52	4043894	102.58	60	120	
Ho-165	165	2	HMI He	20047442	0.66	19631094	102.12	60	120	

CRI Report

Sample Table

Sample Name	CRI5408717
Data File Name	014_CRI_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:33:27-06:00
Sample Type	AFCRI
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	6	0.210	ppb	65.195	113	0.2	104.8	80	120	
Na	23	2	45	10.188	ppb	18.620	30940	20	50.9	80	120	AFCRI Main CR1 Failed
Mg	24	2	45	19.786	ppb	4.625	2584	20	98.9	80	120	
Al	27	2	45	18.996	ppb	19.909	650	20	95.0	80	120	
K	39	2	45	25.457	ppb	35.873	23079	20	127.3	80	120	AFCRI Main CR1 Failed
Ca	44	2	45	23.640	ppb	43.167	130	20	118.2	80	120	
V	51	2	72	0.628	ppb	19.979	2977	0.2	313.8	80	120	AFCRI Main CR1 Failed
Cr	52	2	72	0.128	ppb	49.234	493	0.2	63.9	80	120	AFCRI Main CR1 Failed
(Cr)	53	2	72	0.687	ppb	63.769	1093	0.2	343.4	80	120	AFCRI Main CR1 Failed
Mn	55	2	72	0.164	ppb	39.555	173	0.2	82.0	80	120	
Fe	57	2	72	18.015	ppb	18.593	770	20	90.1	80	120	
Co	59	2	72	0.209	ppb	16.705	623	0.2	104.7	80	120	
Ni	60	2	72	0.337	ppb	22.993	467	0.2	168.6	80	120	AFCRI Main CR1 Failed
Cu	63	2	72	0.232	ppb	23.886	2150	0.2	116.0	80	120	
Zn	66	2	72	0.343	ppb	52.288	400	0.2	171.6	80	120	AFCRI Main CR1 Failed
As	75	2	72	0.115	ppb	109.677	54	0.2	57.3	80	120	AFCRI Main CR1 Failed
Se	78	1	72	0.157	ppb	44.783	83	0.2	78.5	80	120	AFCRI Main CR1 Failed
(Se)	82	1	72	-0.096	ppb	-748.900	500	0.2	-48.0	80	120	AFCRI Main CR1 Failed
Nb	93	2	72	0.624	ppb	9.359	2820	0.4	156.1	80	120	AFCRI Main CR1 Failed
Mo	95	2	115	0.159	ppb	15.039	203	0.2	79.4	80	120	AFCRI Main CR1 Failed
Pd	105	2	115	0.226	ppb	23.205	420	0.2	113.2	80	120	
Ag	107	2	115	0.187	ppb	19.654	713	0.2	93.3	80	120	
Cd	111	2	115	0.192	ppb	49.570	97	0.2	96.1	80	120	
(Cd)	114	2	115	0.149	ppb	48.885	193	0.2	74.4	80	120	AFCRI Main CR1 Failed
Sn	120	2	115	0.152	ppb	47.803	340	0.2	76.1	80	120	AFCRI Main CR1 Failed
Sb	121	2	115	0.193	ppb	14.150	257	0.2	96.6	80	120	
Ba	137	2	115	0.180	ppb	39.120	80	0.2	89.8	80	120	
W	182	2	165	0.220	ppb	16.822	2924	0.2	109.8	80	120	
Pt	195	2	165	0.210	ppb	12.359	883	0.2	104.9	80	120	
Tl	205	2	165	0.189	ppb	8.373	1840	0.2	94.4	80	120	
(Pb)	206	2	165	0.246	ppb	16.892	993	0.2	123.0	80	120	AFCRI Main CR1 Failed
(Pb)	207	2	165	0.241	ppb	30.034	897	0.2	120.4	80	120	AFCRI Main CR1 Failed
Pb	208	2	165	0.231	ppb	6.164	4037	0.2	115.5	80	120	
Th	232	2	165	0.158	ppb	2.976	2810	0.2	79.2	80	120	AFCRI Main CR1 Failed
U	238	2	165	0.191	ppb	3.731	3331	0.2	95.6	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1803388	0.74	1719455	104.88	60	120	
Sc (IS)	45	1	HMI H2	34310469	0.44	32996152	103.98	60	120	
Sc (IS)	45	2	HMI He	1049400	2.67	1019192	102.96	60	120	
Sc (IS)	45	3	No Gas	59081451	0.43	56217091	105.10	60	120	
Ge Internal Standard	72	1	HMI H2	14462093	0.27	13920513	103.89	60	120	
Ge Internal Standard	72	2	HMI He	1289668	0.39	1242268	103.82	60	120	
In Internal Standard	115	2	HMI He	4102292	1.51	4043894	101.44	60	120	
Ho-165	165	2	HMI He	19841906	0.31	19631094	101.07	60	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA-5405008
Data File Name	015ICSA_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:37:16-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-2.823	ppb	-93.3	6221804	1	
Be	9	1	6	0.023	ppb	191.3	20	1	
B	11	1	6	0.141	ppb	74.8	653	1	
Na	23	1	45	97151.832	ppb	0.6	350786195	100000	
K	39	1	45	99016.509	ppb	0.2	367147448	100000	
Ca	40	1	45	98142.803	ppb	1.0	535690219	100000	
Ti	47	2	45	1948.118	ppb	0.6	49140	1	>RL or LOD
V	51	2	72	1.343	ppb	8.5	3254	1	>RL or LOD
Cr	52	2	72	0.316	ppb	12.4	673	1	
Mn	55	2	72	0.784	ppb	31.6	467	1	
Co	59	2	72	0.011	ppb	58.6	43	1	
Ni	60	2	72	0.258	ppb	25.3	337	1	
Cu	63	2	72	0.380	ppb	21.4	2087	1	
Zn	66	2	72	0.761	ppb	75.7	437	1	
As	75	2	72	0.093	ppb	34.2	41	1	
Se	78	1	72	-0.002	ppb	-1388.8	24	1	
Sr	88	2	72	1.080	ppb	7.0	650	1	>RL or LOD
Zr	90	2	72	7.902	ppb	168.4	210	1	>RL or LOD
Nb	93	2	72	0.556	ppb	3.9	2124	1	
Mo	95	2	115	2057.172	ppb	1.0	1971378	2000	>RL or LOD
Pd	105	2	115	0.012	ppb	155.6	33	1	
Ag	107	2	115	0.044	ppb	12.0	170	1	
Cd	111	2	115	0.376	ppb	10.4	160	1	
Sn	120	2	115	0.125	ppb	18.2	270	1	
Sb	121	2	115	0.064	ppb	24.9	97	1	
Ba	137	2	115	0.061	ppb	142.9	30	1	
W	182	2	165	0.201	ppb	32.6	2654	1	
Pt	195	2	165	0.004	ppb	188.5	23	1	
Tl	205	2	165	0.004	ppb	166.2	133	1	
Pb	208	2	165	0.060	ppb	29.2	1790	1	
Th	232	2	165	0.027	ppb	41.1	700	1	
U	238	2	165	0.003	ppb	27.5	157	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1645651	1.52	1719455	95.71	60	120	
Sc (IS)	45	1	HMI H2	31228802	0.66	32996152	94.64	60	120	
Sc (IS)	45	2	HMI He	925017	0.90	1019192	90.76	60	120	
Sc (IS)	45	3	No Gas	53211986	0.95	56217091	94.65	60	120	
Ge Internal Standard	72	1	HMI H2	12956911	0.64	13920513	93.08	60	120	
Ge Internal Standard	72	2	HMI He	1082508	1.31	1242268	87.14	60	120	
In Internal Standard	115	2	HMI He	3607041	1.09	4043894	89.20	60	120	
Ho-165	165	2	HMI He	18596460	1.36	19631094	94.73	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-5405009
Data File Name	016ICSB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:41:04-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	245.274	ppb	0.598	288150	100	245.3	80	120	>+\-20%
Li	7	2	45	237.851	ppb	8.270	15228	100	237.9	80	120	>+\-20%
Li	7	3	45	237.371	ppb	1.099	10114034	100	237.4	80	120	>+\-20%
Be	9	1	6	96.697	ppb	1.441	42478	100	96.7	80	120	
B	11	1	6	18.459	ppb	2.168	9113	100	18.5	80	120	>+\-20%
Na	23	1	45	102561.526	ppb	1.300	369652034	100	102561.5	80	120	>+\-20%
K	39	1	45	103753.577	ppb	0.915	383494461	100	103753.6	80	120	>+\-20%
Ca	40	1	45	102754.689	ppb	1.120	559900112	100	102754.7	80	120	>+\-20%
V	51	2	72	100.891	ppb	2.604	109250	100	100.9	80	120	
Cr	52	2	72	97.421	ppb	1.691	135758	100	97.4	80	120	
Mn	55	2	72	98.255	ppb	0.711	51399	100	98.3	80	120	
Co	59	2	72	97.593	ppb	1.242	238265	100	97.6	80	120	
Ni	60	2	72	95.748	ppb	0.983	67306	100	95.7	80	120	
Cu	63	2	72	97.725	ppb	0.674	188514	100	97.7	80	120	
Zn	66	2	72	99.166	ppb	1.834	24769	100	99.2	80	120	
As	75	2	72	96.186	ppb	0.747	17406	100	96.2	80	120	
Se	78	1	72	97.038	ppb	1.184	30306	100	97.0	80	120	
Sr	88	2	72	26.656	ppb	5.297	15666	100	26.7	80	120	>+\-20%
Zr	90	2	72	7.889	ppb	66.211	213	100	7.9	80	120	>+\-20%
Nb	93	2	72	167.051	ppb	0.692	602544	100	167.1	80	120	
Mo	95	2	115	2061.982	ppb	1.851	2003255	100	2062.0	80	120	>+\-20%
Pd	105	2	115	89.364	ppb	0.219	141750	100	89.4	80	120	
Ag	107	2	115	89.048	ppb	1.405	289282	100	89.0	80	120	
Cd	111	2	115	94.432	ppb	2.975	39183	100	94.4	80	120	
Sn	120	2	115	94.339	ppb	0.274	104267	100	94.3	80	120	
Sb	121	2	115	100.304	ppb	0.482	101644	100	100.3	80	120	
Ba	137	2	115	97.409	ppb	2.518	33920	100	97.4	80	120	
W	182	2	165	94.253	ppb	0.840	449610	100	94.3	80	120	
Pt	195	2	165	91.518	ppb	0.504	360188	100	91.5	80	120	
Tl	205	2	165	93.413	ppb	0.955	809434	100	93.4	80	120	
Pb	208	2	165	92.976	ppb	0.837	1090219	100	93.0	80	120	
Th	232	2	165	97.520	ppb	1.660	1445214	100	97.5	80	120	
U	238	2	165	96.902	ppb	0.703	1536393	100	96.9	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1610154	0.24	1719455	93.64	60	120	
Sc (IS)	45	1	HMI H2	31174923	0.39	32996152	94.48	60	120	
Sc (IS)	45	2	HMI He	936221	1.23	1019192	91.86	60	120	
Sc (IS)	45	3	No Gas	52709858	0.99	56217091	93.76	60	120	
Ge Internal Standard	72	1	HMI H2	12878244	0.68	13920513	92.51	60	120	
Ge Internal Standard	72	2	HMI He	1093640	1.04	1242268	88.04	60	120	
In Internal Standard	115	2	HMI He	3657262	1.28	4043894	90.44	60	120	
Ho-165	165	2	HMI He	18697068	1.32	19631094	95.24	60	120	

Sample Report

Sample Table

Sample Name	rinse
Data File Name	017SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:44:52-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-5.342	ppb	-5.342	-74.37	182415	500000	
Li	7	2	45	-8.888	ppb	-8.888	-163.59	9694	500000	
Li	7	3	45	-5.171	ppb	-5.171	-199.84	6568859	50000	
Be	9	1	6	0.049	ppb	0.049	24.74	33	2000	
B	11	1	6	0.025	ppb	0.025	1100.31	633	2000	
Na	23	1	45	102.099	ppb	102.099	5.35	775666	2000	
Na	23	2	45	84.623	ppb	84.623	30.95	47832	400000	
Mg	24	2	45	39.800	ppb	39.800	56.65	4748	400000	
Al	27	2	45	34.743	ppb	34.743	73.72	1033	400000	
K	39	1	45	27.548	ppb	27.548	55.17	12339128	400000	
K	39	2	45	58.017	ppb	58.017	74.09	23994	400000	
Ca	40	1	45	44.384	ppb	44.384	10.04	312989	400000	
Ca	44	2	45	32.156	ppb	32.156	97.88	150	400000	
Ti	47	2	45	1.481	ppb	1.481	68.09	50	4000	
V	51	2	72	1.083	ppb	1.083	6.40	3431	2000	
Cr	52	2	72	0.083	ppb	0.083	26.15	407	5000	
Mn	55	2	72	0.011	ppb	0.011	299.01	77	10000	
Fe	57	2	72	42.504	ppb	42.504	46.35	1453	400000	
Co	59	2	72	0.037	ppb	0.037	107.13	123	2000	
Ni	60	2	72	0.014	ppb	0.014	558.59	193	5000	
Cu	63	2	72	0.127	ppb	0.127	89.59	1850	5000	
Zn	66	2	72	0.200	ppb	0.200	130.59	347	5000	
As	75	2	72	0.044	ppb	0.044	151.92	37	2000	
Se	78	1	72	0.039	ppb	0.039	140.06	40	2000	
Sr	88	2	72	-0.006	ppb	-0.006	-544.89	23	4000	
Zr	90	2	72	-3.935	ppb	-3.935	-20.78	87	1000	
Nb	93	2	72	2.883	ppb	2.883	7.94	12016	200	
Mo	95	2	115	1.762	ppb	1.762	25.95	1920	2000	
Pd	105	2	115	0.051	ppb	0.051	71.53	107	100	
Ag	107	2	115	0.044	ppb	0.044	54.60	190	100	
Cd	111	2	115	0.015	ppb	0.015	227.67	13	2000	
Sn	120	2	115	0.126	ppb	0.126	47.88	303	2000	
Sb	121	2	115	0.084	ppb	0.084	59.67	130	1000	
Ba	137	2	115	0.043	ppb	0.043	138.39	27	5000	
W	182	2	165	0.083	ppb	0.083	22.86	2204	100	
Pt	195	2	165	0.023	ppb	0.023	75.07	100	100	
Tl	205	2	165	0.064	ppb	0.064	19.12	680	2000	
Pb	208	2	165	0.018	ppb	0.018	88.57	1367	5000	
Th	232	2	165	0.053	ppb	0.053	29.08	1130	2000	
U	238	2	165	0.046	ppb	0.046	54.79	880	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1738240	0.43	1719455	101.09	60	120	
Sc (IS)	45	1	HMI H2	33124081	0.32	32996152	100.39	60	120	
Sc (IS)	45	2	HMI He	1008581	3.72	1019192	98.96	60	120	
Sc (IS)	45	3	No Gas	56532232	0.42	56217091	100.56	60	120	
Ge Internal Standard	72	1	HMI H2	14041455	0.15	13920513	100.87	60	120	
Ge Internal Standard	72	2	HMI He	1246859	0.78	1242268	100.37	60	120	
In Internal Standard	115	2	HMI He	4038799	0.14	4043894	99.87	60	120	
Ho-165	165	2	HMI He	19561141	1.37	19631094	99.64	60	120	

Linear Range Sample (LRS) Report

Sample Table

Sample Name	LRA-5347646
Data File Name	018_LR_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:48:39-06:00
Sample Type	LR
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	6	2084.875	ppb	2.532	970010	2000	104.2	90	110	
V	51	2	72	2025.091	ppb	1.922	2255357	2000	101.3	90	110	
Cr	52	2	72	4918.620	ppb	2.070	7152329	5000	98.4	90	110	
(Cr)	53	2	72	4952.474	ppb	0.851	890549	5000	99.0	90	110	
Mn	55	2	72	10233.777	ppb	1.437	5589454	10000	102.3	90	110	
Co	59	2	72	2063.955	ppb	0.927	5267100	2000	103.2	90	110	
Ni	60	2	72	5090.678	ppb	1.668	3731656	5000	101.8	90	110	
Cu	63	2	72	4996.419	ppb	0.327	10002671	5000	99.9	90	110	
Zn	66	2	72	5278.347	ppb	3.082	1364202	5000	105.6	90	110	
As	75	2	72	1888.532	ppb	0.749	356735	2000	94.4	90	110	
Se	78	1	72	1993.157	ppb	1.121	652301	2000	99.7	90	110	
(Se)	82	1	72	1823.141	ppb	1.279	272278	2000	91.2	90	110	
Mo	95	2	115	2032.750	ppb	1.051	2065835	2000	101.6	90	110	
Cd	111	2	115	1973.318	ppb	0.687	856411	2000	98.7	90	110	
(Cd)	114	2	115	2050.527	ppb	1.135	2303089	2000	102.5	90	110	
Sn	120	2	115	2073.054	ppb	2.191	2393422	2000	103.7	90	110	
Sb	121	2	115	987.901	ppb	0.465	1046749	1000	98.8	90	110	
Ba	137	2	115	5008.098	ppb	2.972	1823474	5000	100.2	90	110	
Tl	205	2	165	1041.061	ppb	0.919	9125075	2000	52.1	90	110	LRS Main CR1 Failed
(Pb)	206	2	165	5106.434	ppb	0.361	14518037	5000	102.1	90	110	
(Pb)	207	2	165	5082.301	ppb	0.816	13372902	5000	101.6	90	110	
Pb	208	2	165	5067.055	ppb	0.408	60049577	5000	101.3	90	110	
Th	232	2	165	937.736	ppb	0.381	14058135	2000	46.9	90	110	LRS Main CR1 Failed
U	238	2	165	1904.647	ppb	0.873	30550410	2000	95.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1706229	1.74	1719455	99.23	60	120	
Sc (IS)	45	1	HMI H2	32180986	0.04	32996152	97.53	60	120	
Sc (IS)	45	2	HMI He	953436	0.35	1019192	93.55	60	120	
Sc (IS)	45	3	No Gas	53893524	1.04	56217091	95.87	60	120	
Ge Internal Standard	72	1	HMI H2	13507166	1.17	13920513	97.03	60	120	
Ge Internal Standard	72	2	HMI He	1143173	0.34	1242268	92.02	60	120	
In Internal Standard	115	2	HMI He	3825253	0.32	4043894	94.59	60	120	
Ho-165	165	2	HMI He	18915394	0.23	19631094	96.35	60	120	

Sample Report

Sample Table

Sample Name	RINSE
Data File Name	019SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:52:21-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	5.312	ppb	5.312	68.05	184617	500000	
Li	7	2	45	11.406	ppb	11.406	58.07	9897	500000	
Li	7	3	45	-0.272	ppb	-0.272	-1505.06	6532036	50000	
Be	9	1	6	0.667	ppb	0.667	17.19	327	2000	
B	11	1	6	-0.088	ppb	-0.088	-59.96	577	2000	
Na	23	1	45	-12.713	ppb	-12.713	-2.57	330980	2000	
Na	23	2	45	-13.483	ppb	-13.483	-24.09	23109	400000	
Mg	24	2	45	1.498	ppb	1.498	56.00	347	400000	
Al	27	2	45	-1.330	ppb	-1.330	-1.31	70	400000	
K	39	1	45	-59.703	ppb	-59.703	-46.00	11811131	400000	
K	39	2	45	16.775	ppb	16.775	52.51	20939	400000	
Ca	40	1	45	6.300	ppb	6.300	3.97	91063	400000	
Ca	44	2	45	3.935	ppb	3.935	383.72	60	400000	
Ti	47	2	45	-0.235	ppb	-0.235	-92.70	3	4000	
V	51	2	72	1.023	ppb	1.023	6.45	3244	2000	
Cr	52	2	72	1.118	ppb	1.118	4.80	1977	5000	
Mn	55	2	72	2.781	ppb	2.781	12.43	1674	10000	
Fe	57	2	72	2.511	ppb	2.511	48.96	283	400000	
Co	59	2	72	0.545	ppb	0.545	5.79	1487	2000	
Ni	60	2	72	1.349	ppb	1.349	28.00	1210	5000	
Cu	63	2	72	1.316	ppb	1.316	12.03	4291	5000	
Zn	66	2	72	1.572	ppb	1.572	19.14	710	5000	
As	75	2	72	0.540	ppb	0.540	26.63	134	2000	
Se	78	1	72	0.861	ppb	0.861	11.73	311	2000	
Sr	88	2	72	-0.040	ppb	-0.040	0.00	0	4000	
Zr	90	2	72	-1.773	ppb	-1.773	-200.28	110	1000	
Nb	93	2	72	0.584	ppb	0.584	10.92	2477	200	
Mo	95	2	115	2.174	ppb	2.174	1.22	2280	2000	
Pd	105	2	115	0.014	ppb	0.014	72.08	40	100	
Ag	107	2	115	0.000	ppb	0.000	499.47	33	100	
Cd	111	2	115	0.747	ppb	0.747	21.76	337	2000	
Sn	120	2	115	3.315	ppb	3.315	8.60	4044	2000	
Sb	121	2	115	3.919	ppb	3.919	3.52	4268	1000	
Ba	137	2	115	1.582	ppb	1.582	11.11	597	5000	
W	182	2	165	0.027	ppb	0.027	104.84	1880	100	
Pt	195	2	165	0.004	ppb	0.004	190.45	23	100	
Tl	205	2	165	0.432	ppb	0.432	6.40	3924	2000	
Pb	208	2	165	1.683	ppb	1.683	7.55	21278	5000	
Th	232	2	165	0.583	ppb	0.583	8.93	9134	2000	
U	238	2	165	0.829	ppb	0.829	9.18	13541	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1739114	0.79	1719455	101.14	60	120	
Sc (IS)	45	1	HMI H2	32585155	0.54	32996152	98.75	60	120	
Sc (IS)	45	2	HMI He	973436	0.65	1019192	95.51	60	120	
Sc (IS)	45	3	No Gas	55487584	0.86	56217091	98.70	60	120	
Ge Internal Standard	72	1	HMI H2	13641090	0.41	13920513	97.99	60	120	
Ge Internal Standard	72	2	HMI He	1204325	4.69	1242268	96.95	60	120	
In Internal Standard	115	2	HMI He	3898174	0.48	4043894	96.40	60	120	
Ho-165	165	2	HMI He	19110340	1.12	19631094	97.35	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	020_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:56:08-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	514.392	ppb	0.791	432410	500	102.9	90	110	
Li	7	2	45	509.702	ppb	1.848	23249	500	101.9	90	110	
Li	7	3	45	498.844	ppb	1.365	15392204	500	99.8	90	110	
Be	9	1	6	49.357	ppb	0.281	23075	50	98.7	90	110	
B	11	1	6	50.218	ppb	3.217	25329	50	100.4	90	110	
Na	23	1	45	5094.546	ppb	0.228	19575716	5000	101.9	90	110	
Na	23	2	45	5219.008	ppb	1.045	1276558	5000	104.4	90	110	
Mg	24	2	45	4734.667	ppb	0.739	537556	5000	94.7	90	110	
Al	27	2	45	5049.742	ppb	1.671	133701	5000	101.0	90	110	
K	39	1	45	5068.968	ppb	2.167	31065624	5000	101.4	90	110	
K	39	2	45	5095.228	ppb	0.519	305269	5000	101.9	90	110	
Ca	40	1	45	5114.954	ppb	0.993	29217745	5000	102.3	90	110	
Ca	44	2	45	5144.141	ppb	4.216	15946	5000	102.9	90	110	
Ti	47	2	45	49.377	ppb	7.337	1337	50	98.8	90	110	
V	51	2	72	51.403	ppb	2.443	60717	50	102.8	90	110	
Cr	52	2	72	50.520	ppb	1.347	75694	50	101.0	90	110	
Mn	55	2	72	50.219	ppb	1.478	28235	50	100.4	90	110	
Fe	57	2	72	5117.212	ppb	0.474	140253	5000	102.3	90	110	
Co	59	2	72	50.626	ppb	0.551	132695	50	101.3	90	110	
Ni	60	2	72	49.733	ppb	2.588	37596	50	99.5	90	110	
Cu	63	2	72	51.182	ppb	1.945	106668	50	102.4	90	110	
Zn	66	2	72	48.898	ppb	1.646	13247	50	97.8	90	110	
As	75	2	72	50.074	ppb	1.533	9741	50	100.1	90	110	
Se	78	1	72	49.465	ppb	1.784	16464	50	98.9	90	110	
Sr	88	2	72	49.570	ppb	1.238	31239	50	99.1	90	110	
Zr	90	2	72	41.579	ppb	10.972	650	50	83.2	90	110	>+\-10%
Nb	93	2	72	92.713	ppb	0.794	359036	100	92.7	90	110	
Mo	95	2	115	49.669	ppb	1.118	51354	50	99.3	90	110	
Pd	105	2	115	49.040	ppb	2.219	82717	50	98.1	90	110	
Ag	107	2	115	49.399	ppb	1.449	170690	50	98.8	90	110	
Cd	111	2	115	50.096	ppb	2.316	22108	50	100.2	90	110	
Sn	120	2	115	50.688	ppb	2.158	59636	50	101.4	90	110	
Sb	121	2	115	51.142	ppb	1.880	55120	50	102.3	90	110	
Ba	137	2	115	47.412	ppb	1.865	17565	50	94.8	90	110	
W	182	2	165	48.795	ppb	0.863	238409	50	97.6	90	110	
Pt	195	2	165	49.580	ppb	0.107	199163	50	99.2	90	110	
Tl	205	2	165	50.605	ppb	1.294	447557	50	101.2	90	110	
Pb	208	2	165	50.274	ppb	0.442	602196	50	100.5	90	110	
Th	232	2	165	48.039	ppb	0.891	726791	50	96.1	90	110	
U	238	2	165	46.598	ppb	0.515	754111	50	93.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1713319	0.52	1719455	99.64	60	120	
Sc (IS)	45	1	HMI H2	32622880	0.49	32996152	98.87	60	120	
Sc (IS)	45	2	HMI He	985484	1.43	1019192	96.69	60	120	
Sc (IS)	45	3	No Gas	56282279	0.48	56217091	100.12	60	120	
Ge Internal Standard	72	1	HMI H2	13716471	0.91	13920513	98.53	60	120	
Ge Internal Standard	72	2	HMI He	1174065	2.25	1242268	94.51	60	120	
In Internal Standard	115	2	HMI He	3889358	1.35	4043894	96.18	60	120	
Ho-165	165	2	HMI He	19082536	1.12	19631094	97.21	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	021_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T16:59:55-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	4.950	ppb	122.2	6793572	10	
Be	9	1	6	0.182	ppb	12.5	97	0.5	
B	11	1	6	0.311	ppb	27.6	777	0.5	
Na	23	1	45	-12.778	ppb	-7.4	334361	25	
Na	23	2	45	-14.977	ppb	-25.2	22905	25	
Mg	24	2	45	1.800	ppb	18.0	383	25	
Al	27	2	45	1.569	ppb	122.2	147	15	
K	39	1	45	-63.743	ppb	-19.2	11926313	50	
K	39	2	45	24.237	ppb	41.3	21493	50	
Ca	40	1	45	3.023	ppb	0.9	73193	50	
Ca	44	2	45	0.561	ppb	1739.9	50	25	
Ti	47	2	45	-0.361	ppb	0.0	0	0.5	
V	51	2	72	1.327	ppb	16.6	3574	1	>RL
Cr	52	2	72	0.047	ppb	61.1	333	1	
Mn	55	2	72	0.150	ppb	61.8	153	0.5	
Fe	57	2	72	2.606	ppb	41.0	283	25	
Co	59	2	72	0.023	ppb	51.9	80	0.5	
Ni	60	2	72	0.043	ppb	38.9	207	1	
Cu	63	2	72	0.118	ppb	95.4	1747	1	
Zn	66	2	72	0.386	ppb	67.5	383	5	
As	75	2	72	0.070	ppb	118.2	41	1	
Se	78	1	72	0.092	ppb	40.8	57	1	
Sr	88	2	72	0.028	ppb	91.3	43	0.5	
Zr	90	2	72	-2.785	ppb	-99.1	97	1	
Nb	93	2	72	2.708	ppb	10.6	10835	2	>RL
Mo	95	2	115	0.253	ppb	19.5	293	0.5	
Pd	105	2	115	0.020	ppb	25.9	50	1	
Ag	107	2	115	0.012	ppb	10.6	73	1	
Cd	111	2	115	0.052	ppb	84.6	30	0.5	
Sn	120	2	115	0.411	ppb	18.7	633	1	
Sb	121	2	115	0.906	ppb	4.1	1020	0.6	>RL
Ba	137	2	115	0.037	ppb	153.8	23	0.5	
W	182	2	165	0.059	ppb	67.3	2050	1	
Pt	195	2	165	0.025	ppb	40.8	110	1	
Tl	205	2	165	0.044	ppb	55.1	493	0.1	
Pb	208	2	165	0.109	ppb	16.0	2447	0.5	
Th	232	2	165	0.041	ppb	10.7	930	1	
U	238	2	165	0.054	ppb	9.9	997	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1741242	0.77	1719455	101.27	60	120	
Sc (IS)	45	1	HMI H2	32944866	0.84	32996152	99.84	60	120	
Sc (IS)	45	2	HMI He	980229	1.44	1019192	96.18	60	120	
Sc (IS)	45	3	No Gas	56920904	0.52	56217091	101.25	60	120	
Ge Internal Standard	72	1	HMI H2	13832201	0.69	13920513	99.37	60	120	
Ge Internal Standard	72	2	HMI He	1193676	3.56	1242268	96.09	60	120	
In Internal Standard	115	2	HMI He	3924797	2.64	4043894	97.05	60	120	
Ho-165	165	2	HMI He	19250254	1.10	19631094	98.06	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	022LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:03:41-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	9.820	ppb	11.212	6989362	50	19.6	70	130	>+/-30%
Be	9	1	6	0.954	ppb	24.072	473	1	95.4	70	130	
Na	23	2	45	30.709	ppb	3.311	34464	50	61.4	70	130	>+/-30%
Mg	24	2	45	46.758	ppb	5.508	5568	50	93.5	70	130	
Al	27	2	45	33.410	ppb	16.402	1003	30	111.4	70	130	
K	39	2	45	118.213	ppb	2.606	27256	100	118.2	70	130	
Ca	44	2	45	60.709	ppb	35.487	240	50	121.4	70	130	
V	51	2	72	6.158	ppb	4.175	9110	5	123.2	70	130	
Cr	52	2	72	2.117	ppb	3.439	3451	2	105.9	70	130	
Mn	55	2	72	1.350	ppb	14.575	830	1	135.0	70	130	>+/-30%
Fe	57	2	72	60.609	ppb	10.512	1884	50	121.2	70	130	
Co	59	2	72	1.063	ppb	14.099	2830	1	106.3	70	130	
Ni	60	2	72	1.994	ppb	11.237	1687	2	99.7	70	130	
Cu	63	2	72	2.082	ppb	4.147	5811	2	104.1	70	130	
Zn	66	2	72	11.162	ppb	9.237	3264	10	111.6	70	130	
As	75	2	72	4.696	ppb	3.398	946	5	93.9	70	130	
Se	78	1	72	5.239	ppb	4.498	1804	5	104.8	70	130	
Sr	88	2	72	0.867	ppb	26.521	577	1	86.7	70	130	
Zr	90	2	72	3.038	ppb	91.143	170	0.5	607.6	70	130	>+/-30%
Nb	93	2	72	5.193	ppb	8.014	20432	2	259.6	70	130	>+/-30%
Mo	95	2	115	1.947	ppb	8.808	2067	2	97.4	70	130	
Pd	105	2	115	0.016	ppb	55.035	43	1	1.6	70	130	>+/-30%
Ag	107	2	115	5.007	ppb	2.705	17552	5	100.1	70	130	
Cd	111	2	115	0.806	ppb	22.797	367	1	80.6	70	130	
Sn	120	2	115	10.428	ppb	2.240	12543	10	104.3	70	130	
Sb	121	2	115	2.634	ppb	5.204	2910	2	131.7	70	130	>+/-30%
Ba	137	2	115	1.228	ppb	15.475	470	1	122.8	70	130	
W	182	2	165	4.896	ppb	0.531	25729	1	489.6	70	130	>+/-30%
Pt	195	2	165	0.043	ppb	56.796	180	1	4.3	70	130	>+/-30%
Tl	205	2	165	1.013	ppb	5.143	9144	1	101.3	70	130	
Pb	208	2	165	1.111	ppb	4.388	14534	1	111.1	70	130	
Th	232	2	165	2.216	ppb	1.488	34133	2	110.8	70	130	
U	238	2	165	0.975	ppb	1.776	16041	1	97.5	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1777582	1.88	1719455	103.38	60	120	
Sc (IS)	45	1	HMI H2	33447490	0.20	32996152	101.37	60	120	
Sc (IS)	45	2	HMI He	999605	0.99	1019192	98.08	60	120	
Sc (IS)	45	3	No Gas	57827039	0.67	56217091	102.86	60	120	
Ge Internal Standard	72	1	HMI H2	14000357	0.70	13920513	100.57	60	120	
Ge Internal Standard	72	2	HMI He	1184484	0.11	1242268	95.35	60	120	
In Internal Standard	115	2	HMI He	3937910	1.56	4043894	97.38	60	120	
Ho-165	165	2	HMI He	19260558	0.14	19631094	98.11	60	120	

Blank Report

Sample Table

Sample Name	mb 280-435845/1-a
Data File Name	023_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:07:28-06:00
Sample Type	Blank
Dilution	1
Comment	435845 6020A DOD5
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	1.957	ppb	229.8010432	193620	0.5
Li	7	2	45	-10.707	ppb	-73.48272129	10174	0.5
Li	7	3	45	-6.219	ppb	-127.0207691	7011232	10
Be	9	1	6	0.140	ppb	56.99403396	80	0.5
B	11	1	6	0.051	ppb	521.2511408	673	0.5
Na	23	1	45	-25.618	ppb	-4.548339338	298804	25
Na	23	2	45	-29.415	ppb	-8.837918809	21109	25
Mg	24	2	45	1.717	ppb	39.69739793	407	25
Al	27	2	45	1.151	ppb	173.8433983	147	15
K	39	1	45	-1514.376	ppb	-0.531154233	6729540	50
K	39	2	45	6.623	ppb	26.99451775	22248	50
Ca	40	1	45	6.764	ppb	5.612675733	99147	50
Ca	44	2	45	-0.135	ppb	-12417.25569	53	25
Ti	47	2	45	-0.361	ppb	0	0	0.5
V	51	2	72	-0.073	ppb	-209.2657129	2084	1
Cr	52	2	72	0.171	ppb	32.13510281	560	1
Mn	55	2	72	0.111	ppb	25.62995494	140	0.5
Fe	57	2	72	10.899	ppb	27.51156832	553	25
Co	59	2	72	0.010	ppb	90.81254978	50	0.5
Ni	60	2	72	0.021	ppb	372.2658389	203	1
Cu	63	2	72	-0.016	ppb	-289.7775881	1580	1
Zn	66	2	72	1.146	ppb	38.78526001	630	5
As	75	2	72	-0.020	ppb	-165.3760213	25	1
Se	78	1	72	0.028	ppb	232.9738109	37	1
Sr	88	2	72	0.018	ppb	218.3707291	40	0.5
Zr	90	2	72	-3.784	ppb	-158.9948773	90	1
Nb	93	2	72	0.511	ppb	10.90822217	2324	2
Mo	95	2	115	0.138	ppb	14.22018593	177	0.5
Pd	105	2	115	0.015	ppb	113.944845	43	1
Ag	107	2	115	0.009	ppb	34.15410598	67	1
Cd	111	2	115	0.000	ppb	16256.19476	7	0.5
Sn	120	2	115	0.287	ppb	22.17253289	497	1
Sb	121	2	115	0.273	ppb	11.30065055	340	0.6
Ba	137	2	115	0.053	ppb	131.765246	30	0.5
W	182	2	165	-0.009	ppb	-326.1212935	1724	1
Pt	195	2	165	0.011	ppb	68.21562441	53	1
Tl	205	2	165	0.037	ppb	40.91440289	430	0.1
Pb	208	2	165	0.146	ppb	11.53714795	2897	0.5
Th	232	2	165	0.036	ppb	12.17650722	863	1
U	238	2	165	0.023	ppb	32.65448487	487	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1814874	1.11	1719455	105.55	60	120	
Sc (IS)	45	1	HMI H2	34478386	0.38	32996152	104.49	60	120	
Sc (IS)	45	2	HMI He	1062870	3.59	1019192	104.29	60	120	
Sc (IS)	45	3	No Gas	60521111	0.89	56217091	107.66	60	120	
Ge Internal Standard	72	1	HMI H2	14324490	0.23	13920513	102.90	60	120	
Ge Internal Standard	72	2	HMI He	1280659	1.88	1242268	103.09	60	120	
In Internal Standard	115	2	HMI He	4012557	0.13	4043894	99.23	60	120	
Ho-165	165	2	HMI He	19301673	0.76	19631094	98.32	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-435845/2-a
Data File Name	024_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:11:15-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	435845 6020A DOD5
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	79.550	79.550	ppb	3.944	235006	400	19.9	80	120	>+/-20%
Li	7	2	45	92.495	92.495	ppb	19.341	13026	400	23.1	80	120	>+/-20%
Li	7	3	45	77.019	77.019	ppb	8.677	8590287	400	19.3	80	120	>+/-20%
Be	9	1	6	39.481	39.481	ppb	0.783	19627	40	98.7	80	120	
Na	23	2	45	-29.436	-29.436	ppb	-4.301	20952	40	-73.6	80	120	>+/-20%
Mg	24	2	45	1.168	1.168	ppb	61.348	337	40	2.9	80	120	>+/-20%
Al	27	2	45	415.141	415.141	ppb	5.454	11865	40	1037.9	80	120	>+/-20%
K	39	2	45	9.463	9.463	ppb	87.413	22261	40	23.7	80	120	>+/-20%
Ca	44	2	45	239.611	239.611	ppb	20.173	843	40	599.0	80	120	>+/-20%
V	51	2	72	39.270	39.270	ppb	0.872	50970	40	98.2	80	120	
Cr	52	2	72	39.914	39.914	ppb	1.342	65103	40	99.8	80	120	
Mn	55	2	72	39.029	39.029	ppb	4.945	23881	40	97.6	80	120	
Fe	57	2	72	412.306	412.306	ppb	4.143	12499	40	1030.8	80	120	>+/-20%
Co	59	2	72	39.515	39.515	ppb	0.567	112646	40	98.8	80	120	
Ni	60	2	72	39.461	39.461	ppb	1.079	32491	40	98.7	80	120	
Cu	63	2	72	39.147	39.147	ppb	0.556	89124	40	97.9	80	120	
Zn	66	2	72	39.415	39.415	ppb	1.523	11672	40	98.5	80	120	
As	75	2	72	37.261	37.261	ppb	0.648	7889	40	93.2	80	120	
Se	78	1	72	38.123	38.123	ppb	2.241	13312	40	95.3	80	120	
Nb	93	2	72	0.382	0.382	ppb	6.598	1774	40	1.0	80	120	>+/-20%
Mo	95	2	115	37.353	37.353	ppb	2.899	39971	40	93.4	80	120	
Pd	105	2	115	0.006	0.006	ppb	55.175	27	40	0.0	80	120	>+/-20%
Ag	107	2	115	41.477	41.477	ppb	0.564	148291	40	103.7	80	120	
Cd	111	2	115	39.155	39.155	ppb	1.475	17882	40	97.9	80	120	
Sn	120	2	115	40.039	40.039	ppb	1.647	48776	40	100.1	80	120	
Sb	121	2	115	39.750	39.750	ppb	1.499	44342	40	99.4	80	120	
Ba	137	2	115	39.209	39.209	ppb	4.565	15026	40	98.0	80	120	
W	182	2	165	12.180	12.180	ppb	1.336	61426	40	30.5	80	120	>+/-20%
Pt	195	2	165	0.005	0.005	ppb	55.582	27	40	0.0	80	120	>+/-20%
Tl	205	2	165	40.119	40.119	ppb	1.577	358356	40	100.3	80	120	
Pb	208	2	165	39.754	39.754	ppb	1.449	481101	40	99.4	80	120	
Th	232	2	165	35.876	35.876	ppb	0.858	548278	40	89.7	80	120	
U	238	2	165	36.440	36.440	ppb	1.114	595616	40	91.1	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1821606	0.58	1719455	105.94	60	120	
Sc (IS)	45	1	HMI H2	34700221	0.35	32996152	105.16	60	120	
Sc (IS)	45	2	HMI He	1055242	2.47	1019192	103.54	60	120	
Sc (IS)	45	3	No Gas	60563311	0.35	56217091	107.73	60	120	
Ge Internal Standard	72	1	HMI H2	14380375	0.36	13920513	103.30	60	120	
Ge Internal Standard	72	2	HMI He	1276740	0.46	1242268	102.77	60	120	
In Internal Standard	115	2	HMI He	4024039	1.09	4043894	99.51	60	120	
Ho-165	165	2	HMI He	19273520	1.44	19631094	98.18	60	120	

Sample Report

Sample Table

Sample Name	lcsd 280-435845/3-a
Data File Name	025SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:15:02-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435845 6020A DOD5
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	82.474	ppb	82.474	2.75	235639	500000	
Li	7	2	45	57.826	ppb	57.826	51.66	12649	500000	
Li	7	3	45	82.197	ppb	82.197	18.59	8623855	50000	
Be	9	1	6	38.388	ppb	38.388	0.86	18819	2000	
B	11	1	6	29.289	ppb	29.289	0.49	15756	2000	
Na	23	1	45	-30.072	ppb	-30.072	-4.01	281812	2000	
Na	23	2	45	-34.635	ppb	-34.635	-7.87	20612	400000	
Mg	24	2	45	0.914	ppb	0.914	28.34	320	400000	
Al	27	2	45	368.851	ppb	368.851	4.17	11098	400000	
K	39	1	45	-1575.781	ppb	-1575.781	-0.57	6503476	400000	
K	39	2	45	-4.197	ppb	-4.197	-114.95	22528	400000	
Ca	40	1	45	3.770	ppb	3.770	7.01	81315	400000	
Ca	44	2	45	200.603	ppb	200.603	19.80	750	400000	
Ti	47	2	45	1.391	ppb	1.391	51.05	53	4000	
V	51	2	72	38.763	ppb	38.763	3.28	50763	2000	
Cr	52	2	72	39.974	ppb	39.974	0.63	65742	5000	
Mn	55	2	72	38.786	ppb	38.786	2.33	23931	10000	
Fe	57	2	72	394.515	ppb	394.515	1.06	12069	400000	
Co	59	2	72	39.066	ppb	39.066	0.03	112292	2000	
Ni	60	2	72	39.053	ppb	39.053	1.00	32428	5000	
Cu	63	2	72	39.665	ppb	39.665	1.46	91029	5000	
Zn	66	2	72	37.780	ppb	37.780	2.79	11295	5000	
As	75	2	72	36.664	ppb	36.664	1.51	7827	2000	
Se	78	1	72	39.342	ppb	39.342	1.72	13737	2000	
Sr	88	2	72	37.626	ppb	37.626	2.13	26015	4000	
Zr	90	2	72	5210.750	ppb	5210.750	1.57	71431	1000	>LDR
Nb	93	2	72	0.346	ppb	0.346	13.12	1634	200	
Mo	95	2	115	37.652	ppb	37.652	2.50	40519	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-153.93	10	100	
Ag	107	2	115	41.768	ppb	41.768	0.85	150217	100	
Cd	111	2	115	39.334	ppb	39.334	1.08	18069	2000	
Sn	120	2	115	40.106	ppb	40.106	0.85	49145	2000	
Sb	121	2	115	39.519	ppb	39.519	2.45	44349	1000	
Ba	137	2	115	38.373	ppb	38.373	1.86	14795	5000	
W	182	2	165	10.843	ppb	10.843	2.85	55232	100	
Pt	195	2	165	0.007	ppb	0.007	69.59	37	100	
Tl	205	2	165	40.232	ppb	40.232	0.46	361741	2000	
Pb	208	2	165	40.354	ppb	40.354	0.69	491564	5000	
Th	232	2	165	36.257	ppb	36.257	0.70	557721	2000	
U	238	2	165	36.705	ppb	36.705	0.96	603861	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1796196	1.21	1719455	104.46	60	120	
Sc (IS)	45	1	HMI H2	34570450	0.56	32996152	104.77	60	120	
Sc (IS)	45	2	HMI He	1108995	2.54	1019192	108.81	60	120	
Sc (IS)	45	3	No Gas	60117912	0.21	56217091	106.94	60	120	
Ge Internal Standard	72	1	HMI H2	14382609	0.84	13920513	103.32	60	120	
Ge Internal Standard	72	2	HMI He	1287388	1.23	1242268	103.63	60	120	
In Internal Standard	115	2	HMI He	4047808	1.17	4043894	100.10	60	120	
Ho-165	165	2	HMI He	19398471	0.92	19631094	98.82	60	120	

Sample Report

Sample Table

Sample Name	280-115617-b-1-c
Data File Name	026SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:18:49-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435845 6020A DOD5
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	8.500	ppb	8.500	84.11	195889	500000	
Li	7	2	45	-3.907	ppb	-3.907	-312.28	10271	500000	
Li	7	3	45	5.834	ppb	5.834	31.44	7224404	50000	
Be	9	1	6	0.106	ppb	0.106	75.14	63	2000	
B	11	1	6	9.515	ppb	9.515	7.12	5625	2000	
Na	23	1	45	9793.833	ppb	9793.833	0.54	39185072	2000	
Na	23	2	45	9882.549	ppb	9882.549	1.86	2557876	400000	
Mg	24	2	45	2784.213	ppb	2784.213	1.11	337958	400000	
Al	27	2	45	955.396	ppb	955.396	2.95	27124	400000	
K	39	1	45	71.130	ppb	71.130	66.70	12944253	400000	
K	39	2	45	1629.610	ppb	1629.610	3.58	119038	400000	
Ca	40	1	45	5700.882	ppb	5700.882	1.49	34220879	400000	
Ca	44	2	45	5745.560	ppb	5745.560	4.63	19017	400000	
Ti	47	2	45	26.223	ppb	26.223	55.25	761	4000	
V	51	2	72	2.955	ppb	2.955	13.06	5805	2000	
Cr	52	2	72	1.842	ppb	1.842	2.70	3254	5000	
Mn	55	2	72	447.094	ppb	447.094	0.45	271290	10000	
Fe	57	2	72	4558.311	ppb	4558.311	0.66	135147	400000	
Co	59	2	72	3.704	ppb	3.704	2.63	10518	2000	
Ni	60	2	72	4.093	ppb	4.093	3.05	3517	5000	
Cu	63	2	72	27.376	ppb	27.376	2.86	62452	5000	
Zn	66	2	72	80.470	ppb	80.470	2.16	23386	5000	
As	75	2	72	1.244	ppb	1.244	7.97	290	2000	
Se	78	1	72	0.181	ppb	0.181	58.41	89	2000	
Sr	88	2	72	84.647	ppb	84.647	0.97	57678	4000	
Zr	90	2	72	282.414	ppb	282.414	45.86	3955	1000	
Nb	93	2	72	0.367	ppb	0.367	13.72	1700	200	
Mo	95	2	115	0.357	ppb	0.357	2.71	407	2000	
Pd	105	2	115	0.008	ppb	0.008	254.47	30	100	
Ag	107	2	115	0.030	ppb	0.030	72.40	140	100	
Cd	111	2	115	0.963	ppb	0.963	20.86	440	2000	
Sn	120	2	115	0.289	ppb	0.289	21.46	493	2000	
Sb	121	2	115	0.528	ppb	0.528	10.46	617	1000	
Ba	137	2	115	78.126	ppb	78.126	2.76	29576	5000	
W	182	2	165	0.049	ppb	0.049	97.46	2010	100	
Pt	195	2	165	-0.001	ppb	-0.001	-177.58	3	100	
Tl	205	2	165	0.041	ppb	0.041	7.63	473	2000	
Pb	208	2	165	2.990	ppb	2.990	3.74	37349	5000	
Th	232	2	165	0.631	ppb	0.631	9.67	9968	2000	
U	238	2	165	0.184	ppb	0.184	3.18	3124	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1818820	2.02	1719455	105.78	60	120	
Sc (IS)	45	1	HMI H2	34287413	0.22	32996152	103.91	60	120	
Sc (IS)	45	2	HMI He	1053546	3.28	1019192	103.37	60	120	
Sc (IS)	45	3	No Gas	60393222	0.11	56217091	107.43	60	120	
Ge Internal Standard	72	1	HMI H2	14160458	0.65	13920513	101.72	60	120	
Ge Internal Standard	72	2	HMI He	1269726	1.07	1242268	102.21	60	120	
In Internal Standard	115	2	HMI He	3975576	1.30	4043894	98.31	60	120	
Ho-165	165	2	HMI He	19329199	0.84	19631094	98.46	60	120	

Sample Report

Sample Table

Sample Name	280-115617-b-1-cSD@5
Data File Name	027SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:22:36-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435845 6020A DOD5
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	3.662	ppb	3.662	25.20	193656	500000	
Li	7	2	45	15.540	ppb	15.540	93.37	10494	500000	
Li	7	3	45	3.356	ppb	3.356	137.18	7022766	50000	
Be	9	1	6	0.019	ppb	0.019	182.97	20	2000	
B	11	1	6	2.023	ppb	2.023	13.85	1704	2000	
Na	23	1	45	2054.033	ppb	2054.033	1.06	8543219	2000	
Na	23	2	45	2007.339	ppb	2007.339	0.97	525569	400000	
Mg	24	2	45	591.853	ppb	591.853	0.97	69771	400000	
Al	27	2	45	402.845	ppb	402.845	3.78	11152	400000	
K	39	1	45	-154.210	ppb	-154.210	-6.36	12070327	400000	
K	39	2	45	363.738	ppb	363.738	3.64	42055	400000	
Ca	40	1	45	1192.560	ppb	1192.560	0.51	7213163	400000	
Ca	44	2	45	1247.517	ppb	1247.517	7.79	4044	400000	
Ti	47	2	45	13.778	ppb	13.778	14.70	393	4000	
V	51	2	72	1.432	ppb	1.432	11.25	3824	2000	
Cr	52	2	72	0.672	ppb	0.672	10.03	1330	5000	
Mn	55	2	72	95.993	ppb	95.993	2.09	56809	10000	
Fe	57	2	72	1026.517	ppb	1026.517	3.73	29822	400000	
Co	59	2	72	0.816	ppb	0.816	8.45	2274	2000	
Ni	60	2	72	1.000	ppb	1.000	23.68	973	5000	
Cu	63	2	72	5.608	ppb	5.608	1.87	13707	5000	
Zn	66	2	72	17.371	ppb	17.371	6.65	5145	5000	
As	75	2	72	0.282	ppb	0.282	12.18	86	2000	
Se	78	1	72	0.071	ppb	0.071	15.91	52	2000	
Sr	88	2	72	17.610	ppb	17.610	2.68	11715	4000	
Zr	90	2	72	79.559	ppb	79.559	4.69	1183	1000	
Nb	93	2	72	0.213	ppb	0.213	18.05	1027	200	
Mo	95	2	115	0.069	ppb	0.069	71.00	100	2000	
Pd	105	2	115	0.004	ppb	0.004	292.45	23	100	
Ag	107	2	115	0.008	ppb	0.008	97.84	60	100	
Cd	111	2	115	0.158	ppb	0.158	9.69	77	2000	
Sn	120	2	115	0.182	ppb	0.182	19.13	360	2000	
Sb	121	2	115	0.405	ppb	0.405	18.56	473	1000	
Ba	137	2	115	15.734	ppb	15.734	8.71	5878	5000	
W	182	2	165	0.007	ppb	0.007	133.75	1780	100	
Pt	195	2	165	0.005	ppb	0.005	75.06	27	100	
Tl	205	2	165	0.018	ppb	0.018	40.32	257	2000	
Pb	208	2	165	0.651	ppb	0.651	2.39	8905	5000	
Th	232	2	165	0.118	ppb	0.118	2.49	2097	2000	
U	238	2	165	0.045	ppb	0.045	4.40	840	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1816567	0.65	1719455	105.65	60	120	
Sc (IS)	45	1	HMI H2	34329090	0.57	32996152	104.04	60	120	
Sc (IS)	45	2	HMI He	1020780	1.06	1019192	100.16	60	120	
Sc (IS)	45	3	No Gas	59088532	0.34	56217091	105.11	60	120	
Ge Internal Standard	72	1	HMI H2	14322119	0.57	13920513	102.88	60	120	
Ge Internal Standard	72	2	HMI He	1237211	0.61	1242268	99.59	60	120	
In Internal Standard	115	2	HMI He	3915043	1.48	4043894	96.81	60	120	
Ho-165	165	2	HMI He	19087329	1.06	19631094	97.23	60	120	

Sample Report

Sample Table

Sample Name	280-115617-b-1-d ms
Data File Name	028SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:26:22-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435845 6020A DOD5
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	89.893	ppb	89.893	4.07	239209	500000	
Li	7	2	45	98.428	ppb	98.428	43.47	13013	500000	
Li	7	3	45	85.586	ppb	85.586	6.26	8782203	50000	
Be	9	1	6	39.911	ppb	39.911	2.01	19747	2000	
B	11	1	6	37.725	ppb	37.725	3.85	20298	2000	
Na	23	1	45	9884.024	ppb	9884.024	0.91	39826719	2000	
Na	23	2	45	10118.269	ppb	10118.269	1.07	2583269	400000	
Mg	24	2	45	2852.114	ppb	2852.114	0.39	341548	400000	
Al	27	2	45	1580.807	ppb	1580.807	1.20	44215	400000	
K	39	1	45	89.142	ppb	89.142	51.66	13108681	400000	
K	39	2	45	1710.067	ppb	1710.067	1.21	122245	400000	
Ca	40	1	45	5751.574	ppb	5751.574	1.51	34771780	400000	
Ca	44	2	45	5997.739	ppb	5997.739	0.91	19594	400000	
Ti	47	2	45	23.378	ppb	23.378	23.50	673	4000	
V	51	2	72	43.382	ppb	43.382	1.75	54995	2000	
Cr	52	2	72	42.943	ppb	42.943	2.06	68663	5000	
Mn	55	2	72	498.961	ppb	498.961	1.33	298532	10000	
Fe	57	2	72	5151.872	ppb	5151.872	2.96	150573	400000	
Co	59	2	72	44.173	ppb	44.173	1.18	123481	2000	
Ni	60	2	72	44.479	ppb	44.479	1.20	35902	5000	
Cu	63	2	72	68.834	ppb	68.834	0.72	152492	5000	
Zn	66	2	72	124.560	ppb	124.560	1.77	35538	5000	
As	75	2	72	38.656	ppb	38.656	3.25	8025	2000	
Se	78	1	72	37.836	ppb	37.836	2.52	13156	2000	
Sr	88	2	72	122.167	ppb	122.167	2.45	82064	4000	
Zr	90	2	72	4000.916	ppb	4000.916	1.62	53362	1000	
Nb	93	2	72	0.318	ppb	0.318	9.92	1473	200	
Mo	95	2	115	37.573	ppb	37.573	2.50	39697	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-156.46	10	100	
Ag	107	2	115	42.173	ppb	42.173	1.59	148888	100	
Cd	111	2	115	40.603	ppb	40.603	2.51	18313	2000	
Sn	120	2	115	29.292	ppb	29.292	0.70	35279	2000	
Sb	121	2	115	31.966	ppb	31.966	3.42	35212	1000	
Ba	137	2	115	117.515	ppb	117.515	1.03	44460	5000	
W	182	2	165	9.606	ppb	9.606	1.91	48560	100	
Pt	195	2	165	0.007	ppb	0.007	119.79	33	100	
Tl	205	2	165	40.673	ppb	40.673	0.68	361406	2000	
Pb	208	2	165	43.249	ppb	43.249	1.35	520537	5000	
Th	232	2	165	36.234	ppb	36.234	0.26	550829	2000	
U	238	2	165	37.252	ppb	37.252	0.53	605669	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1813454	2.06	1719455	105.47	60	120	
Sc (IS)	45	1	HMI H2	34536061	0.92	32996152	104.67	60	120	
Sc (IS)	45	2	HMI He	1039177	1.40	1019192	101.96	60	120	
Sc (IS)	45	3	No Gas	60777377	1.36	56217091	108.11	60	120	
Ge Internal Standard	72	1	HMI H2	14321006	0.41	13920513	102.88	60	120	
Ge Internal Standard	72	2	HMI He	1252227	2.14	1242268	100.80	60	120	
In Internal Standard	115	2	HMI He	3974043	1.39	4043894	98.27	60	120	
Ho-165	165	2	HMI He	19170518	0.88	19631094	97.65	60	120	

Sample Report

Sample Table

Sample Name	280-115617-b-1-e msd
Data File Name	029SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:30:09-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435845 6020A DOD5
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	86.976	ppb	86.976	0.91	239176	500000	
Li	7	2	45	73.480	ppb	73.480	41.29	13043	500000	
Li	7	3	45	93.034	ppb	93.034	3.11	8828223	50000	
Be	9	1	6	39.738	ppb	39.738	1.55	19710	2000	
B	11	1	6	38.452	ppb	38.452	2.84	20725	2000	
Na	23	1	45	9764.803	ppb	9764.803	0.84	39594833	2000	
Na	23	2	45	9527.226	ppb	9527.226	4.18	2582989	400000	
Mg	24	2	45	2654.577	ppb	2654.577	4.43	337297	400000	
Al	27	2	45	1603.620	ppb	1603.620	7.42	47563	400000	
K	39	1	45	69.119	ppb	69.119	10.79	13110207	400000	
K	39	2	45	1552.201	ppb	1552.201	5.36	119812	400000	
Ca	40	1	45	5665.790	ppb	5665.790	0.60	34467304	400000	
Ca	44	2	45	5872.737	ppb	5872.737	5.94	20348	400000	
Ti	47	2	45	22.188	ppb	22.188	11.09	677	4000	
V	51	2	72	43.698	ppb	43.698	2.22	55122	2000	
Cr	52	2	72	42.258	ppb	42.258	0.93	67277	5000	
Mn	55	2	72	492.495	ppb	492.495	2.09	293321	10000	
Fe	57	2	72	5092.091	ppb	5092.091	0.73	148191	400000	
Co	59	2	72	44.216	ppb	44.216	1.76	123034	2000	
Ni	60	2	72	44.730	ppb	44.730	2.03	35926	5000	
Cu	63	2	72	69.172	ppb	69.172	2.52	152495	5000	
Zn	66	2	72	124.495	ppb	124.495	3.53	35348	5000	
As	75	2	72	38.034	ppb	38.034	2.90	7859	2000	
Se	78	1	72	38.259	ppb	38.259	2.57	13304	2000	
Sr	88	2	72	122.739	ppb	122.739	1.66	82090	4000	
Zr	90	2	72	4082.352	ppb	4082.352	1.12	54208	1000	
Nb	93	2	72	0.299	ppb	0.299	18.47	1390	200	
Mo	95	2	115	37.244	ppb	37.244	0.93	39172	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-60.38	7	100	
Ag	107	2	115	41.766	ppb	41.766	1.56	146780	100	
Cd	111	2	115	41.254	ppb	41.254	0.95	18523	2000	
Sn	120	2	115	28.623	ppb	28.623	0.66	34320	2000	
Sb	121	2	115	30.917	ppb	30.917	3.44	33906	1000	
Ba	137	2	115	117.739	ppb	117.739	0.64	44346	5000	
W	182	2	165	9.309	ppb	9.309	1.97	47178	100	
Pt	195	2	165	0.010	ppb	0.010	14.34	47	100	
Tl	205	2	165	40.129	ppb	40.129	1.71	357089	2000	
Pb	208	2	165	42.548	ppb	42.548	1.46	512857	5000	
Th	232	2	165	36.263	ppb	36.263	2.59	552022	2000	
U	238	2	165	36.867	ppb	36.867	1.33	600261	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1817707	1.12	1719455	105.71	60	120	
Sc (IS)	45	1	HMI H2	34747940	0.17	32996152	105.31	60	120	
Sc (IS)	45	2	HMI He	1104022	4.64	1019192	108.32	60	120	
Sc (IS)	45	3	No Gas	60121626	0.91	56217091	106.95	60	120	
Ge Internal Standard	72	1	HMI H2	14323202	0.75	13920513	102.89	60	120	
Ge Internal Standard	72	2	HMI He	1246680	2.96	1242268	100.36	60	120	
In Internal Standard	115	2	HMI He	3955863	1.52	4043894	97.82	60	120	
Ho-165	165	2	HMI He	19197430	0.48	19631094	97.79	60	120	

Sample Report

Sample Table

Sample Name	280-115617-b-1-c PDS
Data File Name	030SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:33:57-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435845 6020A DOD5
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	5.413	ppb	5.413	43.97	196841	500000	
Li	7	2	45	23.934	ppb	23.934	32.56	11031	500000	
Li	7	3	45	6.067	ppb	6.067	33.59	7166511	50000	
Be	9	1	6	211.458	ppb	211.458	1.91	104612	2000	
B	11	1	6	9.516	ppb	9.516	9.13	5601	2000	
Na	23	1	45	9576.648	ppb	9576.648	1.75	38824077	2000	
Na	23	2	45	9639.571	ppb	9639.571	3.82	2486719	400000	
Mg	24	2	45	2750.122	ppb	2750.122	3.51	332587	400000	
Al	27	2	45	3218.403	ppb	3218.403	2.26	90821	400000	
K	39	1	45	23.532	ppb	23.532	146.99	12922335	400000	
K	39	2	45	1610.164	ppb	1610.164	1.38	117566	400000	
Ca	40	1	45	5522.318	ppb	5522.318	1.11	33581580	400000	
Ca	44	2	45	5604.051	ppb	5604.051	1.74	18506	400000	
Ti	47	2	45	44.813	ppb	44.813	22.92	1297	4000	
V	51	2	72	219.140	ppb	219.140	2.63	267635	2000	
Cr	52	2	72	217.814	ppb	217.814	0.85	345236	5000	
Mn	55	2	72	664.031	ppb	664.031	1.53	395051	10000	
Fe	57	2	72	6725.772	ppb	6725.772	2.38	195411	400000	
Co	59	2	72	218.883	ppb	218.883	2.40	608255	2000	
Ni	60	2	72	220.240	ppb	220.240	1.01	176004	5000	
Cu	63	2	72	247.458	ppb	247.458	2.11	540943	5000	
Zn	66	2	72	313.339	ppb	313.339	2.42	88470	5000	
As	75	2	72	198.416	ppb	198.416	2.19	40839	2000	
Se	78	1	72	209.611	ppb	209.611	0.80	72325	2000	
Sr	88	2	72	83.529	ppb	83.529	1.06	55814	4000	
Zr	90	2	72	27843.150	ppb	27843.150	1.88	368437	1000	>LDR
Nb	93	2	72	3.213	ppb	3.213	1.23	13354	200	
Mo	95	2	115	206.187	ppb	206.187	1.12	213572	2000	
Pd	105	2	115	0.034	ppb	0.034	56.53	73	100	
Ag	107	2	115	46.550	ppb	46.550	0.98	161225	100	
Cd	111	2	115	214.190	ppb	214.190	1.71	94732	2000	
Sn	120	2	115	208.559	ppb	208.559	0.61	245524	2000	
Sb	121	2	115	205.591	ppb	205.591	1.76	222026	1000	
Ba	137	2	115	292.748	ppb	292.748	2.04	108637	5000	
W	182	2	165	206.208	ppb	206.208	0.49	996015	100	
Pt	195	2	165	0.065	ppb	0.065	31.66	267	100	
Tl	205	2	165	232.271	ppb	232.271	2.25	2041682	2000	
Pb	208	2	165	225.170	ppb	225.170	1.01	2677286	5000	
Th	232	2	165	16.440	ppb	16.440	6.19	247524	2000	
U	238	2	165	211.080	ppb	211.080	0.80	3395522	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1813910	1.92	1719455	105.49	60	120	
Sc (IS)	45	1	HMI H2	34733841	0.70	32996152	105.27	60	120	
Sc (IS)	45	2	HMI He	1050236	3.43	1019192	103.05	60	120	
Sc (IS)	45	3	No Gas	59875927	1.39	56217091	106.51	60	120	
Ge Internal Standard	72	1	HMI H2	14235155	1.44	13920513	102.26	60	120	
Ge Internal Standard	72	2	HMI He	1245214	2.25	1242268	100.24	60	120	
In Internal Standard	115	2	HMI He	3898260	0.55	4043894	96.40	60	120	
Ho-165	165	2	HMI He	18970478	0.82	19631094	96.63	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	031_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:37:45-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	506.482	ppb	1.699	450814	500	101.3	90	110	
Li	7	2	45	509.733	ppb	3.482	23693	500	101.9	90	110	
Li	7	3	45	520.319	ppb	0.638	16300638	500	104.1	90	110	
Be	9	1	6	48.780	ppb	0.829	23953	50	97.6	90	110	
B	11	1	6	50.869	ppb	0.500	26942	50	101.7	90	110	
Na	23	1	45	5078.350	ppb	0.103	20528442	5000	101.6	90	110	
Na	23	2	45	5345.202	ppb	0.375	1331784	5000	106.9	90	110	
Mg	24	2	45	4800.578	ppb	1.100	555447	5000	96.0	90	110	
Al	27	2	45	5066.925	ppb	0.262	136738	5000	101.3	90	110	
K	39	1	45	4818.374	ppb	2.088	31689800	5000	96.4	90	110	
K	39	2	45	5125.176	ppb	0.345	312826	5000	102.5	90	110	
Ca	40	1	45	5049.706	ppb	0.996	30345183	5000	101.0	90	110	
Ca	44	2	45	4944.938	ppb	5.178	15619	5000	98.9	90	110	
Ti	47	2	45	48.570	ppb	3.744	1340	50	97.1	90	110	
V	51	2	72	51.190	ppb	3.093	61119	50	102.4	90	110	
Cr	52	2	72	50.613	ppb	2.104	76639	50	101.2	90	110	
Mn	55	2	72	51.100	ppb	3.158	29023	50	102.2	90	110	
Fe	57	2	72	5127.602	ppb	2.018	142014	5000	102.6	90	110	
Co	59	2	72	50.672	ppb	4.334	134149	50	101.3	90	110	
Ni	60	2	72	50.973	ppb	3.386	38937	50	101.9	90	110	
Cu	63	2	72	50.775	ppb	1.603	106978	50	101.6	90	110	
Zn	66	2	72	50.868	ppb	3.861	13911	50	101.7	90	110	
As	75	2	72	49.470	ppb	3.021	9722	50	98.9	90	110	
Se	78	1	72	49.748	ppb	1.535	17118	50	99.5	90	110	
Sr	88	2	72	48.897	ppb	2.609	31139	50	97.8	90	110	
Zr	90	2	72	79.038	ppb	19.826	1130	50	158.1	90	110	>+\-10%
Nb	93	2	72	89.165	ppb	3.362	348851	100	89.2	90	110	>+\-10%
Mo	95	2	115	49.852	ppb	0.651	50849	50	99.7	90	110	
Pd	105	2	115	50.328	ppb	1.184	83766	50	100.7	90	110	
Ag	107	2	115	50.527	ppb	1.652	172256	50	101.1	90	110	
Cd	111	2	115	49.093	ppb	3.683	21381	50	98.2	90	110	
Sn	120	2	115	50.090	ppb	0.375	58149	50	100.2	90	110	
Sb	121	2	115	51.312	ppb	1.780	54572	50	102.6	90	110	
Ba	137	2	115	47.581	ppb	2.239	17388	50	95.2	90	110	
W	182	2	165	49.412	ppb	1.411	239557	50	98.8	90	110	
Pt	195	2	165	49.868	ppb	1.218	198790	50	99.7	90	110	
Tl	205	2	165	50.152	ppb	1.636	440191	50	100.3	90	110	
Pb	208	2	165	49.758	ppb	1.782	591402	50	99.5	90	110	
Th	232	2	165	45.619	ppb	0.833	684988	50	91.2	90	110	
U	238	2	165	46.001	ppb	1.577	738761	50	92.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1799588	0.93	1719455	104.66	60	120	
Sc (IS)	45	1	HMI H2	34317977	1.05	32996152	104.01	60	120	
Sc (IS)	45	2	HMI He	1004308	0.90	1019192	98.54	60	120	
Sc (IS)	45	3	No Gas	58178569	0.39	56217091	103.49	60	120	
Ge Internal Standard	72	1	HMI H2	14178354	0.71	13920513	101.85	60	120	
Ge Internal Standard	72	2	HMI He	1186816	3.13	1242268	95.54	60	120	
In Internal Standard	115	2	HMI He	3836993	0.65	4043894	94.88	60	120	
Ho-165	165	2	HMI He	18939430	1.96	19631094	96.48	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	032_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:41:32-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	10.904	ppb	55.5	7116307	10	>RL
Be	9	1	6	0.045	ppb	184.5	33	0.5	
B	11	1	6	0.465	ppb	63.0	917	0.5	
Na	23	1	45	-5.327	ppb	-7.7	379080	25	
Na	23	2	45	-6.072	ppb	-48.8	25697	25	
Mg	24	2	45	2.378	ppb	13.4	460	25	
Al	27	2	45	0.433	ppb	424.7	120	15	
K	39	1	45	-180.965	ppb	-6.4	11999794	50	
K	39	2	45	18.217	ppb	15.3	21720	50	
Ca	40	1	45	3.203	ppb	13.6	77569	50	
Ca	44	2	45	4.360	ppb	153.8	63	25	
Ti	47	2	45	-0.361	ppb	0.0	0	0.5	
V	51	2	72	1.354	ppb	14.4	3697	1	>RL
Cr	52	2	72	0.030	ppb	80.3	317	1	
Mn	55	2	72	0.156	ppb	20.9	160	0.5	
Fe	57	2	72	4.976	ppb	35.4	360	25	
Co	59	2	72	0.024	ppb	68.9	87	0.5	
Ni	60	2	72	0.099	ppb	28.0	257	1	
Cu	63	2	72	-0.001	ppb	-4669.8	1543	1	
Zn	66	2	72	-0.006	ppb	-1654.4	283	5	
As	75	2	72	0.034	ppb	101.4	35	1	
Se	78	1	72	0.071	ppb	81.3	52	1	
Sr	88	2	72	0.020	ppb	129.2	40	0.5	
Zr	90	2	72	1.023	ppb	261.4	150	1	>RL
Nb	93	2	72	2.420	ppb	9.8	9934	2	>RL
Mo	95	2	115	0.096	ppb	59.3	127	0.5	
Pd	105	2	115	0.035	ppb	56.8	73	1	
Ag	107	2	115	0.012	ppb	74.5	73	1	
Cd	111	2	115	0.024	ppb	200.6	17	0.5	
Sn	120	2	115	0.221	ppb	12.6	400	1	
Sb	121	2	115	0.602	ppb	11.9	677	0.6	>RL
Ba	137	2	115	0.056	ppb	1.3	30	0.5	
W	182	2	165	0.043	ppb	76.1	1930	1	
Pt	195	2	165	0.011	ppb	23.1	50	1	
Tl	205	2	165	0.030	ppb	40.6	360	0.1	
Pb	208	2	165	0.028	ppb	24.8	1433	0.5	
Th	232	2	165	0.039	ppb	23.3	880	1	
U	238	2	165	0.038	ppb	23.3	720	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1867078	0.99	1719455	108.59	60	120	
Sc (IS)	45	1	HMI H2	34429729	0.51	32996152	104.34	60	120	
Sc (IS)	45	2	HMI He	1006047	0.81	1019192	98.71	60	120	
Sc (IS)	45	3	No Gas	58715212	0.36	56217091	104.44	60	120	
Ge Internal Standard	72	1	HMI H2	14279336	0.44	13920513	102.58	60	120	
Ge Internal Standard	72	2	HMI He	1226248	1.47	1242268	98.71	60	120	
In Internal Standard	115	2	HMI He	3852124	0.88	4043894	95.26	60	120	
Ho-165	165	2	HMI He	18827856	0.26	19631094	95.91	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	033LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:45:20-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	22.780	ppb	10.398	7382648	50	45.6	70	130	>+/-30%
Be	9	1	6	1.027	ppb	10.510	530	1	102.7	70	130	
Na	23	2	45	34.709	ppb	4.942	35674	50	69.4	70	130	>+/-30%
Mg	24	2	45	48.520	ppb	0.344	5808	50	97.0	70	130	
Al	27	2	45	31.867	ppb	28.666	967	30	106.2	70	130	
K	39	2	45	130.878	ppb	8.281	28158	100	130.9	70	130	>+/-30%
Ca	44	2	45	58.174	ppb	21.830	233	50	116.3	70	130	
V	51	2	72	6.417	ppb	2.099	9607	5	128.3	70	130	
Cr	52	2	72	1.979	ppb	5.550	3311	2	98.9	70	130	
Mn	55	2	72	1.044	ppb	10.263	670	1	104.4	70	130	
Fe	57	2	72	55.697	ppb	4.955	1784	50	111.4	70	130	
Co	59	2	72	1.100	ppb	0.344	2990	1	110.0	70	130	
Ni	60	2	72	2.241	ppb	14.236	1914	2	112.0	70	130	
Cu	63	2	72	1.916	ppb	7.973	5578	2	95.8	70	130	
Zn	66	2	72	11.063	ppb	2.820	3304	10	110.6	70	130	
As	75	2	72	4.464	ppb	11.255	918	5	89.3	70	130	
Se	78	1	72	4.939	ppb	4.553	1725	5	98.8	70	130	
Sr	88	2	72	0.972	ppb	5.556	657	1	97.2	70	130	
Zr	90	2	72	12.769	ppb	62.997	297	0.5	2553.8	70	130	>+/-30%
Nb	93	2	72	4.424	ppb	0.445	17799	2	221.2	70	130	>+/-30%
Mo	95	2	115	1.980	ppb	8.391	2064	2	99.0	70	130	
Pd	105	2	115	0.038	ppb	77.419	80	1	3.8	70	130	>+/-30%
Ag	107	2	115	5.163	ppb	1.781	17762	5	103.3	70	130	
Cd	111	2	115	1.055	ppb	26.728	470	1	105.5	70	130	
Sn	120	2	115	10.185	ppb	4.526	12033	10	101.8	70	130	
Sb	121	2	115	2.462	ppb	9.309	2670	2	123.1	70	130	
Ba	137	2	115	0.808	ppb	17.923	307	1	80.8	70	130	
W	182	2	165	5.073	ppb	3.090	25919	1	507.3	70	130	>+/-30%
Pt	195	2	165	0.019	ppb	35.125	80	1	1.9	70	130	>+/-30%
Tl	205	2	165	1.033	ppb	1.621	9080	1	103.3	70	130	
Pb	208	2	165	0.999	ppb	2.663	12850	1	99.9	70	130	
Th	232	2	165	1.884	ppb	2.740	28329	2	94.2	70	130	
U	238	2	165	1.000	ppb	0.749	16027	1	100.0	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1850266	2.95	1719455	107.61	60	120	
Sc (IS)	45	1	HMI H2	34374623	0.74	32996152	104.18	60	120	
Sc (IS)	45	2	HMI He	1006312	1.80	1019192	98.74	60	120	
Sc (IS)	45	3	No Gas	59103754	0.84	56217091	105.13	60	120	
Ge Internal Standard	72	1	HMI H2	14193653	0.84	13920513	101.96	60	120	
Ge Internal Standard	72	2	HMI He	1209472	3.27	1242268	97.36	60	120	
In Internal Standard	115	2	HMI He	3866680	0.96	4043894	95.62	60	120	
Ho-165	165	2	HMI He	18770771	0.74	19631094	95.62	60	120	

Blank Report

Sample Table

Sample Name	mb 280-434927/1-a
Data File Name	034_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:49:07-06:00
Sample Type	Blank
Dilution	1
Comment	434927 200.8
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	8.418	ppb	17.75410363	190828	0.5
Li	7	2	45	39.659	ppb	16.4452208	10521	0.5
Li	7	3	45	17.497	ppb	46.29951181	7044104	10
Be	9	1	6	-0.002	ppb	-1312.37015	10	0.5
B	11	1	6	-0.094	ppb	-337.743973	610	0.5
Na	23	1	45	-13.533	ppb	-3.469701545	336164	25
Na	23	2	45	-11.931	ppb	-8.644347957	23216	25
Mg	24	2	45	1.053	ppb	77.78748514	293	25
Al	27	2	45	1.926	ppb	47.64779662	153	15
K	39	1	45	1920.492	ppb	1.561385142	19717280	50
K	39	2	45	14.474	ppb	74.83575222	20582	50
Ca	40	1	45	7.451	ppb	2.750925484	100076	50
Ca	44	2	45	9.632	ppb	109.7700069	77	25
Ti	47	2	45	-0.361	ppb	0	0	0.5
V	51	2	72	3.030	ppb	7.605039027	5321	1
Cr	52	2	72	0.337	ppb	35.57172071	747	1
Mn	55	2	72	0.202	ppb	55.46732908	173	0.5
Fe	57	2	72	15.788	ppb	16.55257015	623	25
Co	59	2	72	0.006	ppb	229.7902938	33	0.5
Ni	60	2	72	0.081	ppb	24.1836835	227	1
Cu	63	2	72	0.107	ppb	34.43429855	1657	1
Zn	66	2	72	1.164	ppb	32.70173119	567	5
As	75	2	72	0.074	ppb	84.7375233	40	1
Se	78	1	72	-0.004	ppb	-1083.517085	25	1
Sr	88	2	72	-0.013	ppb	-149.096387	17	0.5
Zr	90	2	72	4.312	ppb	12.47633878	180	1
Nb	93	2	72	0.381	ppb	9.903092682	1587	2
Mo	95	2	115	0.022	ppb	85.91947067	50	0.5
Pd	105	2	115	-0.001	ppb	-292.589768	13	1
Ag	107	2	115	0.008	ppb	185.2757965	57	1
Cd	111	2	115	0.033	ppb	73.8347896	20	0.5
Sn	120	2	115	0.287	ppb	12.70082934	463	1
Sb	121	2	115	0.421	ppb	21.52804073	470	0.6
Ba	137	2	115	0.021	ppb	203.0409742	17	0.5
W	182	2	165	0.015	ppb	126.1456666	1807	1
Pt	195	2	165	0.010	ppb	62.09104736	47	1
Tl	205	2	165	0.017	ppb	13.78448105	250	0.1
Pb	208	2	165	0.039	ppb	24.98887895	1580	0.5
Th	232	2	165	0.014	ppb	46.22766096	517	1
U	238	2	165	0.005	ppb	62.49409387	190	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1847593	1.52	1719455	107.45	60	120	
Sc (IS)	45	1	HMI H2	33407597	0.39	32996152	101.25	60	120	
Sc (IS)	45	2	HMI He	962701	0.38	1019192	94.46	60	120	
Sc (IS)	45	3	No Gas	57154501	0.95	56217091	101.67	60	120	
Ge Internal Standard	72	1	HMI H2	13926891	1.05	13920513	100.05	60	120	
Ge Internal Standard	72	2	HMI He	1145551	3.04	1242268	92.21	60	120	
In Internal Standard	115	2	HMI He	3746109	2.21	4043894	92.64	60	120	
Ho-165	165	2	HMI He	18931172	0.56	19631094	96.43	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-434927/2-a
Data File Name	035_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:52:55-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	434927 200.8
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	79.750	79.750	ppb	4.838	226826	400	19.9	80	120	>+/-20%
Li	7	2	45	93.155	93.155	ppb	14.756	11959	400	23.3	80	120	>+/-20%
Li	7	3	45	78.906	78.906	ppb	6.486	8238146	400	19.7	80	120	>+/-20%
Be	9	1	6	30.811	30.811	ppb	5.398	15335	40	77.0	80	120	>+/-20%
Na	23	2	45	-8.505	-8.505	ppb	-29.458	24117	40	-21.3	80	120	>+/-20%
Mg	24	2	45	2.605	2.605	ppb	30.928	467	40	6.5	80	120	>+/-20%
Al	27	2	45	339.719	339.719	ppb	3.189	8923	40	849.3	80	120	>+/-20%
K	39	2	45	20.457	20.457	ppb	62.708	20996	40	51.1	80	120	>+/-20%
Ca	44	2	45	173.188	173.188	ppb	24.732	573	40	433.0	80	120	>+/-20%
V	51	2	72	35.817	35.817	ppb	1.595	41133	40	89.5	80	120	
Cr	52	2	72	34.760	34.760	ppb	1.873	49990	40	86.9	80	120	
Mn	55	2	72	34.196	34.196	ppb	0.953	18442	40	85.5	80	120	
Fe	57	2	72	336.750	336.750	ppb	3.631	9030	40	841.9	80	120	>+/-20%
Co	59	2	72	34.247	34.247	ppb	1.997	86012	40	85.6	80	120	
Ni	60	2	72	34.449	34.449	ppb	3.460	25016	40	86.1	80	120	
Cu	63	2	72	34.741	34.741	ppb	1.149	69846	40	86.9	80	120	
Zn	66	2	72	34.149	34.149	ppb	4.598	8946	40	85.4	80	120	
As	75	2	72	31.445	31.445	ppb	1.201	5871	40	78.6	80	120	>+/-20%
Se	78	1	72	32.812	32.812	ppb	1.675	11072	40	82.0	80	120	
Nb	93	2	72	0.272	0.272	ppb	8.088	1153	40	0.7	80	120	>+/-20%
Mo	95	2	115	32.394	32.394	ppb	0.755	32041	40	81.0	80	120	
Pd	105	2	115	0.009	0.009	ppb	116.754	30	40	0.0	80	120	>+/-20%
Ag	107	2	115	34.823	34.823	ppb	2.093	115085	40	87.1	80	120	
Cd	111	2	115	31.675	31.675	ppb	1.332	13374	40	79.2	80	120	>+/-20%
Sn	120	2	115	32.479	32.479	ppb	1.373	36600	40	81.2	80	120	
Sb	121	2	115	32.468	32.468	ppb	0.895	33485	40	81.2	80	120	
Ba	137	2	115	31.346	31.346	ppb	1.423	11108	40	78.4	80	120	>+/-20%
W	182	2	165	10.542	10.542	ppb	2.356	51627	40	26.4	80	120	>+/-20%
Pt	195	2	165	0.004	0.004	ppb	90.797	23	40	0.0	80	120	>+/-20%
Tl	205	2	165	32.567	32.567	ppb	0.809	281299	40	81.4	80	120	
Pb	208	2	165	32.493	32.493	ppb	0.342	380431	40	81.2	80	120	
Th	232	2	165	29.416	29.416	ppb	0.365	434732	40	73.5	80	120	>+/-20%
U	238	2	165	30.010	30.010	ppb	0.487	474323	40	75.0	80	120	>+/-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1825028	3.11	1719455	106.14	60	120	
Sc (IS)	45	1	HMI H2	33477524	0.52	32996152	101.46	60	120	
Sc (IS)	45	2	HMI He	966849	1.58	1019192	94.86	60	120	
Sc (IS)	45	3	No Gas	57840477	0.79	56217091	102.89	60	120	
Ge Internal Standard	72	1	HMI H2	13893664	1.35	13920513	99.81	60	120	
Ge Internal Standard	72	2	HMI He	1124945	0.84	1242268	90.56	60	120	
In Internal Standard	115	2	HMI He	3719781	0.76	4043894	91.99	60	120	
Ho-165	165	2	HMI He	18634227	0.91	19631094	94.92	60	120	

Sample Report

Sample Table

Sample Name	lcsd 280-434927/3-a
Data File Name	036SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T17:56:42-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434927 200.8
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	75.561	ppb	75.561	4.54	224728	500000	
Li	7	2	45	88.433	ppb	88.433	13.55	11902	500000	
Li	7	3	45	80.822	ppb	80.822	12.47	8359526	50000	
Be	9	1	6	29.991	ppb	29.991	1.71	15028	2000	
B	11	1	6	22.592	ppb	22.592	2.18	12572	2000	
Na	23	1	45	-14.802	ppb	-14.802	-4.28	331945	2000	
Na	23	2	45	-10.649	ppb	-10.649	-10.84	23753	400000	
Mg	24	2	45	1.979	ppb	1.979	13.46	400	400000	
Al	27	2	45	326.565	ppb	326.565	6.52	8626	400000	
K	39	1	45	1927.086	ppb	1927.086	2.44	19783428	400000	
K	39	2	45	19.793	ppb	19.793	5.21	21083	400000	
Ca	40	1	45	9.625	ppb	9.625	4.08	113012	400000	
Ca	44	2	45	217.884	ppb	217.884	21.86	713	400000	
Ti	47	2	45	0.022	ppb	0.022	3077.48	10	4000	
V	51	2	72	36.145	ppb	36.145	4.20	41738	2000	
Cr	52	2	72	34.162	ppb	34.162	0.77	49431	5000	
Mn	55	2	72	34.567	ppb	34.567	4.80	18753	10000	
Fe	57	2	72	347.091	ppb	347.091	7.53	9357	400000	
Co	59	2	72	34.183	ppb	34.183	3.04	86381	2000	
Ni	60	2	72	35.047	ppb	35.047	0.84	25600	5000	
Cu	63	2	72	35.181	ppb	35.181	1.41	71149	5000	
Zn	66	2	72	35.142	ppb	35.142	7.70	9257	5000	
As	75	2	72	31.078	ppb	31.078	1.84	5837	2000	
Se	78	1	72	31.482	ppb	31.482	4.37	10613	2000	
Sr	88	2	72	31.725	ppb	31.725	1.17	19287	4000	
Zr	90	2	72	4412.385	ppb	4412.385	2.83	53191	1000	
Nb	93	2	72	0.273	ppb	0.273	14.14	1163	200	
Mo	95	2	115	30.901	ppb	30.901	0.89	30631	2000	
Pd	105	2	115	0.019	ppb	0.019	65.43	47	100	
Ag	107	2	115	34.809	ppb	34.809	0.40	115294	100	
Cd	111	2	115	32.774	ppb	32.774	6.57	13864	2000	
Sn	120	2	115	32.883	ppb	32.883	0.83	37134	2000	
Sb	121	2	115	33.733	ppb	33.733	1.85	34865	1000	
Ba	137	2	115	31.840	ppb	31.840	6.40	11312	5000	
W	182	2	165	10.271	ppb	10.271	2.05	50249	100	
Pt	195	2	165	0.009	ppb	0.009	55.73	43	100	
Tl	205	2	165	32.730	ppb	32.730	0.30	282165	2000	
Pb	208	2	165	32.961	ppb	32.961	0.33	385148	5000	
Th	232	2	165	29.728	ppb	29.728	1.40	438474	2000	
U	238	2	165	30.256	ppb	30.256	0.41	477258	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1835876	0.98	1719455	106.77	60	120	
Sc (IS)	45	1	HMI H2	33477107	0.81	32996152	101.46	60	120	
Sc (IS)	45	2	HMI He	972424	1.33	1019192	95.41	60	120	
Sc (IS)	45	3	No Gas	58462519	1.71	56217091	103.99	60	120	
Ge Internal Standard	72	1	HMI H2	13880560	0.67	13920513	99.71	60	120	
Ge Internal Standard	72	2	HMI He	1131864	0.62	1242268	91.11	60	120	
In Internal Standard	115	2	HMI He	3727828	0.98	4043894	92.18	60	120	
Ho-165	165	2	HMI He	18597825	0.69	19631094	94.74	60	120	

Sample Report

Sample Table

Sample Name	280-116021-a-3-a
Data File Name	037SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:00:30-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434927 200.8
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	8.464	ppb	8.464	74.13	188926	500000	
Li	7	2	45	26.710	ppb	26.710	56.41	10090	500000	
Li	7	3	45	14.829	ppb	14.829	19.98	6916943	50000	
Be	9	1	6	0.027	ppb	0.027	117.48	23	2000	
B	11	1	6	9.846	ppb	9.846	7.19	5645	2000	
Na	23	1	45	28161.702	ppb	28161.702	1.32	107957505	2000	>LDR
Na	23	2	45	28590.299	ppb	28590.299	1.56	6649973	400000	
Mg	24	2	45	15211.701	ppb	15211.701	2.10	1670637	400000	
Al	27	2	45	9.015	ppb	9.015	17.60	333	400000	
K	39	1	45	3648.593	ppb	3648.593	1.13	26092136	400000	
K	39	2	45	1756.017	ppb	1756.017	0.90	114645	400000	
Ca	40	1	45	41496.907	ppb	41496.907	0.66	239907510	400000	
Ca	44	2	45	39997.831	ppb	39997.831	0.30	119638	400000	
Ti	47	2	45	0.789	ppb	0.789	82.79	30	4000	
V	51	2	72	3.384	ppb	3.384	18.93	5585	2000	
Cr	52	2	72	0.267	ppb	0.267	26.52	627	5000	
Mn	55	2	72	13.581	ppb	13.581	4.66	7326	10000	
Fe	57	2	72	69.332	ppb	69.332	4.12	2007	400000	
Co	59	2	72	0.077	ppb	0.077	27.90	210	2000	
Ni	60	2	72	0.836	ppb	0.836	4.32	763	5000	
Cu	63	2	72	0.542	ppb	0.542	7.66	2474	5000	
Zn	66	2	72	4.742	ppb	4.742	2.06	1460	5000	
As	75	2	72	0.739	ppb	0.739	7.96	162	2000	
Se	78	1	72	0.073	ppb	0.073	84.80	51	2000	
Sr	88	2	72	76.161	ppb	76.161	1.31	45754	4000	
Zr	90	2	72	131.992	ppb	131.992	6.45	1694	1000	
Nb	93	2	72	0.219	ppb	0.219	2.94	953	200	
Mo	95	2	115	384.593	ppb	384.593	0.25	372769	2000	
Pd	105	2	115	0.009	ppb	0.009	132.90	30	100	
Ag	107	2	115	0.018	ppb	0.018	15.38	90	100	
Cd	111	2	115	0.099	ppb	0.099	114.64	47	2000	
Sn	120	2	115	0.222	ppb	0.222	27.68	380	2000	
Sb	121	2	115	1.134	ppb	1.134	15.32	1180	1000	
Ba	137	2	115	39.798	ppb	39.798	2.42	13831	5000	
W	182	2	165	0.038	ppb	0.038	75.42	1864	100	
Pt	195	2	165	0.016	ppb	0.016	50.09	67	100	
Tl	205	2	165	0.030	ppb	0.030	42.35	353	2000	
Pb	208	2	165	0.045	ppb	0.045	41.00	1600	5000	
Th	232	2	165	0.089	ppb	0.089	1.67	1594	2000	
U	238	2	165	1.135	ppb	1.135	2.20	17833	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1770327	2.64	1719455	102.96	60	120	
Sc (IS)	45	1	HMI H2	33072347	0.81	32996152	100.23	60	120	
Sc (IS)	45	2	HMI He	953472	1.47	1019192	93.55	60	120	
Sc (IS)	45	3	No Gas	56499454	0.83	56217091	100.50	60	120	
Ge Internal Standard	72	1	HMI H2	13751486	0.39	13920513	98.79	60	120	
Ge Internal Standard	72	2	HMI He	1119335	1.38	1242268	90.10	60	120	
In Internal Standard	115	2	HMI He	3647916	1.17	4043894	90.21	60	120	
Ho-165	165	2	HMI He	18413147	1.20	19631094	93.80	60	120	

Sample Report

Sample Table

Sample Name	280-116021-a-6-a
Data File Name	038SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:04:16-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434927 200.8
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	12.050	ppb	12.050	24.57	189176	500000	
Li	7	2	45	52.502	ppb	52.502	33.72	10724	500000	
Li	7	3	45	20.026	ppb	20.026	19.38	6844209	50000	
Be	9	1	6	0.006	ppb	0.006	522.46	13	2000	
B	11	1	6	14.369	ppb	14.369	1.79	7956	2000	
Na	23	1	45	34601.692	ppb	34601.692	0.24	131502435	2000	>LDR
Na	23	2	45	35249.012	ppb	35249.012	1.07	8173632	400000	
Mg	24	2	45	11950.875	ppb	11950.875	0.64	1309514	400000	
Al	27	2	45	31.477	ppb	31.477	11.94	907	400000	
K	39	1	45	3627.191	ppb	3627.191	1.33	25802960	400000	
K	39	2	45	2065.492	ppb	2065.492	1.41	131062	400000	
Ca	40	1	45	30604.400	ppb	30604.400	1.02	175536777	400000	
Ca	44	2	45	29242.823	ppb	29242.823	0.13	87270	400000	
Ti	47	2	45	1.445	ppb	1.445	108.27	47	4000	
V	51	2	72	3.223	ppb	3.223	9.01	5375	2000	
Cr	52	2	72	0.213	ppb	0.213	37.45	547	5000	
Mn	55	2	72	20.279	ppb	20.279	2.73	10838	10000	
Fe	57	2	72	96.214	ppb	96.214	7.66	2690	400000	
Co	59	2	72	0.115	ppb	0.115	33.33	303	2000	
Ni	60	2	72	1.160	ppb	1.160	11.70	990	5000	
Cu	63	2	72	0.833	ppb	0.833	11.81	3024	5000	
Zn	66	2	72	4.635	ppb	4.635	5.87	1423	5000	
As	75	2	72	0.624	ppb	0.624	20.70	140	2000	
Se	78	1	72	0.230	ppb	0.230	62.31	103	2000	
Sr	88	2	72	93.318	ppb	93.318	0.83	55693	4000	
Zr	90	2	72	44.765	ppb	44.765	28.11	653	1000	
Nb	93	2	72	0.152	ppb	0.152	25.26	700	200	
Mo	95	2	115	166.010	ppb	166.010	0.88	160513	2000	
Pd	105	2	115	-0.007	ppb	-0.007	-49.78	3	100	
Ag	107	2	115	0.002	ppb	0.002	312.97	37	100	
Cd	111	2	115	0.018	ppb	0.018	156.64	13	2000	
Sn	120	2	115	0.247	ppb	0.247	27.25	407	2000	
Sb	121	2	115	0.526	ppb	0.526	16.83	563	1000	
Ba	137	2	115	25.574	ppb	25.574	5.26	8867	5000	
W	182	2	165	0.012	ppb	0.012	167.79	1737	100	
Pt	195	2	165	0.006	ppb	0.006	111.58	30	100	
Tl	205	2	165	0.016	ppb	0.016	52.77	237	2000	
Pb	208	2	165	0.113	ppb	0.113	6.64	2374	5000	
Th	232	2	165	0.033	ppb	0.033	44.98	773	2000	
U	238	2	165	0.970	ppb	0.970	3.06	15193	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1773456	1.96	1719455	103.14	60	120	
Sc (IS)	45	1	HMI H2	32808275	0.40	32996152	99.43	60	120	
Sc (IS)	45	2	HMI He	951188	1.22	1019192	93.33	60	120	
Sc (IS)	45	3	No Gas	55170636	0.90	56217091	98.14	60	120	
Ge Internal Standard	72	1	HMI H2	13684585	0.46	13920513	98.31	60	120	
Ge Internal Standard	72	2	HMI He	1112066	0.93	1242268	89.52	60	120	
In Internal Standard	115	2	HMI He	3638783	0.34	4043894	89.98	60	120	
Ho-165	165	2	HMI He	18346036	0.31	19631094	93.45	60	120	

Sample Report

Sample Table

Sample Name	280-116021-a-6-b ms
Data File Name	039SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:08:05-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434927 200.8
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	83.275	ppb	83.275	6.91	222739	500000	
Li	7	2	45	106.311	ppb	106.311	7.19	11892	500000	
Li	7	3	45	87.576	ppb	87.576	4.04	7995319	50000	
Be	9	1	6	31.283	ppb	31.283	3.69	14878	2000	
B	11	1	6	38.155	ppb	38.155	3.98	19724	2000	
Na	23	1	45	35757.837	ppb	35757.837	1.23	135108451	2000	>LDR
Na	23	2	45	36795.866	ppb	36795.866	0.85	8384117	400000	
Mg	24	2	45	12405.262	ppb	12405.262	1.01	1335778	400000	
Al	27	2	45	375.660	ppb	375.660	2.63	9527	400000	
K	39	1	45	3920.725	ppb	3920.725	2.07	26757531	400000	
K	39	2	45	2138.733	ppb	2138.733	1.05	132689	400000	
Ca	40	1	45	31554.624	ppb	31554.624	1.49	179959031	400000	
Ca	44	2	45	31031.720	ppb	31031.720	1.07	91015	400000	
Ti	47	2	45	2.399	ppb	2.399	60.84	70	4000	
V	51	2	72	37.088	ppb	37.088	3.85	42048	2000	
Cr	52	2	72	33.215	ppb	33.215	3.08	47248	5000	
Mn	55	2	72	52.966	ppb	52.966	0.94	28222	10000	
Fe	57	2	72	476.686	ppb	476.686	2.69	12566	400000	
Co	59	2	72	32.711	ppb	32.711	1.01	81275	2000	
Ni	60	2	72	33.086	ppb	33.086	1.88	23771	5000	
Cu	63	2	72	32.897	ppb	32.897	1.18	65499	5000	
Zn	66	2	72	36.739	ppb	36.739	7.01	9494	5000	
As	75	2	72	32.166	ppb	32.166	0.87	5939	2000	
Se	78	1	72	30.908	ppb	30.908	1.94	10133	2000	
Sr	88	2	72	128.633	ppb	128.633	1.84	76801	4000	
Zr	90	2	72	4225.026	ppb	4225.026	0.94	50083	1000	
Nb	93	2	72	0.191	ppb	0.191	5.47	843	200	
Mo	95	2	115	198.585	ppb	198.585	0.43	193889	2000	
Pd	105	2	115	0.003	ppb	0.003	363.27	20	100	
Ag	107	2	115	33.584	ppb	33.584	1.65	109643	100	
Cd	111	2	115	31.391	ppb	31.391	5.23	13097	2000	
Sn	120	2	115	32.141	ppb	32.141	3.45	35774	2000	
Sb	121	2	115	34.048	ppb	34.048	3.61	34698	1000	
Ba	137	2	115	58.778	ppb	58.778	4.52	20569	5000	
W	182	2	165	10.334	ppb	10.334	1.91	49824	100	
Pt	195	2	165	0.002	ppb	0.002	163.02	13	100	
Tl	205	2	165	32.693	ppb	32.693	0.67	277785	2000	
Pb	208	2	165	31.945	ppb	31.945	0.50	367919	5000	
Th	232	2	165	29.456	ppb	29.456	0.47	428199	2000	
U	238	2	165	31.477	ppb	31.477	0.57	489349	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1743114	1.66	1719455	101.38	60	120	
Sc (IS)	45	1	HMI H2	32623393	0.88	32996152	98.87	60	120	
Sc (IS)	45	2	HMI He	934763	1.48	1019192	91.72	60	120	
Sc (IS)	45	3	No Gas	55090178	0.23	56217091	98.00	60	120	
Ge Internal Standard	72	1	HMI H2	13496472	1.42	13920513	96.95	60	120	
Ge Internal Standard	72	2	HMI He	1112864	1.68	1242268	89.58	60	120	
In Internal Standard	115	2	HMI He	3674510	1.33	4043894	90.87	60	120	
Ho-165	165	2	HMI He	18329919	0.84	19631094	93.37	60	120	

Sample Report

Sample Table

Sample Name	280-116021-a-6-c msd
Data File Name	040SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:12:21-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434927 200.8
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	80.126	ppb	80.126	3.39	220787	500000	
Li	7	2	45	109.219	ppb	109.219	4.35	12112	500000	
Li	7	3	45	88.198	ppb	88.198	7.70	8034457	50000	
Be	9	1	6	33.815	ppb	33.815	3.71	16093	2000	
B	11	1	6	39.325	ppb	39.325	3.95	20321	2000	
Na	23	1	45	36519.162	ppb	36519.162	1.10	137707418	2000	>LDR
Na	23	2	45	37119.924	ppb	37119.924	0.22	8561009	400000	
Mg	24	2	45	12403.489	ppb	12403.489	1.33	1351715	400000	
Al	27	2	45	412.296	ppb	412.296	1.93	10574	400000	
K	39	1	45	3996.490	ppb	3996.490	1.97	26988835	400000	
K	39	2	45	2163.134	ppb	2163.134	0.10	135620	400000	
Ca	40	1	45	32190.325	ppb	32190.325	1.18	183222744	400000	
Ca	44	2	45	31176.205	ppb	31176.205	0.92	92535	400000	
Ti	47	2	45	1.833	ppb	1.833	53.03	57	4000	
V	51	2	72	38.848	ppb	38.848	0.73	43573	2000	
Cr	52	2	72	35.563	ppb	35.563	1.84	50128	5000	
Mn	55	2	72	55.858	ppb	55.858	1.29	29491	10000	
Fe	57	2	72	511.803	ppb	511.803	1.70	13353	400000	
Co	59	2	72	34.014	ppb	34.014	1.63	83748	2000	
Ni	60	2	72	35.308	ppb	35.308	3.38	25129	5000	
Cu	63	2	72	35.080	ppb	35.080	3.67	69119	5000	
Zn	66	2	72	38.265	ppb	38.265	4.80	9794	5000	
As	75	2	72	34.108	ppb	34.108	2.61	6240	2000	
Se	78	1	72	32.962	ppb	32.962	3.51	10854	2000	
Sr	88	2	72	131.945	ppb	131.945	0.69	78075	4000	
Zr	90	2	72	4563.973	ppb	4563.973	0.26	53602	1000	
Nb	93	2	72	0.120	ppb	0.120	18.64	577	200	
Mo	95	2	115	204.404	ppb	204.404	1.38	197525	2000	
Pd	105	2	115	0.005	ppb	0.005	184.39	23	100	
Ag	107	2	115	35.109	ppb	35.109	2.71	113428	100	
Cd	111	2	115	32.063	ppb	32.063	3.03	13240	2000	
Sn	120	2	115	33.375	ppb	33.375	0.27	36773	2000	
Sb	121	2	115	34.960	ppb	34.960	1.98	35246	1000	
Ba	137	2	115	61.899	ppb	61.899	1.14	21438	5000	
W	182	2	165	10.795	ppb	10.795	1.53	52156	100	
Pt	195	2	165	0.003	ppb	0.003	146.09	17	100	
Tl	205	2	165	33.299	ppb	33.299	1.13	283945	2000	
Pb	208	2	165	33.318	ppb	33.318	1.40	385046	5000	
Th	232	2	165	30.588	ppb	30.588	1.79	446204	2000	
U	238	2	165	32.309	ppb	32.309	1.90	504055	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1743611	0.97	1719455	101.40	60	120	
Sc (IS)	45	1	HMI H2	32558666	0.56	32996152	98.67	60	120	
Sc (IS)	45	2	HMI He	946112	0.91	1019192	92.83	60	120	
Sc (IS)	45	3	No Gas	55287938	0.70	56217091	98.35	60	120	
Ge Internal Standard	72	1	HMI H2	13559926	0.93	13920513	97.41	60	120	
Ge Internal Standard	72	2	HMI He	1102779	0.55	1242268	88.77	60	120	
In Internal Standard	115	2	HMI He	3637372	1.94	4043894	89.95	60	120	
Ho-165	165	2	HMI He	18395987	1.06	19631094	93.71	60	120	

Sample Report

Sample Table

Sample Name	280-115995-c-1-a
Data File Name	041SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:16:09-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434927 200.8
ISTD Ref FileName	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	15.832	ppb	15.832	24.95	186180	500000	
Li	7	2	45	27.315	ppb	27.315	77.91	9994	500000	
Li	7	3	45	17.139	ppb	17.139	12.29	6760136	50000	
Be	9	1	6	-0.007	ppb	-0.007	-347.55	7	2000	
B	11	1	6	12.765	ppb	12.765	3.58	6992	2000	
Na	23	1	45	144663.080	ppb	144663.080	1.40	534636579	2000	>LDR
Na	23	2	45	146091.489	ppb	146091.489	0.23	33514630	400000	
Mg	24	2	45	666.443	ppb	666.443	0.78	72568	400000	
Al	27	2	45	22.847	ppb	22.847	19.55	680	400000	
K	39	1	45	66396.229	ppb	66396.229	1.74	255960203	400000	
K	39	2	45	66391.152	ppb	66391.152	0.93	3574146	400000	
Ca	40	1	45	2920.468	ppb	2920.468	1.97	16373834	400000	
Ca	44	2	45	2918.215	ppb	2918.215	3.77	8676	400000	
Ti	47	2	45	2.483	ppb	2.483	34.55	73	4000	
V	51	2	72	3.616	ppb	3.616	8.78	5721	2000	
Cr	52	2	72	1.572	ppb	1.572	5.91	2434	5000	
Mn	55	2	72	2.383	ppb	2.383	3.12	1310	10000	
Fe	57	2	72	118.237	ppb	118.237	14.16	3217	400000	
Co	59	2	72	0.175	ppb	0.175	12.43	447	2000	
Ni	60	2	72	1.527	ppb	1.527	2.81	1233	5000	
Cu	63	2	72	16.541	ppb	16.541	2.28	33146	5000	
Zn	66	2	72	69.058	ppb	69.058	3.23	17381	5000	
As	75	2	72	0.405	ppb	0.405	34.82	98	2000	
Se	78	1	72	0.343	ppb	0.343	18.44	135	2000	
Sr	88	2	72	19.480	ppb	19.480	4.07	11482	4000	
Zr	90	2	72	215.180	ppb	215.180	3.05	2630	1000	
Nb	93	2	72	0.188	ppb	0.188	21.39	823	200	
Mo	95	2	115	1.491	ppb	1.491	20.11	1460	2000	
Pd	105	2	115	0.027	ppb	0.027	26.68	57	100	
Ag	107	2	115	0.023	ppb	0.023	30.44	103	100	
Cd	111	2	115	0.066	ppb	0.066	41.18	33	2000	
Sn	120	2	115	0.856	ppb	0.856	4.96	1070	2000	
Sb	121	2	115	1.276	ppb	1.276	12.46	1313	1000	
Ba	137	2	115	6.354	ppb	6.354	1.59	2200	5000	
W	182	2	165	0.314	ppb	0.314	17.22	3154	100	
Pt	195	2	165	0.024	ppb	0.024	48.46	100	100	
Tl	205	2	165	0.018	ppb	0.018	30.29	253	2000	
Pb	208	2	165	0.191	ppb	0.191	5.71	3284	5000	
Th	232	2	165	0.108	ppb	0.108	13.54	1877	2000	
U	238	2	165	0.066	ppb	0.066	13.27	1143	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1737172	0.84	1719455	101.03	60	120	
Sc (IS)	45	1	HMI H2	31977732	1.10	32996152	96.91	60	120	
Sc (IS)	45	2	HMI He	943209	1.57	1019192	92.54	60	120	
Sc (IS)	45	3	No Gas	54892396	0.40	56217091	97.64	60	120	
Ge Internal Standard	72	1	HMI H2	13166361	0.73	13920513	94.58	60	120	
Ge Internal Standard	72	2	HMI He	1096877	1.31	1242268	88.30	60	120	
In Internal Standard	115	2	HMI He	3623793	1.14	4043894	89.61	60	120	
Ho-165	165	2	HMI He	18396829	0.85	19631094	93.71	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	042_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:19:55-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	521.353	ppb	0.478	453607	500	104.3	90	110	
Li	7	2	45	539.650	ppb	8.405	24428	500	107.9	90	110	
Li	7	3	45	533.784	ppb	1.819	16421606	500	106.8	90	110	
Be	9	1	6	47.982	ppb	2.860	23670	50	96.0	90	110	
B	11	1	6	51.136	ppb	3.201	27202	50	102.3	90	110	
Na	23	1	45	5338.382	ppb	0.222	21331912	5000	106.8	90	110	
Na	23	2	45	5548.177	ppb	2.150	1376764	5000	111.0	90	110	>+\-10%
Mg	24	2	45	4856.428	ppb	0.496	560088	5000	97.1	90	110	
Al	27	2	45	5218.794	ppb	0.940	140372	5000	104.4	90	110	
K	39	1	45	5125.987	ppb	0.333	32559092	5000	102.5	90	110	
K	39	2	45	5184.282	ppb	0.698	315140	5000	103.7	90	110	
Ca	40	1	45	5165.634	ppb	0.299	30713321	5000	103.3	90	110	
Ca	44	2	45	5031.298	ppb	1.892	15843	5000	100.6	90	110	
Ti	47	2	45	55.601	ppb	10.292	1527	50	111.2	90	110	>+\-10%
V	51	2	72	52.956	ppb	1.203	62083	50	105.9	90	110	
Cr	52	2	72	51.399	ppb	1.727	76488	50	102.8	90	110	
Mn	55	2	72	53.075	ppb	0.208	29631	50	106.1	90	110	
Fe	57	2	72	5233.297	ppb	0.521	142448	5000	104.7	90	110	
Co	59	2	72	50.816	ppb	0.736	132275	50	101.6	90	110	
Ni	60	2	72	51.818	ppb	2.316	38903	50	103.6	90	110	
Cu	63	2	72	51.469	ppb	0.777	106540	50	102.9	90	110	
Zn	66	2	72	51.462	ppb	0.801	13834	50	102.9	90	110	
As	75	2	72	49.914	ppb	1.324	9641	50	99.8	90	110	
Se	78	1	72	50.487	ppb	0.200	17081	50	101.0	90	110	
Sr	88	2	72	48.330	ppb	2.484	30250	50	96.7	90	110	
Zr	90	2	72	214.290	ppb	11.186	2784	50	428.6	90	110	>+\-10%
Nb	93	2	72	90.872	ppb	0.356	349520	100	90.9	90	110	
Mo	95	2	115	50.163	ppb	2.296	50916	50	100.3	90	110	
Pd	105	2	115	49.504	ppb	2.997	81989	50	99.0	90	110	
Ag	107	2	115	50.036	ppb	1.227	169749	50	100.1	90	110	
Cd	111	2	115	49.448	ppb	3.214	21427	50	98.9	90	110	
Sn	120	2	115	49.896	ppb	2.556	57641	50	99.8	90	110	
Sb	121	2	115	50.326	ppb	2.700	53260	50	100.7	90	110	
Ba	137	2	115	48.409	ppb	0.865	17605	50	96.8	90	110	
W	182	2	165	48.993	ppb	0.668	235353	50	98.0	90	110	
Pt	195	2	165	49.321	ppb	1.213	194794	50	98.6	90	110	
Tl	205	2	165	50.398	ppb	0.711	438246	50	100.8	90	110	
Pb	208	2	165	49.170	ppb	0.341	579062	50	98.3	90	110	
Th	232	2	165	45.417	ppb	0.345	675619	50	90.8	90	110	
U	238	2	165	46.189	ppb	0.530	734978	50	92.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1808426	1.98	1719455	105.17	60	120	
Sc (IS)	45	1	HMI H2	33956016	0.57	32996152	102.91	60	120	
Sc (IS)	45	2	HMI He	1000987	0.51	1019192	98.21	60	120	
Sc (IS)	45	3	No Gas	57745314	0.40	56217091	102.72	60	120	
Ge Internal Standard	72	1	HMI H2	13941020	0.11	13920513	100.15	60	120	
Ge Internal Standard	72	2	HMI He	1165941	1.06	1242268	93.86	60	120	
In Internal Standard	115	2	HMI He	3818831	0.92	4043894	94.43	60	120	
Ho-165	165	2	HMI He	18761873	0.91	19631094	95.57	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	043_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:23:43-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	7.962	ppb	16.7	7095283	10	
Be	9	1	6	0.019	ppb	211.6	20	0.5	
B	11	1	6	0.231	ppb	195.1	773	0.5	
Na	23	1	45	45.102	ppb	6.1	573312	25	>RL
Na	23	2	45	40.915	ppb	6.9	37091	25	>RL
Mg	24	2	45	1.088	ppb	34.6	310	25	
Al	27	2	45	0.428	ppb	774.7	120	15	
K	39	1	45	-89.084	ppb	-30.1	12229708	50	
K	39	2	45	29.709	ppb	40.2	22321	50	
Ca	40	1	45	3.757	ppb	0.6	80039	50	
Ca	44	2	45	-8.326	ppb	-57.9	23	25	
Ti	47	2	45	-0.119	ppb	-353.2	7	0.5	
V	51	2	72	2.556	ppb	5.8	5001	1	>RL
Cr	52	2	72	0.037	ppb	90.0	320	1	
Mn	55	2	72	0.039	ppb	196.3	90	0.5	
Fe	57	2	72	2.357	ppb	64.8	277	25	
Co	59	2	72	0.008	ppb	130.8	40	0.5	
Ni	60	2	72	0.083	ppb	70.5	237	1	
Cu	63	2	72	0.050	ppb	275.7	1607	1	
Zn	66	2	72	0.074	ppb	404.1	297	5	
As	75	2	72	0.045	ppb	71.1	36	1	
Se	78	1	72	0.023	ppb	263.7	35	1	
Sr	88	2	72	0.006	ppb	511.1	30	0.5	
Zr	90	2	72	-2.095	ppb	-67.9	107	1	
Nb	93	2	72	2.323	ppb	10.6	9307	2	>RL
Mo	95	2	115	0.089	ppb	47.1	120	0.5	
Pd	105	2	115	0.026	ppb	103.1	60	1	
Ag	107	2	115	0.002	ppb	125.5	40	1	
Cd	111	2	115	0.008	ppb	3.0	10	0.5	
Sn	120	2	115	0.184	ppb	12.2	357	1	
Sb	121	2	115	0.349	ppb	21.0	407	0.6	
Ba	137	2	115	-0.017	ppb	-94.6	3	0.5	
W	182	2	165	0.067	ppb	43.4	2037	1	
Pt	195	2	165	0.008	ppb	39.1	37	1	
Tl	205	2	165	0.009	ppb	77.6	180	0.1	
Pb	208	2	165	-0.011	ppb	-175.2	977	0.5	
Th	232	2	165	0.030	ppb	13.1	757	1	
U	238	2	165	0.021	ppb	12.5	443	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1833041	1.56	1719455	106.61	60	120	
Sc (IS)	45	1	HMI H2	34057445	0.61	32996152	103.22	60	120	
Sc (IS)	45	2	HMI He	1003480	0.94	1019192	98.46	60	120	
Sc (IS)	45	3	No Gas	58986042	1.01	56217091	104.93	60	120	
Ge Internal Standard	72	1	HMI H2	14041758	0.48	13920513	100.87	60	120	
Ge Internal Standard	72	2	HMI He	1195169	2.71	1242268	96.21	60	120	
In Internal Standard	115	2	HMI He	3851180	1.12	4043894	95.23	60	120	
Ho-165	165	2	HMI He	18782686	0.79	19631094	95.68	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	044WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:27:31-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.008	ppb	-308.9415733	7	0.5
Na	23	2	45	57.123	ppb	3.073509646	36025	25
Mg	24	2	45	3.861	ppb	4.570350447	553	25
Al	27	2	45	5.300	ppb	53.0706083	220	15
K	39	2	45	20.825	ppb	86.75380044	19150	50
Ca	44	2	45	9.561	ppb	210.5105165	70	25
V	51	2	72	14.322	ppb	1.260442667	16003	1
Cr	52	2	72	0.311	ppb	25.04273377	630	1
Mn	55	2	72	0.667	ppb	3.187862305	383	0.5
Fe	57	2	72	48.251	ppb	14.27432995	1333	25
Co	59	2	72	0.022	ppb	47.01731038	67	0.5
Ni	60	2	72	0.280	ppb	24.48218687	333	1
Cu	63	2	72	0.390	ppb	51.94818748	1987	1
Zn	66	2	72	0.527	ppb	4.534657701	360	5
As	75	2	72	0.227	ppb	29.91539762	61	1
Se	78	1	72	0.070	ppb	10.73156137	45	1
Nb	93	2	72	2.294	ppb	7.66782435	7873	2
Mo	95	2	115	0.103	ppb	59.16454352	123	0.5
Pd	105	2	115	0.085	ppb	43.20683343	147	1
Ag	107	2	115	0.051	ppb	35.32918879	190	1
Cd	111	2	115	0.010	ppb	240.7376523	10	0.5
Sn	120	2	115	0.851	ppb	5.4167114	1047	1
Sb	121	2	115	0.742	ppb	13.47279698	763	0.6
Ba	137	2	115	0.082	ppb	21.81866224	37	0.5
W	182	2	165	0.025	ppb	166.3895154	1794	1
Pt	195	2	165	0.006	ppb	73.10413022	30	1
Tl	205	2	165	0.052	ppb	25.0096138	533	0.1
Pb	208	2	165	0.387	ppb	6.752412161	5517	0.5
Th	232	2	165	0.192	ppb	9.040820651	3081	1
U	238	2	165	0.016	ppb	47.57072373	357	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1754276	1.96	1719455	102.03	60	120	
Sc (IS)	45	1	HMI H2	30649473	0.66	32996152	92.89	60	120	
Sc (IS)	45	2	HMI He	880887	0.73	1019192	86.43	60	120	
Sc (IS)	45	3	No Gas	51376109	1.37	56217091	91.39	60	120	
Ge Internal Standard	72	1	HMI H2	12575168	0.21	13920513	90.34	60	120	
Ge Internal Standard	72	2	HMI He	1023247	1.26	1242268	82.37	60	120	
In Internal Standard	115	2	HMI He	3562304	0.99	4043894	88.09	60	120	
Ho-165	165	2	HMI He	18313242	0.67	19631094	93.29	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	045WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:31:19-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.021	ppb	-1.54866E-06	0	0.5
Na	23	2	45	3.353	ppb	80.83357938	28151	25
Mg	24	2	45	1.352	ppb	40.85305022	343	25
Al	27	2	45	0.649	ppb	232.0394843	127	15
K	39	2	45	17.103	ppb	49.7611982	21777	50
Ca	44	2	45	19.866	ppb	137.128793	113	25
V	51	2	72	2.679	ppb	8.130583473	5038	1
Cr	52	2	72	0.017	ppb	172.0304046	283	1
Mn	55	2	72	0.097	ppb	54.31294208	120	0.5
Fe	57	2	72	5.618	ppb	43.14143047	360	25
Co	59	2	72	0.012	ppb	31.35188231	50	0.5
Ni	60	2	72	0.176	ppb	32.60589363	303	1
Cu	63	2	72	0.029	ppb	218.0235371	1537	1
Zn	66	2	72	0.926	ppb	22.87824189	517	5
As	75	2	72	0.002	ppb	4803.342066	27	1
Se	78	1	72	0.011	ppb	268.0665589	31	1
Nb	93	2	72	0.653	ppb	8.274018438	2670	2
Mo	95	2	115	0.040	ppb	24.7487913	70	0.5
Pd	105	2	115	0.004	ppb	205.1421628	23	1
Ag	107	2	115	0.002	ppb	124.8147823	40	1
Cd	111	2	115	-0.014	ppb	0	0	0.5
Sn	120	2	115	0.151	ppb	33.25608286	320	1
Sb	121	2	115	0.067	ppb	63.33777067	107	0.6
Ba	137	2	115	0.065	ppb	23.34094406	33	0.5
W	182	2	165	-0.042	ppb	-32.73357166	1527	1
Pt	195	2	165	0.008	ppb	18.48272664	37	1
Tl	205	2	165	0.005	ppb	23.36773418	140	0.1
Pb	208	2	165	0.047	ppb	8.144654846	1667	0.5
Th	232	2	165	0.003	ppb	56.3473032	353	1
U	238	2	165	0.005	ppb	65.35677541	187	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1838038	0.89	1719455	106.90	60	120	
Sc (IS)	45	1	HMI H2	33936626	0.17	32996152	102.85	60	120	
Sc (IS)	45	2	HMI He	1011526	0.72	1019192	99.25	60	120	
Sc (IS)	45	3	No Gas	58602664	0.77	56217091	104.24	60	120	
Ge Internal Standard	72	1	HMI H2	14052077	0.87	13920513	100.95	60	120	
Ge Internal Standard	72	2	HMI He	1170275	1.57	1242268	94.20	60	120	
In Internal Standard	115	2	HMI He	3864486	0.69	4043894	95.56	60	120	
Ho-165	165	2	HMI He	18876790	0.69	19631094	96.16	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	046WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:35:07-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	0.012	ppb	346.6865226	17	0.5
Na	23	2	45	-3.466	ppb	-106.110877	26164	25
Mg	24	2	45	2.200	ppb	9.165413218	437	25
Al	27	2	45	0.463	ppb	280.6696718	120	15
K	39	2	45	21.588	ppb	51.42159487	21777	50
Ca	44	2	45	4.519	ppb	363.3790006	63	25
V	51	2	72	2.592	ppb	13.15245632	4878	1
Cr	52	2	72	0.042	ppb	68.97466582	317	1
Mn	55	2	72	0.094	ppb	49.65495685	117	0.5
Fe	57	2	72	5.013	ppb	44.51507503	340	25
Co	59	2	72	0.011	ppb	143.0468361	47	0.5
Ni	60	2	72	0.048	ppb	149.2033143	203	1
Cu	63	2	72	0.043	ppb	111.0801091	1543	1
Zn	66	2	72	1.066	ppb	26.45833744	547	5
As	75	2	72	0.027	ppb	101.519033	31	1
Se	78	1	72	-0.028	ppb	-86.69208805	17	1
Nb	93	2	72	0.418	ppb	13.95046638	1740	2
Mo	95	2	115	0.058	ppb	37.02513055	87	0.5
Pd	105	2	115	0.005	ppb	270.8866797	23	1
Ag	107	2	115	-0.001	ppb	-231.0954765	27	1
Cd	111	2	115	0.001	ppb	2473.06914	7	0.5
Sn	120	2	115	0.107	ppb	9.68041273	263	1
Sb	121	2	115	-0.004	ppb	-656.3013194	30	0.6
Ba	137	2	115	0.039	ppb	229.1639338	23	0.5
W	182	2	165	-0.047	ppb	-134.069624	1483	1
Pt	195	2	165	0.016	ppb	41.10743514	70	1
Tl	205	2	165	0.012	ppb	44.70487386	203	0.1
Pb	208	2	165	0.043	ppb	11.35840245	1597	0.5
Th	232	2	165	0.000	ppb	-301.4367348	297	1
U	238	2	165	0.003	ppb	80.55522302	157	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1839891	0.12	1719455	107.00	60	120	
Sc (IS)	45	1	HMI H2	34215589	1.83	32996152	103.70	60	120	
Sc (IS)	45	2	HMI He	999897	1.23	1019192	98.11	60	120	
Sc (IS)	45	3	No Gas	58572832	1.36	56217091	104.19	60	120	
Ge Internal Standard	72	1	HMI H2	14100275	0.34	13920513	101.29	60	120	
Ge Internal Standard	72	2	HMI He	1155222	1.37	1242268	92.99	60	120	
In Internal Standard	115	2	HMI He	3796766	1.61	4043894	93.89	60	120	
Ho-165	165	2	HMI He	18638394	1.14	19631094	94.94	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	047WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:38:54-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.008	ppb	-274.3188549	7	0.5
Na	23	2	45	-6.841	ppb	-69.64611651	25426	25
Mg	24	2	45	3.143	ppb	28.68748827	547	25
Al	27	2	45	1.181	ppb	187.9546616	140	15
K	39	2	45	9.474	ppb	143.5967171	21156	50
Ca	44	2	45	17.139	ppb	65.90320749	103	25
V	51	2	72	2.185	ppb	4.014188257	4404	1
Cr	52	2	72	0.018	ppb	146.4047525	280	1
Mn	55	2	72	0.258	ppb	44.09559556	207	0.5
Fe	57	2	72	6.194	ppb	29.84846016	370	25
Co	59	2	72	0.001	ppb	643.8628492	20	0.5
Ni	60	2	72	0.070	ppb	79.65712256	220	1
Cu	63	2	72	0.070	ppb	113.9150536	1594	1
Zn	66	2	72	1.009	ppb	22.29094369	530	5
As	75	2	72	0.000	ppb	-25661.15463	26	1
Se	78	1	72	0.019	ppb	36.21777672	33	1
Nb	93	2	72	0.345	ppb	19.47580263	1460	2
Mo	95	2	115	0.021	ppb	201.9676926	50	0.5
Pd	105	2	115	-0.005	ppb	-63.03191491	7	1
Ag	107	2	115	0.000	ppb	-1189.659977	30	1
Cd	111	2	115	-0.014	ppb	0	0	0.5
Sn	120	2	115	0.110	ppb	105.0488574	270	1
Sb	121	2	115	0.045	ppb	45.73917851	83	0.6
Ba	137	2	115	0.038	ppb	43.69466703	23	0.5
W	182	2	165	-0.048	ppb	-61.83572081	1464	1
Pt	195	2	165	0.023	ppb	17.74997263	97	1
Tl	205	2	165	0.001	ppb	517.548401	107	0.1
Pb	208	2	165	0.029	ppb	29.6684679	1420	0.5
Th	232	2	165	0.001	ppb	413.4734632	307	1
U	238	2	165	0.003	ppb	88.03627761	153	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1856848	1.38	1719455	107.99	60	120	
Sc (IS)	45	1	HMI H2	33971614	1.41	32996152	102.96	60	120	
Sc (IS)	45	2	HMI He	1002986	0.64	1019192	98.41	60	120	
Sc (IS)	45	3	No Gas	58422974	0.38	56217091	103.92	60	120	
Ge Internal Standard	72	1	HMI H2	14081973	0.18	13920513	101.16	60	120	
Ge Internal Standard	72	2	HMI He	1151614	1.39	1242268	92.70	60	120	
In Internal Standard	115	2	HMI He	3849023	1.17	4043894	95.18	60	120	
Ho-165	165	2	HMI He	18484993	2.40	19631094	94.16	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	048WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:42:41-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	006CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.001	ppb	-2333.330103	10	0.5
Na	23	2	45	-9.496	ppb	-19.9446973	24785	25
Mg	24	2	45	2.251	ppb	31.21481738	443	25
Al	27	2	45	0.205	ppb	396.0303192	113	15
K	39	2	45	25.990	ppb	44.50653683	22094	50
Ca	44	2	45	7.517	ppb	93.09382223	73	25
V	51	2	72	2.258	ppb	11.88466998	4521	1
Cr	52	2	72	-0.008	ppb	-709.0408398	243	1
Mn	55	2	72	0.124	ppb	91.13107717	133	0.5
Fe	57	2	72	10.160	ppb	34.71892062	480	25
Co	59	2	72	0.006	ppb	158.1235636	33	0.5
Ni	60	2	72	0.131	ppb	70.32074268	267	1
Cu	63	2	72	-0.015	ppb	-594.2561182	1433	1
Zn	66	2	72	0.649	ppb	33.46687222	440	5
As	75	2	72	-0.015	ppb	-167.0972566	24	1
Se	78	1	72	-0.032	ppb	-95.16490246	16	1
Nb	93	2	72	0.217	ppb	20.97205867	980	2
Mo	95	2	115	0.044	ppb	44.92933746	73	0.5
Pd	105	2	115	-0.003	ppb	-2.524036369	10	1
Ag	107	2	115	-0.001	ppb	-119.8610067	27	1
Cd	111	2	115	0.001	ppb	4264.661392	7	0.5
Sn	120	2	115	0.156	ppb	36.47131233	323	1
Sb	121	2	115	0.011	ppb	131.5317382	47	0.6
Ba	137	2	115	0.029	ppb	94.04656444	20	0.5
W	182	2	165	-0.047	ppb	-51.28302152	1480	1
Pt	195	2	165	0.014	ppb	33.1675694	60	1
Tl	205	2	165	0.007	ppb	41.33180674	160	0.1
Pb	208	2	165	0.040	ppb	36.14002365	1560	0.5
Th	232	2	165	0.000	ppb	891.1090484	307	1
U	238	2	165	0.003	ppb	105.3635261	153	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1839092	0.89	1719455	106.96	60	120	
Sc (IS)	45	1	HMI H2	34108361	0.75	32996152	103.37	60	120	
Sc (IS)	45	2	HMI He	1003108	1.39	1019192	98.42	60	120	
Sc (IS)	45	3	No Gas	59035447	0.84	56217091	105.01	60	120	
Ge Internal Standard	72	1	HMI H2	14127706	0.31	13920513	101.49	60	120	
Ge Internal Standard	72	2	HMI He	1161539	1.85	1242268	93.50	60	120	
In Internal Standard	115	2	HMI He	3848013	1.46	4043894	95.16	60	120	
Ho-165	165	2	HMI He	18594870	0.79	19631094	94.72	60	120	

Calibration Blank Report

Sample Table

Sample Name	ICIS-5408711
Data File Name	049CALB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:46:29-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	195548	0.00
Li	7	2	HMI He	10741	0.03
Li	7	3	No Gas	7000500	0.00
Be	9	1	HMI H2	20	500.00
B	11	1	HMI H2	497	2.44
Na	23	1	HMI H2	301477	0.00
Na	23	2	HMI He	21840	0.01
Mg	24	2	HMI He	330	3.31
Al	27	2	HMI He	100	36.05
K	39	2	HMI He	21493	0.00
Ca	44	2	HMI He	30	192.45
Ti	47	2	HMI He	3	5196.15
V	51	2	HMI He	4164	0.19
Cr	52	2	HMI He	307	10.76
Mn	55	2	HMI He	93	23.90
Fe	57	2	HMI He	220	7.45
Co	59	2	HMI He	17	549.91
Ni	60	2	HMI He	193	20.43
Cu	63	2	HMI He	1353	0.61
Zn	66	2	HMI He	360	4.08
As	75	2	HMI He	16	159.51
Se	78	1	HMI H2	17	335.05
Sr	88	2	HMI He	10	1000.00
Zr	90	2	HMI He	100	26.46
Nb	93	2	HMI He	883	1.41
Mo	95	2	HMI He	50	105.84
Pd	105	2	HMI He	37	113.62
Ag	107	2	HMI He	43	153.73
Cd	111	2	HMI He	3	5196.15
Sn	120	2	HMI He	250	14.40
Sb	121	2	HMI He	50	105.83
Ba	137	2	HMI He	23	212.09
W	182	2	HMI He	1710	0.15
Pt	195	2	HMI He	20	250.00
Tl	205	2	HMI He	107	33.27
Pb	208	2	HMI He	903	1.35
Th	232	2	HMI He	233	6.45
U	238	2	HMI He	143	27.68

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li-6 Internal Standard	6	1	HMI H2	1841092	0.55
Sc (IS)	45	1	HMI H2	34041789	1.02
Sc (IS)	45	2	HMI He	989699	0.58
Sc (IS)	45	3	No Gas	58466742	0.17
Ge Internal Standard	72	1	HMI H2	14056514	0.53
Ge Internal Standard	72	2	HMI He	1155188	1.63
In Internal Standard	115	2	HMI He	3786036	1.14
Ho-165	165	2	HMI He	18554642	0.54

Calibration Standard Report

Sample Table

Sample Name	IC-5408712
Data File Name	050CALS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:50:16-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	705410	0.00
Li	7	2	HMI He	37364	0.00
Li	7	3	No Gas	25631168	0.00
Be	9	1	HMI H2	47533	0.00
B	11	1	HMI H2	51703	0.00
Na	23	1	HMI H2	39443881	0.00
Na	23	2	HMI He	2487129	0.00
Mg	24	2	HMI He	1126885	0.00
Al	27	2	HMI He	266753	0.00
K	39	1	HMI H2	50662369	0.00
K	39	2	HMI He	581941	0.00
Ca	40	1	HMI H2	59460662	0.00
Ca	44	2	HMI He	30272	0.00
Ti	47	2	HMI He	2800	0.25
V	51	2	HMI He	118643	0.00
Cr	52	2	HMI He	151081	0.00
Mn	55	2	HMI He	55695	0.01
Fe	57	2	HMI He	274758	0.00
Co	59	2	HMI He	260761	0.00
Ni	60	2	HMI He	74556	0.00
Cu	63	2	HMI He	210663	0.00
Zn	66	2	HMI He	26883	0.01
As	75	2	HMI He	18952	0.02
Se	78	1	HMI H2	33718	0.00
Sr	88	2	HMI He	60105	0.00
Zr	90	2	HMI He	1767	0.21
Nb	93	2	HMI He	751617	0.00
Mo	95	2	HMI He	99922	0.00
Pd	105	2	HMI He	155392	0.00
Ag	107	2	HMI He	337632	0.00
Cd	111	2	HMI He	42686	0.01
Sn	120	2	HMI He	111521	0.00
Sb	121	2	HMI He	102369	0.00
Ba	137	2	HMI He	35186	0.00
Nd	146	2	HMI He	126906	0.00
Sm	147	2	HMI He	110339	0.00
Sm	150	2	HMI He	105585	0.00
Gd	156	1	HMI H2	805867	0.00
Gd	157	1	HMI H2	613672	0.00
W	182	2	HMI He	481616	0.00
Pt	195	2	HMI He	400530	0.00
Tl	205	2	HMI He	869850	0.00
Pb	208	2	HMI He	1165258	0.00
Th	232	2	HMI He	1470413	0.00
U	238	2	HMI He	1588462	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1781897	2.18	1841092	96.78	60	120	
Sc (IS)	45	1	HMI H2	33693526	0.75	34041789	98.98	60	120	
Sc (IS)	45	2	HMI He	982662	0.87	989699	99.29	60	120	
Sc (IS)	45	3	No Gas	58142269	1.40	58466742	99.45	60	120	
Ge Internal Standard	72	1	HMI H2	13794436	0.15	14056514	98.14	60	120	
Ge Internal Standard	72	2	HMI He	1139610	1.20	1155188	98.65	60	120	
In Internal Standard	115	2	HMI He	3689896	0.84	3786036	97.46	60	120	
Ho-165	165	2	HMI He	18563154	1.35	18554642	100.05	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	051_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:54:02-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	504.799	ppb	2.683	452627	500	101.0	90	110	
Li	7	2	45	497.277	ppb	9.109	23857	500	99.5	90	110	
Li	7	3	45	506.851	ppb	0.969	16420650	500	101.4	90	110	
Be	9	1	6	50.934	ppb	1.219	24337	50	101.9	90	110	
B	11	1	6	51.773	ppb	1.809	27129	50	103.5	90	110	
Na	23	1	45	5106.003	ppb	0.490	20317981	5000	102.1	90	110	
Na	23	2	45	5235.937	ppb	2.082	1308195	5000	104.7	90	110	
Mg	24	2	45	4857.954	ppb	0.439	545800	5000	97.2	90	110	
Al	27	2	45	5025.260	ppb	0.343	133668	5000	100.5	90	110	
K	39	1	45	5095.032	ppb	2.377	31697565	5000	101.9	90	110	
K	39	2	45	5103.455	ppb	0.491	306468	5000	102.1	90	110	
Ca	40	1	45	5111.074	ppb	1.325	30467783	5000	102.2	90	110	
Ca	44	2	45	5129.153	ppb	2.855	15492	5000	102.6	90	110	
Ti	47	2	45	47.507	ppb	6.746	1327	50	95.0	90	110	
V	51	2	72	51.095	ppb	2.887	62826	50	102.2	90	110	
Cr	52	2	72	49.831	ppb	1.696	75683	50	99.7	90	110	
Mn	55	2	72	50.899	ppb	3.558	28492	50	101.8	90	110	
Fe	57	2	72	5090.587	ppb	0.905	140446	5000	101.8	90	110	
Co	59	2	72	50.570	ppb	1.541	132325	50	101.1	90	110	
Ni	60	2	72	50.825	ppb	2.067	38115	50	101.6	90	110	
Cu	63	2	72	49.811	ppb	1.507	105966	50	99.6	90	110	
Zn	66	2	72	51.180	ppb	3.432	13981	50	102.4	90	110	
As	75	2	72	49.772	ppb	1.731	9472	50	99.5	90	110	
Se	78	1	72	50.132	ppb	1.402	17080	50	100.3	90	110	
Sr	88	2	72	49.963	ppb	1.086	30136	50	99.9	90	110	
Zr	90	2	72	35.909	ppb	13.403	700	50	71.8	90	110	>+\-10%
Nb	93	2	72	100.662	ppb	1.202	379983	100	100.7	90	110	
Mo	95	2	115	49.010	ppb	0.177	50043	50	98.0	90	110	
Pd	105	2	115	51.443	ppb	1.045	81657	50	102.9	90	110	
Ag	107	2	115	48.922	ppb	1.424	168704	50	97.8	90	110	
Cd	111	2	115	48.480	ppb	1.284	21140	50	97.0	90	110	
Sn	120	2	115	50.357	ppb	1.273	57473	50	100.7	90	110	
Sb	121	2	115	49.942	ppb	3.770	52223	50	99.9	90	110	
Ba	137	2	115	46.746	ppb	0.790	16814	50	93.5	90	110	
W	182	2	165	49.136	ppb	3.018	237103	50	98.3	90	110	
Pt	195	2	165	49.794	ppb	1.457	199118	50	99.6	90	110	
Tl	205	2	165	50.042	ppb	0.473	434636	50	100.1	90	110	
Pb	208	2	165	49.896	ppb	1.257	580906	50	99.8	90	110	
Th	232	2	165	46.192	ppb	0.752	678219	50	92.4	90	110	
U	238	2	165	46.560	ppb	0.595	738423	50	93.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1789901	0.80	1841092	97.22	60	120	
Sc (IS)	45	1	HMI H2	33745974	0.84	34041789	99.13	60	120	
Sc (IS)	45	2	HMI He	979517	1.29	989699	98.97	60	120	
Sc (IS)	45	3	No Gas	58125131	0.86	58466742	99.42	60	120	
Ge Internal Standard	72	1	HMI H2	13932079	0.88	14056514	99.11	60	120	
Ge Internal Standard	72	2	HMI He	1143375	1.14	1155188	98.98	60	120	
In Internal Standard	115	2	HMI He	3768797	2.05	3786036	99.54	60	120	
Ho-165	165	2	HMI He	18532401	1.33	18554642	99.88	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	052_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T18:57:48-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	1.949	ppb	171.6	7183426	10	
Be	9	1	6	0.064	ppb	87.0	50	0.5	
B	11	1	6	0.681	ppb	34.0	837	0.5	>RL
Na	23	1	45	9.578	ppb	1.7	341005	25	
Na	23	2	45	6.232	ppb	78.0	23496	25	
Mg	24	2	45	-0.599	ppb	-21.3	263	25	
Al	27	2	45	-0.763	ppb	-78.0	80	15	
K	39	1	45	-18.697	ppb	-121.5	12010721	50	
K	39	2	45	5.825	ppb	253.5	21931	50	
Ca	40	1	45	2.823	ppb	2.4	80039	50	
Ca	44	2	45	7.545	ppb	107.8	53	25	
Ti	47	2	45	0.115	ppb	174.8	7	0.5	
V	51	2	72	0.544	ppb	51.6	4884	1	
Cr	52	2	72	-0.016	ppb	-214.6	287	1	
Mn	55	2	72	0.002	ppb	8283.3	97	0.5	
Fe	57	2	72	0.793	ppb	209.1	247	25	
Co	59	2	72	0.025	ppb	75.5	83	0.5	
Ni	60	2	72	0.034	ppb	303.9	223	1	
Cu	63	2	72	0.088	ppb	22.5	1570	1	
Zn	66	2	72	-0.087	ppb	-189.5	343	5	
As	75	2	72	0.052	ppb	39.3	26	1	
Se	78	1	72	0.034	ppb	18.7	29	1	
Sr	88	2	72	0.026	ppb	141.2	27	0.5	
Zr	90	2	72	-0.506	ppb	-374.5	93	1	
Nb	93	2	72	2.673	ppb	3.2	11272	2	>RL
Mo	95	2	115	0.080	ppb	85.8	133	0.5	
Pd	105	2	115	0.051	ppb	39.8	120	1	
Ag	107	2	115	0.010	ppb	217.7	80	1	
Cd	111	2	115	0.023	ppb	116.1	13	0.5	
Sn	120	2	115	0.052	ppb	86.5	317	1	
Sb	121	2	115	0.483	ppb	15.5	567	0.6	
Ba	137	2	115	-0.028	ppb	-147.3	13	0.5	
W	182	2	165	0.034	ppb	110.6	1887	1	
Pt	195	2	165	0.008	ppb	46.3	53	1	
Tl	205	2	165	0.017	ppb	64.5	253	0.1	
Pb	208	2	165	0.018	ppb	89.8	1127	0.5	
Th	232	2	165	0.036	ppb	20.9	763	1	
U	238	2	165	0.015	ppb	54.1	383	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1797424	0.54	1841092	97.63	60	120	
Sc (IS)	45	1	HMI H2	34205186	0.75	34041789	100.48	60	120	
Sc (IS)	45	2	HMI He	994966	1.79	989699	100.53	60	120	
Sc (IS)	45	3	No Gas	59681329	0.76	58466742	102.08	60	120	
Ge Internal Standard	72	1	HMI H2	14178887	0.50	14056514	100.87	60	120	
Ge Internal Standard	72	2	HMI He	1177813	1.09	1155188	101.96	60	120	
In Internal Standard	115	2	HMI He	3854351	2.20	3786036	101.80	60	120	
Ho-165	165	2	HMI He	18688907	1.29	18554642	100.72	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	053LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:01:36-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	12.174	ppb	21.392	7400212	50	24.3	70	130	>+/-30%
Be	9	1	6	0.907	ppb	12.995	463	1	90.7	70	130	
Na	23	2	45	47.260	ppb	4.505	34000	50	94.5	70	130	
Mg	24	2	45	49.082	ppb	5.786	5972	50	98.2	70	130	
Al	27	2	45	32.069	ppb	5.815	973	30	106.9	70	130	
K	39	2	45	95.113	ppb	16.494	27203	100	95.1	70	130	
Ca	44	2	45	65.647	ppb	23.661	233	50	131.3	70	130	>+/-30%
V	51	2	72	4.951	ppb	8.682	10107	5	99.0	70	130	
Cr	52	2	72	1.987	ppb	9.486	3407	2	99.3	70	130	
Mn	55	2	72	0.838	ppb	5.512	577	1	83.8	70	130	
Fe	57	2	72	49.688	ppb	16.464	1637	50	99.4	70	130	
Co	59	2	72	1.090	ppb	16.506	2954	1	109.0	70	130	
Ni	60	2	72	1.843	ppb	5.933	1613	2	92.1	70	130	
Cu	63	2	72	2.057	ppb	3.133	5838	2	102.9	70	130	
Zn	66	2	72	10.643	ppb	6.209	3287	10	106.4	70	130	
As	75	2	72	5.024	ppb	4.238	1001	5	100.5	70	130	
Se	78	1	72	4.758	ppb	3.415	1672	5	95.2	70	130	
Sr	88	2	72	1.157	ppb	3.329	730	1	115.7	70	130	
Zr	90	2	72	8.937	ppb	75.800	257	0.5	1787.5	70	130	>+/-30%
Nb	93	2	72	6.371	ppb	2.586	25664	2	318.6	70	130	>+/-30%
Mo	95	2	115	1.824	ppb	11.874	1950	2	91.2	70	130	
Pd	105	2	115	0.008	ppb	318.317	50	1	0.8	70	130	>+/-30%
Ag	107	2	115	5.117	ppb	1.884	18052	5	102.3	70	130	
Cd	111	2	115	0.779	ppb	17.334	350	1	77.9	70	130	
Sn	120	2	115	9.655	ppb	1.575	11452	10	96.5	70	130	
Sb	121	2	115	2.244	ppb	7.366	2444	2	112.2	70	130	
Ba	137	2	115	0.972	ppb	13.157	380	1	97.2	70	130	
W	182	2	165	4.831	ppb	3.806	25285	1	483.1	70	130	>+/-30%
Pt	195	2	165	0.022	ppb	29.792	110	1	2.2	70	130	>+/-30%
Tl	205	2	165	0.994	ppb	4.397	8887	1	99.4	70	130	
Pb	208	2	165	1.009	ppb	3.225	12843	1	100.9	70	130	
Th	232	2	165	1.888	ppb	1.677	28415	2	94.4	70	130	
U	238	2	165	0.939	ppb	2.905	15286	1	93.9	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1835165	1.97	1841092	99.68	60	120	
Sc (IS)	45	1	HMI H2	34310045	0.40	34041789	100.79	60	120	
Sc (IS)	45	2	HMI He	1002369	1.18	989699	101.28	60	120	
Sc (IS)	45	3	No Gas	59852384	0.59	58466742	102.37	60	120	
Ge Internal Standard	72	1	HMI H2	14236920	1.27	14056514	101.28	60	120	
Ge Internal Standard	72	2	HMI He	1179313	3.00	1155188	102.09	60	120	
In Internal Standard	115	2	HMI He	3846094	0.83	3786036	101.59	60	120	
Ho-165	165	2	HMI He	18848700	1.11	18554642	101.58	60	120	

Blank Report

Sample Table

Sample Name	mb 280-435126/1-a
Data File Name	054_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:05:24-06:00
Sample Type	Blank
Dilution	1
Comment	435126 200.8
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-1.617	ppb	-160.1370782	196287	0.5
Li	7	2	45	-14.280	ppb	-22.20834818	10434	0.5
Li	7	3	45	0.035	ppb	18363.2262	7113765	10
Be	9	1	6	-0.041	ppb	0	0	0.5
B	11	1	6	0.088	ppb	135.4931985	540	0.5
Na	23	1	45	10.094	ppb	3.337687683	344127	25
Na	23	2	45	8.158	ppb	27.19792379	24047	25
Mg	24	2	45	-0.314	ppb	-325.7196156	297	25
Al	27	2	45	1.704	ppb	139.5959374	147	15
K	39	1	45	356.509	ppb	8.343543756	13529001	50
K	39	2	45	7.968	ppb	167.3986364	22108	50
Ca	40	1	45	11.085	ppb	4.419397672	130249	50
Ca	44	2	45	25.836	ppb	86.72416081	110	25
Ti	47	2	45	-0.118	ppb	0	0	0.5
V	51	2	72	0.329	ppb	50.72194461	4584	1
Cr	52	2	72	0.014	ppb	148.4040211	330	1
Mn	55	2	72	0.045	ppb	112.2089175	120	0.5
Fe	57	2	72	7.167	ppb	21.70564435	423	25
Co	59	2	72	0.001	ppb	330.0612378	20	0.5
Ni	60	2	72	0.117	ppb	66.43324191	283	1
Cu	63	2	72	0.207	ppb	46.59786242	1810	1
Zn	66	2	72	0.959	ppb	24.16708027	623	5
As	75	2	72	0.043	ppb	32.87576762	24	1
Se	78	1	72	0.062	ppb	152.2107045	39	1
Sr	88	2	72	0.048	ppb	115.1115457	40	0.5
Zr	90	2	72	1.317	ppb	224.7610423	123	1
Nb	93	2	72	0.315	ppb	21.51970191	2104	2
Mo	95	2	115	-0.024	ppb	-44.10058886	27	0.5
Pd	105	2	115	0.010	ppb	193.9169156	53	1
Ag	107	2	115	0.002	ppb	603.7758245	50	1
Cd	111	2	115	-0.008	ppb	0	0	0.5
Sn	120	2	115	0.054	ppb	82.15748479	317	1
Sb	121	2	115	0.096	ppb	49.76105998	153	0.6
Ba	137	2	115	0.117	ppb	52.71977041	67	0.5
W	182	2	165	0.007	ppb	287.3551937	1774	1
Pt	195	2	165	0.006	ppb	40.99438863	47	1
Tl	205	2	165	0.001	ppb	354.1111238	117	0.1
Pb	208	2	165	0.075	ppb	14.53890832	1800	0.5
Th	232	2	165	0.006	ppb	61.4071156	333	1
U	238	2	165	-0.002	ppb	-214.2736237	117	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1827678	1.76	1841092	99.27	60	120	
Sc (IS)	45	1	HMI H2	34312656	1.07	34041789	100.80	60	120	
Sc (IS)	45	2	HMI He	997197	0.97	989699	100.76	60	120	
Sc (IS)	45	3	No Gas	59407841	0.40	58466742	101.61	60	120	
Ge Internal Standard	72	1	HMI H2	14091696	0.69	14056514	100.25	60	120	
Ge Internal Standard	72	2	HMI He	1165982	1.02	1155188	100.93	60	120	
In Internal Standard	115	2	HMI He	3853536	2.25	3786036	101.78	60	120	
Ho-165	165	2	HMI He	18862499	1.85	18554642	101.66	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-435126/2-a
Data File Name	055_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:09:18-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	435126 200.8
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	61.202	61.202	ppb	23.354	229793	400	15.3	80	120	>+/-20%
Li	7	2	45	44.888	44.888	ppb	1.413	12019	400	11.2	80	120	>+/-20%
Li	7	3	45	66.224	66.224	ppb	1.389	8372413	400	16.6	80	120	>+/-20%
Be	9	1	6	31.311	31.311	ppb	2.659	15465	40	78.3	80	120	>+/-20%
Na	23	2	45	1.541	1.541	ppb	126.284	22354	40	3.9	80	120	>+/-20%
Mg	24	2	45	0.681	0.681	ppb	123.961	410	40	1.7	80	120	>+/-20%
Al	27	2	45	336.117	336.117	ppb	5.630	9183	40	840.3	80	120	>+/-20%
K	39	2	45	-11.690	-11.690	ppb	-26.782	20959	40	-29.2	80	120	>+/-20%
Ca	44	2	45	170.639	170.639	ppb	6.810	553	40	426.6	80	120	>+/-20%
V	51	2	72	32.603	32.603	ppb	4.160	42076	40	81.5	80	120	
Cr	52	2	72	33.310	33.310	ppb	1.163	51288	40	83.3	80	120	
Mn	55	2	72	32.082	32.082	ppb	1.243	18199	40	80.2	80	120	
Fe	57	2	72	328.081	328.081	ppb	3.869	9363	40	820.2	80	120	>+/-20%
Co	59	2	72	33.876	33.876	ppb	0.056	89677	40	84.7	80	120	
Ni	60	2	72	34.742	34.742	ppb	0.490	26422	40	86.9	80	120	
Cu	63	2	72	33.499	33.499	ppb	0.150	72526	40	83.7	80	120	
Zn	66	2	72	35.096	35.096	ppb	5.596	9807	40	87.7	80	120	
As	75	2	72	30.682	30.682	ppb	1.643	5912	40	76.7	80	120	>+/-20%
Se	78	1	72	32.901	32.901	ppb	0.429	11465	40	82.3	80	120	
Nb	93	2	72	0.210	0.210	ppb	26.128	1684	40	0.5	80	120	>+/-20%
Mo	95	2	115	30.152	30.152	ppb	2.808	31376	40	75.4	80	120	>+/-20%
Pd	105	2	115	-0.004	-0.004	ppb	-528.107	30	40	0.0	80	120	>+/-20%
Ag	107	2	115	33.745	33.745	ppb	2.223	118541	40	84.4	80	120	
Cd	111	2	115	32.173	32.173	ppb	2.608	14285	40	80.4	80	120	
Sn	120	2	115	32.439	32.439	ppb	1.926	37799	40	81.1	80	120	
Sb	121	2	115	32.795	32.795	ppb	2.778	34945	40	82.0	80	120	
Ba	137	2	115	33.834	33.834	ppb	2.866	12396	40	84.6	80	120	
W	182	2	165	8.489	8.489	ppb	0.641	42964	40	21.2	80	120	>+/-20%
Pt	195	2	165	0.001	0.001	ppb	378.469	23	40	0.0	80	120	>+/-20%
Tl	205	2	165	32.837	32.837	ppb	1.738	289134	40	82.1	80	120	
Pb	208	2	165	32.764	32.764	ppb	1.712	386987	40	81.9	80	120	
Th	232	2	165	29.685	29.685	ppb	1.732	441903	40	74.2	80	120	>+/-20%
U	238	2	165	29.997	29.997	ppb	1.796	482285	40	75.0	80	120	>+/-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1849688	2.72	1841092	100.47	60	120	
Sc (IS)	45	1	HMI H2	34439789	1.88	34041789	101.17	60	120	
Sc (IS)	45	2	HMI He	995637	0.97	989699	100.60	60	120	
Sc (IS)	45	3	No Gas	59378042	0.77	58466742	101.56	60	120	
Ge Internal Standard	72	1	HMI H2	14241101	0.82	14056514	101.31	60	120	
Ge Internal Standard	72	2	HMI He	1156631	0.68	1155188	100.12	60	120	
In Internal Standard	115	2	HMI He	3839497	3.18	3786036	101.41	60	120	
Ho-165	165	2	HMI He	18784843	0.27	18554642	101.24	60	120	

Sample Report

Sample Table

Sample Name	280-115997-b-1-g
Data File Name	056SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:13:08-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435126 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	12.121	ppb	12.121	46.99	196220	500000	
Li	7	2	45	8.030	ppb	8.030	258.09	10608	500000	
Li	7	3	45	14.651	ppb	14.651	10.69	7005184	50000	
Be	9	1	6	0.002	ppb	0.002	952.00	20	2000	
B	11	1	6	56.701	ppb	56.701	1.11	29006	2000	
Na	23	1	45	52851.792	ppb	52851.792	0.55	203507817	2000	>LDR
Na	23	2	45	50968.396	ppb	50968.396	0.77	12270008	400000	
Mg	24	2	45	20287.283	ppb	20287.283	1.54	2227791	400000	
Al	27	2	45	14.344	ppb	14.344	17.37	470	400000	
K	39	1	45	2738.467	ppb	2738.467	0.68	22116341	400000	
K	39	2	45	2452.656	ppb	2452.656	1.45	154818	400000	
Ca	40	1	45	76228.778	ppb	76228.778	0.65	444795860	400000	
Ca	44	2	45	76690.648	ppb	76690.648	0.49	226144	400000	
Ti	47	2	45	-0.118	ppb	-0.118	0.00	0	4000	
V	51	2	72	0.044	ppb	0.044	335.12	4101	2000	
Cr	52	2	72	0.026	ppb	0.026	76.59	337	5000	
Mn	55	2	72	17.412	ppb	17.412	2.19	9644	10000	
Fe	57	2	72	72.954	ppb	72.954	13.72	2190	400000	
Co	59	2	72	0.095	ppb	0.095	32.27	260	2000	
Ni	60	2	72	0.680	ppb	0.680	8.02	687	5000	
Cu	63	2	72	0.684	ppb	0.684	3.55	2730	5000	
Zn	66	2	72	1.719	ppb	1.719	26.04	800	5000	
As	75	2	72	0.349	ppb	0.349	16.16	80	2000	
Se	78	1	72	1.556	ppb	1.556	6.40	543	2000	
Sr	88	2	72	563.560	ppb	563.560	0.74	334204	4000	
Zr	90	2	72	106.075	ppb	106.075	14.71	1844	1000	
Nb	93	2	72	0.154	ppb	0.154	49.35	1430	200	
Mo	95	2	115	1.619	ppb	1.619	11.55	1664	2000	
Pd	105	2	115	0.007	ppb	0.007	190.15	47	100	
Ag	107	2	115	-0.005	ppb	-0.005	-133.62	27	100	
Cd	111	2	115	-0.008	ppb	-0.008	0.00	0	2000	
Sn	120	2	115	0.113	ppb	0.113	27.99	370	2000	
Sb	121	2	115	0.210	ppb	0.210	10.98	263	1000	
Ba	137	2	115	58.004	ppb	58.004	2.44	20389	5000	
W	182	2	165	0.022	ppb	0.022	87.40	1807	100	
Pt	195	2	165	-0.001	ppb	-0.001	-646.05	17	100	
Tl	205	2	165	0.021	ppb	0.021	38.39	283	2000	
Pb	208	2	165	0.079	ppb	0.079	15.22	1817	5000	
Th	232	2	165	0.113	ppb	0.113	13.89	1877	2000	
U	238	2	165	7.316	ppb	7.316	2.45	115596	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1749916	1.92	1841092	95.05	60	120	
Sc (IS)	45	1	HMI H2	33093244	0.38	34041789	97.21	60	120	
Sc (IS)	45	2	HMI He	957897	1.30	989699	96.79	60	120	
Sc (IS)	45	3	No Gas	56293701	0.17	58466742	96.28	60	120	
Ge Internal Standard	72	1	HMI H2	13820590	1.22	14056514	98.32	60	120	
Ge Internal Standard	72	2	HMI He	1124553	0.29	1155188	97.35	60	120	
In Internal Standard	115	2	HMI He	3684373	0.77	3786036	97.31	60	120	
Ho-165	165	2	HMI He	18448139	1.69	18554642	99.43	60	120	

Sample Report

Sample Table

Sample Name	280-115997-b-1-h ms
Data File Name	057SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:17:00-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435126 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	77.493	ppb	77.493	4.27	227115	500000	
Li	7	2	45	77.864	ppb	77.864	24.64	12326	500000	
Li	7	3	45	89.086	ppb	89.086	1.43	8207428	50000	
Be	9	1	6	33.547	ppb	33.547	0.24	15635	2000	
B	11	1	6	81.552	ppb	81.552	2.67	41395	2000	
Na	23	1	45	54442.420	ppb	54442.420	1.63	207812764	2000	>LDR
Na	23	2	45	53371.921	ppb	53371.921	0.62	12747639	400000	
Mg	24	2	45	21210.508	ppb	21210.508	0.84	2311239	400000	
Al	27	2	45	363.625	ppb	363.625	0.89	9473	400000	
K	39	1	45	2962.908	ppb	2962.908	1.48	22773260	400000	
K	39	2	45	2582.197	ppb	2582.197	1.82	160654	400000	
Ca	40	1	45	79379.121	ppb	79379.121	1.13	459195700	400000	
Ca	44	2	45	80501.517	ppb	80501.517	0.57	235511	400000	
Ti	47	2	45	1.358	ppb	1.358	107.98	40	4000	
V	51	2	72	34.386	ppb	34.386	3.72	42583	2000	
Cr	52	2	72	33.693	ppb	33.693	2.12	50037	5000	
Mn	55	2	72	51.371	ppb	51.371	1.44	28065	10000	
Fe	57	2	72	417.223	ppb	417.223	2.43	11432	400000	
Co	59	2	72	32.744	ppb	32.744	1.78	83634	2000	
Ni	60	2	72	32.764	ppb	32.764	3.95	24051	5000	
Cu	63	2	72	32.991	ppb	32.991	3.71	68939	5000	
Zn	66	2	72	33.594	ppb	33.594	4.75	9070	5000	
As	75	2	72	32.610	ppb	32.610	0.52	6061	2000	
Se	78	1	72	34.318	ppb	34.318	0.94	11402	2000	
Sr	88	2	72	625.190	ppb	625.190	0.91	367881	4000	
Zr	90	2	72	3289.940	ppb	3289.940	2.63	53810	1000	
Nb	93	2	72	0.219	ppb	0.219	32.90	1660	200	
Mo	95	2	115	33.655	ppb	33.655	3.53	33534	2000	
Pd	105	2	115	0.020	ppb	0.020	133.64	67	100	
Ag	107	2	115	33.596	ppb	33.596	1.76	113053	100	
Cd	111	2	115	31.468	ppb	31.468	5.11	13387	2000	
Sn	120	2	115	33.908	ppb	33.908	2.33	37843	2000	
Sb	121	2	115	34.899	ppb	34.899	0.30	35630	1000	
Ba	137	2	115	93.491	ppb	93.491	1.07	32783	5000	
W	182	2	165	8.757	ppb	8.757	1.13	43375	100	
Pt	195	2	165	0.001	ppb	0.001	754.29	23	100	
Tl	205	2	165	32.714	ppb	32.714	0.95	282249	2000	
Pb	208	2	165	32.568	ppb	32.568	1.36	376962	5000	
Th	232	2	165	30.312	ppb	30.312	0.53	442146	2000	
U	238	2	165	39.177	ppb	39.177	0.09	617170	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1745186	1.68	1841092	94.79	60	120	
Sc (IS)	45	1	HMI H2	32810047	0.72	34041789	96.38	60	120	
Sc (IS)	45	2	HMI He	950370	0.95	989699	96.03	60	120	
Sc (IS)	45	3	No Gas	55326544	0.44	58466742	94.63	60	120	
Ge Internal Standard	72	1	HMI H2	13579455	0.78	14056514	96.61	60	120	
Ge Internal Standard	72	2	HMI He	1115966	1.56	1155188	96.60	60	120	
In Internal Standard	115	2	HMI He	3677111	1.41	3786036	97.12	60	120	
Ho-165	165	2	HMI He	18406833	0.97	18554642	99.20	60	120	

Sample Report

Sample Table

Sample Name	280-115997-b-1-i msd
Data File Name	058SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:20:47-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435126 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	74.683	ppb	74.683	4.49	224761	500000	
Li	7	2	45	72.252	ppb	72.252	20.16	12189	500000	
Li	7	3	45	83.475	ppb	83.475	7.08	8087208	50000	
Be	9	1	6	33.471	ppb	33.471	3.42	15495	2000	
B	11	1	6	79.475	ppb	79.475	0.66	40082	2000	
Na	23	1	45	52404.953	ppb	52404.953	2.10	199201437	2000	>LDR
Na	23	2	45	50801.901	ppb	50801.901	0.99	12144046	400000	
Mg	24	2	45	20202.747	ppb	20202.747	0.27	2203118	400000	
Al	27	2	45	351.345	ppb	351.345	6.31	9167	400000	
K	39	1	45	2912.146	ppb	2912.146	2.57	22486035	400000	
K	39	2	45	2445.345	ppb	2445.345	0.77	153345	400000	
Ca	40	1	45	75466.728	ppb	75466.728	0.89	434724780	400000	
Ca	44	2	45	76293.938	ppb	76293.938	0.51	223383	400000	
Ti	47	2	45	3.217	ppb	3.217	61.71	90	4000	
V	51	2	72	33.504	ppb	33.504	1.64	41377	2000	
Cr	52	2	72	32.666	ppb	32.666	2.71	48261	5000	
Mn	55	2	72	49.752	ppb	49.752	1.26	27033	10000	
Fe	57	2	72	397.736	ppb	397.736	0.69	10848	400000	
Co	59	2	72	32.651	ppb	32.651	1.00	82951	2000	
Ni	60	2	72	31.945	ppb	31.945	2.36	23330	5000	
Cu	63	2	72	32.049	ppb	32.049	2.24	66652	5000	
Zn	66	2	72	34.481	ppb	34.481	2.82	9257	5000	
As	75	2	72	32.553	ppb	32.553	0.68	6019	2000	
Se	78	1	72	33.378	ppb	33.378	3.23	11048	2000	
Sr	88	2	72	593.629	ppb	593.629	1.03	347509	4000	
Zr	90	2	72	3213.355	ppb	3213.355	2.33	52287	1000	
Nb	93	2	72	0.071	ppb	0.071	65.99	1107	200	
Mo	95	2	115	32.818	ppb	32.818	1.70	32341	2000	
Pd	105	2	115	0.001	ppb	0.001	1522.19	37	100	
Ag	107	2	115	33.331	ppb	33.331	1.19	110920	100	
Cd	111	2	115	31.305	ppb	31.305	6.93	13174	2000	
Sn	120	2	115	33.261	ppb	33.261	1.67	36706	2000	
Sb	121	2	115	34.354	ppb	34.354	2.86	34681	1000	
Ba	137	2	115	90.715	ppb	90.715	1.99	31450	5000	
W	182	2	165	8.783	ppb	8.783	1.47	43388	100	
Pt	195	2	165	0.002	ppb	0.002	450.35	27	100	
Tl	205	2	165	32.082	ppb	32.082	1.65	276098	2000	
Pb	208	2	165	32.043	ppb	32.043	1.54	369931	5000	
Th	232	2	165	29.433	ppb	29.433	1.05	428238	2000	
U	238	2	165	37.795	ppb	37.795	0.47	593895	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1733566	1.48	1841092	94.16	60	120	
Sc (IS)	45	1	HMI H2	32671207	0.63	34041789	95.97	60	120	
Sc (IS)	45	2	HMI He	951146	0.79	989699	96.10	60	120	
Sc (IS)	45	3	No Gas	55189036	0.71	58466742	94.39	60	120	
Ge Internal Standard	72	1	HMI H2	13528024	0.11	14056514	96.24	60	120	
Ge Internal Standard	72	2	HMI He	1110016	1.25	1155188	96.09	60	120	
In Internal Standard	115	2	HMI He	3635938	1.17	3786036	96.04	60	120	
Ho-165	165	2	HMI He	18360449	0.60	18554642	98.95	60	120	

Sample Report

Sample Table

Sample Name	280-115997-b-2-c
Data File Name	059SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:24:34-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435126 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	12.659	ppb	12.659	46.94	194853	500000	
Li	7	2	45	-1.926	ppb	-1.926	-643.20	10304	500000	
Li	7	3	45	23.810	ppb	23.810	23.48	7054472	50000	
Be	9	1	6	0.024	ppb	0.024	154.81	30	2000	
B	11	1	6	54.500	ppb	54.500	3.04	27750	2000	
Na	23	1	45	51248.350	ppb	51248.350	1.37	195704810	2000	>LDR
Na	23	2	45	49911.630	ppb	49911.630	0.99	11965489	400000	
Mg	24	2	45	21198.271	ppb	21198.271	0.21	2318355	400000	
Al	27	2	45	12.762	ppb	12.762	8.59	427	400000	
K	39	1	45	2815.523	ppb	2815.523	2.79	22223524	400000	
K	39	2	45	2559.925	ppb	2559.925	1.31	160015	400000	
Ca	40	1	45	79029.727	ppb	79029.727	0.75	457338433	400000	
Ca	44	2	45	79939.639	ppb	79939.639	0.50	234725	400000	
Ti	47	2	45	0.865	ppb	0.865	24.85	27	4000	
V	51	2	72	-0.180	ppb	-0.180	-145.27	3804	2000	
Cr	52	2	72	0.094	ppb	0.094	22.68	433	5000	
Mn	55	2	72	41.540	ppb	41.540	2.19	22629	10000	
Fe	57	2	72	99.175	ppb	99.175	10.37	2870	400000	
Co	59	2	72	0.079	ppb	0.079	16.26	217	2000	
Ni	60	2	72	0.580	ppb	0.580	30.58	607	5000	
Cu	63	2	72	0.711	ppb	0.711	8.53	2757	5000	
Zn	66	2	72	2.113	ppb	2.113	24.64	893	5000	
As	75	2	72	0.268	ppb	0.268	13.46	65	2000	
Se	78	1	72	1.537	ppb	1.537	11.35	525	2000	
Sr	88	2	72	603.263	ppb	603.263	1.04	353833	4000	
Zr	90	2	72	68.437	ppb	68.437	14.21	1210	1000	
Nb	93	2	72	0.022	ppb	0.022	89.79	930	200	
Mo	95	2	115	1.878	ppb	1.878	3.53	1910	2000	
Pd	105	2	115	0.016	ppb	0.016	146.75	60	100	
Ag	107	2	115	0.003	ppb	0.003	183.94	53	100	
Cd	111	2	115	0.032	ppb	0.032	41.72	17	2000	
Sn	120	2	115	0.061	ppb	0.061	48.02	310	2000	
Sb	121	2	115	0.077	ppb	0.077	47.16	127	1000	
Ba	137	2	115	63.972	ppb	63.972	1.22	22343	5000	
W	182	2	165	0.078	ppb	0.078	40.03	2060	100	
Pt	195	2	165	0.002	ppb	0.002	303.79	27	100	
Tl	205	2	165	0.017	ppb	0.017	31.83	253	2000	
Pb	208	2	165	0.082	ppb	0.082	13.38	1840	5000	
Th	232	2	165	0.083	ppb	0.083	4.85	1443	2000	
U	238	2	165	6.904	ppb	6.904	1.18	108566	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1741163	1.02	1841092	94.57	60	120	
Sc (IS)	45	1	HMI H2	32822221	1.30	34041789	96.42	60	120	
Sc (IS)	45	2	HMI He	953888	1.38	989699	96.38	60	120	
Sc (IS)	45	3	No Gas	55383961	0.63	58466742	94.73	60	120	
Ge Internal Standard	72	1	HMI H2	13546681	0.14	14056514	96.37	60	120	
Ge Internal Standard	72	2	HMI He	1112213	0.91	1155188	96.28	60	120	
In Internal Standard	115	2	HMI He	3661499	1.50	3786036	96.71	60	120	
Ho-165	165	2	HMI He	18353967	0.15	18554642	98.92	60	120	

Sample Report

Sample Table

Sample Name	280-115997-b-3-c
Data File Name	060SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:28:20-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435126 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	14.825	ppb	14.825	6.50	194994	500000	
Li	7	2	45	2.032	ppb	2.032	410.35	10381	500000	
Li	7	3	45	15.582	ppb	15.582	9.75	6997638	50000	
Be	9	1	6	-0.033	ppb	-0.033	-37.55	3	2000	
B	11	1	6	54.143	ppb	54.143	1.44	27506	2000	
Na	23	1	45	49785.175	ppb	49785.175	0.70	189211771	2000	>LDR
Na	23	2	45	49110.282	ppb	49110.282	0.95	11749534	400000	
Mg	24	2	45	21138.728	ppb	21138.728	1.43	2306846	400000	
Al	27	2	45	15.369	ppb	15.369	26.40	493	400000	
K	39	1	45	2717.674	ppb	2717.674	1.39	21748878	400000	
K	39	2	45	2514.507	ppb	2514.507	1.32	157213	400000	
Ca	40	1	45	77145.160	ppb	77145.160	0.28	444263327	400000	
Ca	44	2	45	78549.982	ppb	78549.982	0.98	230160	400000	
Ti	47	2	45	1.607	ppb	1.607	27.15	47	4000	
V	51	2	72	-0.341	ppb	-0.341	-81.04	3634	2000	
Cr	52	2	72	0.184	ppb	0.184	43.78	567	5000	
Mn	55	2	72	39.904	ppb	39.904	1.87	21797	10000	
Fe	57	2	72	109.526	ppb	109.526	4.18	3154	400000	
Co	59	2	72	0.107	ppb	0.107	3.99	290	2000	
Ni	60	2	72	0.482	ppb	0.482	24.57	537	5000	
Cu	63	2	72	0.659	ppb	0.659	6.73	2657	5000	
Zn	66	2	72	3.055	ppb	3.055	12.55	1140	5000	
As	75	2	72	0.433	ppb	0.433	19.98	95	2000	
Se	78	1	72	1.714	ppb	1.714	9.19	577	2000	
Sr	88	2	72	595.830	ppb	595.830	0.82	350328	4000	
Zr	90	2	72	33.747	ppb	33.747	18.58	647	1000	
Nb	93	2	72	0.027	ppb	0.027	101.02	950	200	
Mo	95	2	115	1.707	ppb	1.707	4.38	1744	2000	
Pd	105	2	115	0.016	ppb	0.016	217.59	60	100	
Ag	107	2	115	0.003	ppb	0.003	422.30	53	100	
Cd	111	2	115	0.008	ppb	0.008	341.39	7	2000	
Sn	120	2	115	0.085	ppb	0.085	75.07	337	2000	
Sb	121	2	115	0.123	ppb	0.123	55.75	173	1000	
Ba	137	2	115	62.641	ppb	62.641	0.58	21922	5000	
W	182	2	165	0.051	ppb	0.051	119.15	1920	100	
Pt	195	2	165	-0.004	ppb	-0.004	-34.98	3	100	
Tl	205	2	165	0.010	ppb	0.010	40.99	193	2000	
Pb	208	2	165	0.100	ppb	0.100	17.95	2037	5000	
Th	232	2	165	0.040	ppb	0.040	23.78	803	2000	
U	238	2	165	6.866	ppb	6.866	0.78	107246	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1736698	0.48	1841092	94.33	60	120	
Sc (IS)	45	1	HMI H2	32660687	0.24	34041789	95.94	60	120	
Sc (IS)	45	2	HMI He	951816	0.51	989699	96.17	60	120	
Sc (IS)	45	3	No Gas	56099942	1.15	58466742	95.95	60	120	
Ge Internal Standard	72	1	HMI H2	13391432	0.23	14056514	95.27	60	120	
Ge Internal Standard	72	2	HMI He	1114958	1.00	1155188	96.52	60	120	
In Internal Standard	115	2	HMI He	3668331	0.88	3786036	96.89	60	120	
Ho-165	165	2	HMI He	18231226	0.99	18554642	98.26	60	120	

Sample Report

Sample Table

Sample Name	280-115997-b-4-c
Data File Name	061SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:32:08-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435126 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	17.073	ppb	17.073	51.46	193325	500000	
Li	7	2	45	12.330	ppb	12.330	80.82	10628	500000	
Li	7	3	45	18.988	ppb	18.988	22.32	6986214	50000	
Be	9	1	6	-0.041	ppb	-0.041	0.00	0	2000	
B	11	1	6	48.087	ppb	48.087	3.40	24364	2000	
Na	23	1	45	46556.704	ppb	46556.704	1.58	174454337	2000	>LDR
Na	23	2	45	45372.348	ppb	45372.348	0.75	10836469	400000	
Mg	24	2	45	18980.798	ppb	18980.798	2.30	2067260	400000	
Al	27	2	45	15.326	ppb	15.326	32.43	490	400000	
K	39	1	45	3185.241	ppb	3185.241	2.18	23174224	400000	
K	39	2	45	2712.442	ppb	2712.442	2.62	167627	400000	
Ca	40	1	45	75735.035	ppb	75735.035	2.02	429964287	400000	
Ca	44	2	45	74835.783	ppb	74835.783	0.83	218878	400000	
Ti	47	2	45	0.617	ppb	0.617	101.77	20	4000	
V	51	2	72	-0.369	ppb	-0.369	-61.21	3577	2000	
Cr	52	2	72	0.171	ppb	0.171	24.69	543	5000	
Mn	55	2	72	46.179	ppb	46.179	0.24	25036	10000	
Fe	57	2	72	72.279	ppb	72.279	9.06	2140	400000	
Co	59	2	72	0.074	ppb	0.074	46.16	203	2000	
Ni	60	2	72	0.560	ppb	0.560	14.49	590	5000	
Cu	63	2	72	0.654	ppb	0.654	13.87	2630	5000	
Zn	66	2	72	0.680	ppb	0.680	49.58	520	5000	
As	75	2	72	0.316	ppb	0.316	14.73	73	2000	
Se	78	1	72	1.902	ppb	1.902	8.36	635	2000	
Sr	88	2	72	567.415	ppb	567.415	0.49	331309	4000	
Zr	90	2	72	20.175	ppb	20.175	21.90	423	1000	
Nb	93	2	72	-0.020	ppb	-0.020	-127.81	773	200	
Mo	95	2	115	1.543	ppb	1.543	11.01	1577	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-339.28	30	100	
Ag	107	2	115	0.002	ppb	0.002	323.41	50	100	
Cd	111	2	115	-0.008	ppb	-0.008	0.00	0	2000	
Sn	120	2	115	0.022	ppb	0.022	72.87	267	2000	
Sb	121	2	115	0.097	ppb	0.097	61.34	147	1000	
Ba	137	2	115	67.084	ppb	67.084	1.58	23448	5000	
W	182	2	165	0.041	ppb	0.041	53.05	1884	100	
Pt	195	2	165	0.000	ppb	0.000	20997.43	20	100	
Tl	205	2	165	0.009	ppb	0.009	74.11	180	2000	
Pb	208	2	165	0.078	ppb	0.078	13.68	1783	5000	
Th	232	2	165	0.031	ppb	0.031	27.79	677	2000	
U	238	2	165	5.223	ppb	5.223	2.25	82011	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1728514	1.04	1841092	93.89	60	120	
Sc (IS)	45	1	HMI H2	32202959	1.32	34041789	94.60	60	120	
Sc (IS)	45	2	HMI He	950118	1.32	989699	96.00	60	120	
Sc (IS)	45	3	No Gas	55521426	0.61	58466742	94.96	60	120	
Ge Internal Standard	72	1	HMI H2	13304485	0.89	14056514	94.65	60	120	
Ge Internal Standard	72	2	HMI He	1107222	1.24	1155188	95.85	60	120	
In Internal Standard	115	2	HMI He	3663864	1.50	3786036	96.77	60	120	
Ho-165	165	2	HMI He	18321535	0.97	18554642	98.74	60	120	

Sample Report

Sample Table

Sample Name	280-115984-g-1-a
Data File Name	062SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:35:55-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435126 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	2.904	ppb	2.904	15.61	184958	500000	
Li	7	2	45	4.314	ppb	4.314	195.76	10397	500000	
Li	7	3	45	9.913	ppb	9.913	35.50	6756714	50000	
Be	9	1	6	0.039	ppb	0.039	114.99	37	2000	
B	11	1	6	29.426	ppb	29.426	5.03	15128	2000	
Na	23	1	45	14738.905	ppb	14738.905	0.77	54993743	2000	>LDR
Na	23	2	45	14415.481	ppb	14415.481	0.84	3450031	400000	
Mg	24	2	45	5973.280	ppb	5973.280	0.89	649482	400000	
Al	27	2	45	740.877	ppb	740.877	0.35	19157	400000	
K	39	1	45	3299.867	ppb	3299.867	2.16	23414510	400000	
K	39	2	45	2778.233	ppb	2778.233	0.06	170866	400000	
Ca	40	1	45	19178.649	ppb	19178.649	0.12	108083652	400000	
Ca	44	2	45	18941.900	ppb	18941.900	0.96	55302	400000	
Ti	47	2	45	7.308	ppb	7.308	15.08	200	4000	
V	51	2	72	4.178	ppb	4.178	12.60	8683	2000	
Cr	52	2	72	0.806	ppb	0.806	23.10	1483	5000	
Mn	55	2	72	24.353	ppb	24.353	2.39	13310	10000	
Fe	57	2	72	770.832	ppb	770.832	4.68	20883	400000	
Co	59	2	72	0.386	ppb	0.386	9.68	1000	2000	
Ni	60	2	72	2.255	ppb	2.255	3.93	1824	5000	
Cu	63	2	72	4.546	ppb	4.546	7.75	10591	5000	
Zn	66	2	72	17.977	ppb	17.977	4.98	5004	5000	
As	75	2	72	0.973	ppb	0.973	15.16	195	2000	
Se	78	1	72	0.330	ppb	0.330	18.92	123	2000	
Sr	88	2	72	97.664	ppb	97.664	2.62	57304	4000	
Zr	90	2	72	55.260	ppb	55.260	10.01	997	1000	
Nb	93	2	72	-0.014	ppb	-0.014	-288.55	800	200	
Mo	95	2	115	21.116	ppb	21.116	1.99	21224	2000	
Pd	105	2	115	-0.019	ppb	-0.019	-39.46	7	100	
Ag	107	2	115	0.001	ppb	0.001	818.95	47	100	
Cd	111	2	115	0.055	ppb	0.055	98.78	27	2000	
Sn	120	2	115	0.171	ppb	0.171	36.25	437	2000	
Sb	121	2	115	0.193	ppb	0.193	7.61	247	1000	
Ba	137	2	115	48.908	ppb	48.908	2.40	17292	5000	
W	182	2	165	0.098	ppb	0.098	58.81	2154	100	
Pt	195	2	165	0.004	ppb	0.004	65.32	37	100	
Tl	205	2	165	0.010	ppb	0.010	77.89	193	2000	
Pb	208	2	165	0.976	ppb	0.976	3.63	12126	5000	
Th	232	2	165	0.127	ppb	0.127	12.77	2070	2000	
U	238	2	165	0.218	ppb	0.218	11.26	3561	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1733214	1.05	1841092	94.14	60	120	
Sc (IS)	45	1	HMI H2	31948933	0.10	34041789	93.85	60	120	
Sc (IS)	45	2	HMI He	948124	1.77	989699	95.80	60	120	
Sc (IS)	45	3	No Gas	54971441	0.87	58466742	94.02	60	120	
Ge Internal Standard	72	1	HMI H2	13211038	0.41	14056514	93.99	60	120	
Ge Internal Standard	72	2	HMI He	1112697	1.13	1155188	96.32	60	120	
In Internal Standard	115	2	HMI He	3704931	0.33	3786036	97.86	60	120	
Ho-165	165	2	HMI He	18344483	1.42	18554642	98.87	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	063_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:39:42-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	524.140	ppb	1.856	438242	500	104.8	90	110	
Li	7	2	45	521.926	ppb	5.190	23860	500	104.4	90	110	
Li	7	3	45	526.985	ppb	0.896	15858749	500	105.4	90	110	
Be	9	1	6	48.665	ppb	0.843	22775	50	97.3	90	110	
B	11	1	6	51.130	ppb	1.152	26247	50	102.3	90	110	
Na	23	1	45	5285.084	ppb	0.518	19914251	5000	105.7	90	110	
Na	23	2	45	5346.769	ppb	0.990	1299742	5000	106.9	90	110	
Mg	24	2	45	4954.043	ppb	0.878	541658	5000	99.1	90	110	
Al	27	2	45	5174.743	ppb	0.213	133950	5000	103.5	90	110	
K	39	1	45	5281.247	ppb	1.594	30715146	5000	105.6	90	110	
K	39	2	45	5108.033	ppb	1.102	298495	5000	102.2	90	110	
Ca	40	1	45	5161.910	ppb	0.801	29151807	5000	103.2	90	110	
Ca	44	2	45	5183.541	ppb	7.427	15242	5000	103.7	90	110	
Ti	47	2	45	47.427	ppb	17.106	1290	50	94.9	90	110	
V	51	2	72	49.537	ppb	2.729	59060	50	99.1	90	110	
Cr	52	2	72	50.232	ppb	2.127	73818	50	100.5	90	110	
Mn	55	2	72	51.005	ppb	1.319	27617	50	102.0	90	110	
Fe	57	2	72	5124.544	ppb	0.493	136791	5000	102.5	90	110	
Co	59	2	72	49.927	ppb	1.866	126391	50	99.9	90	110	
Ni	60	2	72	49.969	ppb	3.522	36270	50	99.9	90	110	
Cu	63	2	72	48.657	ppb	1.486	100163	50	97.3	90	110	
Zn	66	2	72	49.635	ppb	0.715	13127	50	99.3	90	110	
As	75	2	72	49.473	ppb	3.749	9107	50	98.9	90	110	
Se	78	1	72	49.562	ppb	1.470	15992	50	99.1	90	110	
Sr	88	2	72	51.194	ppb	4.082	29870	50	102.4	90	110	
Zr	90	2	72	141.700	ppb	5.079	2390	50	283.4	90	110	>+\-10%
Nb	93	2	72	92.581	ppb	0.482	338210	100	92.6	90	110	
Mo	95	2	115	48.467	ppb	0.363	48457	50	96.9	90	110	
Pd	105	2	115	51.304	ppb	2.166	79727	50	102.6	90	110	
Ag	107	2	115	48.327	ppb	1.000	163186	50	96.7	90	110	
Cd	111	2	115	47.895	ppb	1.577	20446	50	95.8	90	110	
Sn	120	2	115	50.156	ppb	0.549	56057	50	100.3	90	110	
Sb	121	2	115	49.911	ppb	2.194	51121	50	99.8	90	110	
Ba	137	2	115	47.263	ppb	4.068	16638	50	94.5	90	110	
W	182	2	165	48.639	ppb	0.676	234472	50	97.3	90	110	
Pt	195	2	165	48.901	ppb	1.065	195319	50	97.8	90	110	
Tl	205	2	165	49.753	ppb	1.209	431586	50	99.5	90	110	
Pb	208	2	165	49.640	ppb	1.556	577221	50	99.3	90	110	
Th	232	2	165	46.046	ppb	0.976	675260	50	92.1	90	110	
U	238	2	165	46.244	ppb	0.847	732509	50	92.5	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1753017	0.67	1841092	95.22	60	120	
Sc (IS)	45	1	HMI H2	31970348	0.87	34041789	93.92	60	120	
Sc (IS)	45	2	HMI He	953225	0.75	989699	96.31	60	120	
Sc (IS)	45	3	No Gas	54879346	0.43	58466742	93.86	60	120	
Ge Internal Standard	72	1	HMI H2	13192459	1.04	14056514	93.85	60	120	
Ge Internal Standard	72	2	HMI He	1106269	0.92	1155188	95.77	60	120	
In Internal Standard	115	2	HMI He	3690028	1.46	3786036	97.46	60	120	
Ho-165	165	2	HMI He	18509386	0.74	18554642	99.76	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	064_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:43:32-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	9.295	ppb	52.5	6878557	10	
Be	9	1	6	-0.019	ppb	-110.4	10	0.5	
B	11	1	6	0.815	ppb	52.9	900	0.5	>RL
Na	23	1	45	15.723	ppb	5.8	346628	25	
Na	23	2	45	6.789	ppb	54.5	22695	25	
Mg	24	2	45	0.746	ppb	5.2	400	25	
Al	27	2	45	0.387	ppb	394.8	107	15	
K	39	1	45	13.223	ppb	268.1	11512221	50	
K	39	2	45	-4.143	ppb	-228.4	20512	50	
Ca	40	1	45	4.837	ppb	4.2	87449	50	
Ca	44	2	45	3.762	ppb	94.3	40	25	
Ti	47	2	45	0.005	ppb	4482.3	3	0.5	
V	51	2	72	0.678	ppb	26.6	4781	1	
Cr	52	2	72	0.003	ppb	603.5	300	1	
Mn	55	2	72	0.055	ppb	97.8	120	0.5	
Fe	57	2	72	2.250	ppb	64.1	273	25	
Co	59	2	72	-0.001	ppb	-399.1	13	0.5	
Ni	60	2	72	-0.049	ppb	-123.4	150	1	
Cu	63	2	72	0.245	ppb	5.8	1810	1	
Zn	66	2	72	-0.042	ppb	-276.8	337	5	
As	75	2	72	0.021	ppb	311.0	19	1	
Se	78	1	72	0.010	ppb	536.3	20	1	
Sr	88	2	72	0.063	ppb	30.5	47	0.5	
Zr	90	2	72	-0.219	ppb	-690.0	93	1	
Nb	93	2	72	2.189	ppb	13.5	8907	2	>RL
Mo	95	2	115	0.037	ppb	101.3	87	0.5	
Pd	105	2	115	0.002	ppb	686.4	40	1	
Ag	107	2	115	0.003	ppb	325.2	53	1	
Cd	111	2	115	-0.008	ppb	0.0	0	0.5	
Sn	120	2	115	0.018	ppb	333.3	267	1	
Sb	121	2	115	0.295	ppb	17.0	353	0.6	
Ba	137	2	115	-0.055	ppb	-29.5	3	0.5	
W	182	2	165	0.031	ppb	181.4	1857	1	
Pt	195	2	165	0.004	ppb	138.8	37	1	
Tl	205	2	165	0.011	ppb	51.2	200	0.1	
Pb	208	2	165	0.016	ppb	67.3	1090	0.5	
Th	232	2	165	0.032	ppb	3.1	707	1	
U	238	2	165	0.017	ppb	42.0	417	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1786429	1.70	1841092	97.03	60	120	
Sc (IS)	45	1	HMI H2	32447025	0.90	34041789	95.32	60	120	
Sc (IS)	45	2	HMI He	955035	1.06	989699	96.50	60	120	
Sc (IS)	45	3	No Gas	56054329	0.71	58466742	95.87	60	120	
Ge Internal Standard	72	1	HMI H2	13377531	0.56	14056514	95.17	60	120	
Ge Internal Standard	72	2	HMI He	1116127	0.87	1155188	96.62	60	120	
In Internal Standard	115	2	HMI He	3718051	0.58	3786036	98.20	60	120	
Ho-165	165	2	HMI He	18538865	1.80	18554642	99.91	60	120	

Blank Report

Sample Table

Sample Name	mb 280-435914/1-a
Data File Name	065_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:47:24-06:00
Sample Type	Blank
Dilution	1
Comment	435914 200.8
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	8.552	ppb	58.49482114	189123	0.5
Li	7	2	45	5.621	ppb	262.2010582	10477	0.5
Li	7	3	45	7.860	ppb	77.57007094	6875298	10
Be	9	1	6	0.015	ppb	205.9437916	27	0.5
B	11	1	6	1.755	ppb	3.94769801	1380	0.5
Na	23	1	45	360.029	ppb	0.465530332	1631750	25
Na	23	2	45	318.951	ppb	1.017711375	97227	25
Mg	24	2	45	22.631	ppb	5.837260128	2787	25
Al	27	2	45	1.190	ppb	56.311865	127	15
K	39	1	45	495.186	ppb	4.803943893	13207003	50
K	39	2	45	-2.509	ppb	-152.6891673	20548	50
Ca	40	1	45	58.518	ppb	0.90555493	391417	50
Ca	44	2	45	50.217	ppb	32.07857863	177	25
Ti	47	2	45	0.006	ppb	3705.923	3	0.5
V	51	2	72	0.991	ppb	26.21134667	5155	1
Cr	52	2	72	-0.009	ppb	-767.6133548	283	1
Mn	55	2	72	0.286	ppb	35.15648193	247	0.5
Fe	57	2	72	0.353	ppb	597.2413064	223	25
Co	59	2	72	0.011	ppb	112.5479874	43	0.5
Ni	60	2	72	0.219	ppb	65.48477502	347	1
Cu	63	2	72	1.450	ppb	8.124279527	4301	1
Zn	66	2	72	3.687	ppb	8.952920095	1310	5
As	75	2	72	0.066	ppb	60.44099438	27	1
Se	78	1	72	0.022	ppb	143.0021978	24	1
Sr	88	2	72	0.814	ppb	22.40474073	490	0.5
Zr	90	2	72	0.966	ppb	232.0843305	113	1
Nb	93	2	72	1.113	ppb	15.87447339	4965	2
Mo	95	2	115	0.057	ppb	64.07916005	107	0.5
Pd	105	2	115	-0.004	ppb	-278.9555724	30	1
Ag	107	2	115	0.024	ppb	60.22060134	123	1
Cd	111	2	115	0.031	ppb	114.5775718	17	0.5
Sn	120	2	115	0.100	ppb	81.72689086	357	1
Sb	121	2	115	0.130	ppb	88.78813376	183	0.6
Ba	137	2	115	0.059	ppb	172.046933	43	0.5
W	182	2	165	-0.020	ppb	-137.5912896	1624	1
Pt	195	2	165	-0.002	ppb	-173.8031937	10	1
Tl	205	2	165	0.025	ppb	67.14276805	323	0.1
Pb	208	2	165	0.271	ppb	7.632629546	4074	0.5
Th	232	2	165	0.035	ppb	30.16753647	750	1
U	238	2	165	0.029	ppb	17.30499434	603	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1782360	1.22	1841092	96.81	60	120	
Sc (IS)	45	1	HMI H2	32192360	0.45	34041789	94.57	60	120	
Sc (IS)	45	2	HMI He	952435	1.67	989699	96.23	60	120	
Sc (IS)	45	3	No Gas	56243299	1.29	58466742	96.20	60	120	
Ge Internal Standard	72	1	HMI H2	13452814	0.58	14056514	95.71	60	120	
Ge Internal Standard	72	2	HMI He	1120566	1.19	1155188	97.00	60	120	
In Internal Standard	115	2	HMI He	3705021	1.42	3786036	97.86	60	120	
Ho-165	165	2	HMI He	18655317	0.78	18554642	100.54	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-435914/2-a
Data File Name	066_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:51:16-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	435914 200.8
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	73.199	73.199	ppb	9.568	222081	400	18.3	80	120	>+/-20%
Li	7	2	45	71.677	71.677	ppb	4.922	12076	400	17.9	80	120	>+/-20%
Li	7	3	45	71.493	71.493	ppb	4.177	8009800	400	17.9	80	120	>+/-20%
Be	9	1	6	30.798	30.798	ppb	6.440	14584	40	77.0	80	120	>+/-20%
Na	23	2	45	-3.373	-3.373	ppb	-69.205	20017	40	-8.4	80	120	>+/-20%
Mg	24	2	45	-0.254	-0.254	ppb	-212.269	287	40	-0.6	80	120	>+/-20%
Al	27	2	45	338.740	338.740	ppb	8.106	8766	40	846.9	80	120	>+/-20%
K	39	2	45	5.586	5.586	ppb	248.329	20785	40	14.0	80	120	>+/-20%
Ca	44	2	45	195.499	195.499	ppb	9.681	597	40	488.7	80	120	>+/-20%
V	51	2	72	32.759	32.759	ppb	1.825	40568	40	81.9	80	120	
Cr	52	2	72	32.456	32.456	ppb	1.598	47994	40	81.1	80	120	
Mn	55	2	72	31.138	31.138	ppb	3.667	16964	40	77.8	80	120	>+/-20%
Fe	57	2	72	345.571	345.571	ppb	4.877	9460	40	863.9	80	120	>+/-20%
Co	59	2	72	32.621	32.621	ppb	0.788	82924	40	81.6	80	120	
Ni	60	2	72	33.147	33.147	ppb	2.397	24211	40	82.9	80	120	
Cu	63	2	72	32.560	32.560	ppb	1.475	67722	40	81.4	80	120	
Zn	66	2	72	30.973	30.973	ppb	4.499	8353	40	77.4	80	120	>+/-20%
As	75	2	72	30.447	30.447	ppb	0.832	5634	40	76.1	80	120	>+/-20%
Se	78	1	72	31.326	31.326	ppb	0.259	10157	40	78.3	80	120	>+/-20%
Nb	93	2	72	0.682	0.682	ppb	13.000	3344	40	1.7	80	120	>+/-20%
Mo	95	2	115	29.571	29.571	ppb	2.695	29779	40	73.9	80	120	>+/-20%
Pd	105	2	115	0.005	0.005	ppb	611.111	43	40	0.0	80	120	>+/-20%
Ag	107	2	115	32.985	32.985	ppb	1.195	112143	40	82.5	80	120	
Cd	111	2	115	32.316	32.316	ppb	0.375	13888	40	80.8	80	120	
Sn	120	2	115	32.185	32.185	ppb	2.020	36299	40	80.5	80	120	
Sb	121	2	115	32.555	32.555	ppb	3.229	33575	40	81.4	80	120	
Ba	137	2	115	30.974	30.974	ppb	3.497	10988	40	77.4	80	120	>+/-20%
W	182	2	165	9.591	9.591	ppb	1.172	47820	40	24.0	80	120	>+/-20%
Pt	195	2	165	0.003	0.003	ppb	41.572	33	40	0.0	80	120	>+/-20%
Tl	205	2	165	32.149	32.149	ppb	2.362	280212	40	80.4	80	120	
Pb	208	2	165	32.371	32.371	ppb	0.311	378457	40	80.9	80	120	
Th	232	2	165	29.125	29.125	ppb	1.203	429149	40	72.8	80	120	>+/-20%
U	238	2	165	29.721	29.721	ppb	0.610	472951	40	74.3	80	120	>+/-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1773337	1.15	1841092	96.32	60	120	
Sc (IS)	45	1	HMI H2	32390033	0.86	34041789	95.15	60	120	
Sc (IS)	45	2	HMI He	943465	1.01	989699	95.33	60	120	
Sc (IS)	45	3	No Gas	56132003	0.86	58466742	96.01	60	120	
Ge Internal Standard	72	1	HMI H2	13250145	0.60	14056514	94.26	60	120	
Ge Internal Standard	72	2	HMI He	1110651	0.79	1155188	96.14	60	120	
In Internal Standard	115	2	HMI He	3714531	0.74	3786036	98.11	60	120	
Ho-165	165	2	HMI He	18592686	0.89	18554642	100.21	60	120	

Sample Report

Sample Table

Sample Name	280-116384-a-1-a
Data File Name	067SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:55:07-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435914 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	11.198	ppb	11.198	39.78	182213	500000	
Li	7	2	45	9.889	ppb	9.889	229.39	10104	500000	
Li	7	3	45	13.059	ppb	13.059	27.44	6664073	50000	
Be	9	1	6	0.011	ppb	0.011	492.38	23	2000	
B	11	1	6	23.454	ppb	23.454	2.09	11802	2000	
Na	23	1	45	108004.360	ppb	108004.360	0.48	386828354	2000	>LDR
Na	23	2	45	105438.588	ppb	105438.588	1.22	24064333	400000	
Mg	24	2	45	7033.917	ppb	7033.917	0.68	733222	400000	
Al	27	2	45	115.077	ppb	115.077	3.02	2930	400000	
K	39	1	45	18708.317	ppb	18708.317	0.56	77174701	400000	
K	39	2	45	17838.461	ppb	17838.461	0.36	944822	400000	
Ca	40	1	45	29499.428	ppb	29499.428	0.70	160262768	400000	
Ca	44	2	45	30422.510	ppb	30422.510	1.00	85158	400000	
Ti	47	2	45	1.418	ppb	1.418	69.89	40	4000	
V	51	2	72	0.478	ppb	0.478	30.24	4374	2000	
Cr	52	2	72	1.917	ppb	1.917	8.63	3000	5000	
Mn	55	2	72	377.467	ppb	377.467	1.56	197359	10000	
Fe	57	2	72	72.541	ppb	72.541	8.29	2077	400000	
Co	59	2	72	0.285	ppb	0.285	8.37	713	2000	
Ni	60	2	72	55.296	ppb	55.296	2.24	38840	5000	
Cu	63	2	72	360.079	ppb	360.079	0.30	709770	5000	
Zn	66	2	72	8.342	ppb	8.342	0.38	2414	5000	
As	75	2	72	0.389	ppb	0.389	14.13	84	2000	
Se	78	1	72	0.124	ppb	0.124	43.46	55	2000	
Sr	88	2	72	256.217	ppb	256.217	1.85	144757	4000	
Zr	90	2	72	164.083	ppb	164.083	10.24	2664	1000	
Nb	93	2	72	1.033	ppb	1.033	16.16	4468	200	
Mo	95	2	115	1.924	ppb	1.924	3.36	1890	2000	
Pd	105	2	115	0.263	ppb	0.263	19.36	427	100	
Ag	107	2	115	0.165	ppb	0.165	20.89	573	100	
Cd	111	2	115	0.017	ppb	0.017	145.77	10	2000	
Sn	120	2	115	71.482	ppb	71.482	1.19	76557	2000	
Sb	121	2	115	0.408	ppb	0.408	10.78	447	1000	
Ba	137	2	115	2311.510	ppb	2311.510	0.31	779879	5000	
W	182	2	165	0.030	ppb	0.030	62.21	1827	100	
Pt	195	2	165	0.006	ppb	0.006	175.10	43	100	
Tl	205	2	165	0.017	ppb	0.017	41.15	247	2000	
Pb	208	2	165	1.514	ppb	1.514	1.88	18229	5000	
Th	232	2	165	0.254	ppb	0.254	7.28	3901	2000	
U	238	2	165	0.096	ppb	0.096	8.18	1637	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1682642	0.31	1841092	91.39	60	120	
Sc (IS)	45	1	HMI H2	30804543	0.25	34041789	90.49	60	120	
Sc (IS)	45	2	HMI He	909014	1.81	989699	91.85	60	120	
Sc (IS)	45	3	No Gas	53771253	1.05	58466742	91.97	60	120	
Ge Internal Standard	72	1	HMI H2	12798070	0.61	14056514	91.05	60	120	
Ge Internal Standard	72	2	HMI He	1071196	1.18	1155188	92.73	60	120	
In Internal Standard	115	2	HMI He	3540176	1.58	3786036	93.51	60	120	
Ho-165	165	2	HMI He	18256533	1.34	18554642	98.39	60	120	

Sample Report

Sample Table

Sample Name	280-116309-b-1-b
Data File Name	068SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T19:58:58-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435914 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	16.590	ppb	16.590	37.06	189984	500000	
Li	7	2	45	20.880	ppb	20.880	169.57	10404	500000	
Li	7	3	45	23.412	ppb	23.412	26.39	7119377	50000	
Be	9	1	6	0.011	ppb	0.011	228.16	23	2000	
B	11	1	6	3.026	ppb	3.026	2.28	1924	2000	
Na	23	1	45	15740.548	ppb	15740.548	1.21	58217126	2000	>LDR
Na	23	2	45	15778.251	ppb	15778.251	0.60	3627677	400000	
Mg	24	2	45	24995.447	ppb	24995.447	1.38	2611400	400000	
Al	27	2	45	2026.015	ppb	2026.015	1.84	50193	400000	
K	39	1	45	3003.242	ppb	3003.242	0.90	22136524	400000	
K	39	2	45	2634.206	ppb	2634.206	1.56	156732	400000	
Ca	40	1	45	408854.141	ppb	408854.141	0.65	2283545886	400000	
Ca	44	2	45	425372.420	ppb	425372.420	1.95	1193101	400000	
Ti	47	2	45	0.269	ppb	0.269	144.17	10	4000	
V	51	2	72	-1.255	ppb	-1.255	-15.10	2460	2000	
Cr	52	2	72	0.368	ppb	0.368	23.96	790	5000	
Mn	55	2	72	1865.582	ppb	1865.582	0.42	956481	10000	
Fe	57	2	72	148.438	ppb	148.438	4.42	3957	400000	
Co	59	2	72	1.591	ppb	1.591	2.79	3841	2000	
Ni	60	2	72	1.674	ppb	1.674	6.90	1323	5000	
Cu	63	2	72	49.893	ppb	49.893	2.46	97523	5000	
Zn	66	2	72	16.285	ppb	16.285	5.61	4311	5000	
As	75	2	72	0.405	ppb	0.405	23.76	85	2000	
Se	78	1	72	0.183	ppb	0.183	17.65	73	2000	
Sr	88	2	72	675.783	ppb	675.783	0.34	374438	4000	
Zr	90	2	72	25.735	ppb	25.735	20.91	487	1000	
Nb	93	2	72	0.458	ppb	0.458	14.54	2387	200	
Mo	95	2	115	0.445	ppb	0.445	19.99	477	2000	
Pd	105	2	115	0.004	ppb	0.004	179.31	40	100	
Ag	107	2	115	0.004	ppb	0.004	121.86	53	100	
Cd	111	2	115	0.648	ppb	0.648	11.27	270	2000	
Sn	120	2	115	0.131	ppb	0.131	26.14	377	2000	
Sb	121	2	115	0.101	ppb	0.101	82.24	147	1000	
Ba	137	2	115	5.911	ppb	5.911	4.13	2027	5000	
W	182	2	165	-0.025	ppb	-0.025	-178.43	1550	100	
Pt	195	2	165	-0.003	ppb	-0.003	-90.35	7	100	
Tl	205	2	165	1.160	ppb	1.160	5.49	9938	2000	
Pb	208	2	165	0.431	ppb	0.431	3.19	5767	5000	
Th	232	2	165	0.023	ppb	0.023	30.73	563	2000	
U	238	2	165	0.034	ppb	0.034	17.82	670	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1687818	1.00	1841092	91.67	60	120	
Sc (IS)	45	1	HMI H2	31679923	0.21	34041789	93.06	60	120	
Sc (IS)	45	2	HMI He	911279	0.40	989699	92.08	60	120	
Sc (IS)	45	3	No Gas	55953118	1.22	58466742	95.70	60	120	
Ge Internal Standard	72	1	HMI H2	12826887	0.88	14056514	91.25	60	120	
Ge Internal Standard	72	2	HMI He	1050724	0.39	1155188	90.96	60	120	
In Internal Standard	115	2	HMI He	3559672	0.98	3786036	94.02	60	120	
Ho-165	165	2	HMI He	18090502	0.53	18554642	97.50	60	120	

Sample Report

Sample Table

Sample Name	280-116309-b-1-c ms
Data File Name	069SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:02:48-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435914 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	81.763	ppb	81.763	4.73	220390	500000	
Li	7	2	45	72.421	ppb	72.421	34.78	11825	500000	
Li	7	3	45	92.400	ppb	92.400	5.58	8221170	50000	
Be	9	1	6	31.379	ppb	31.379	2.24	14201	2000	
B	11	1	6	25.701	ppb	25.701	1.59	12980	2000	
Na	23	1	45	15208.853	ppb	15208.853	0.52	56015514	2000	>LDR
Na	23	2	45	14928.389	ppb	14928.389	1.35	3476216	400000	
Mg	24	2	45	23946.969	ppb	23946.969	0.45	2533168	400000	
Al	27	2	45	2304.830	ppb	2304.830	1.45	57793	400000	
K	39	1	45	2867.562	ppb	2867.562	0.66	21549430	400000	
K	39	2	45	2474.800	ppb	2474.800	0.71	150290	400000	
Ca	40	1	45	397000.555	ppb	397000.555	0.34	2207816020	400000	
Ca	44	2	45	401342.157	ppb	401342.157	2.12	1140008	400000	
Ti	47	2	45	1.398	ppb	1.398	45.71	40	4000	
V	51	2	72	31.445	ppb	31.445	4.46	37389	2000	
Cr	52	2	72	32.015	ppb	32.015	0.11	45262	5000	
Mn	55	2	72	1830.137	ppb	1830.137	0.42	948256	10000	
Fe	57	2	72	466.832	ppb	466.832	1.05	12142	400000	
Co	59	2	72	33.603	ppb	33.603	0.98	81673	2000	
Ni	60	2	72	33.958	ppb	33.958	2.12	23710	5000	
Cu	63	2	72	77.896	ppb	77.896	1.41	153159	5000	
Zn	66	2	72	43.367	ppb	43.367	2.26	11051	5000	
As	75	2	72	31.780	ppb	31.780	3.47	5621	2000	
Se	78	1	72	33.264	ppb	33.264	2.85	10485	2000	
Sr	88	2	72	678.395	ppb	678.395	0.15	379856	4000	
Zr	90	2	72	3269.172	ppb	3269.172	2.92	50903	1000	
Nb	93	2	72	0.313	ppb	0.313	30.43	1907	200	
Mo	95	2	115	30.795	ppb	30.795	2.33	29726	2000	
Pd	105	2	115	-0.001	ppb	-0.001	-790.38	33	100	
Ag	107	2	115	31.547	ppb	31.547	1.01	102791	100	
Cd	111	2	115	31.174	ppb	31.174	3.45	12840	2000	
Sn	120	2	115	32.118	ppb	32.118	0.88	34715	2000	
Sb	121	2	115	33.139	ppb	33.139	3.21	32763	1000	
Ba	137	2	115	36.085	ppb	36.085	3.32	12266	5000	
W	182	2	165	11.325	ppb	11.325	0.36	54954	100	
Pt	195	2	165	0.004	ppb	0.004	36.22	37	100	
Tl	205	2	165	32.822	ppb	32.822	0.95	279890	2000	
Pb	208	2	165	31.658	ppb	31.658	1.01	362210	5000	
Th	232	2	165	29.826	ppb	29.826	1.77	430085	2000	
U	238	2	165	29.663	ppb	29.663	0.80	461898	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1694710	1.26	1841092	92.05	60	120	
Sc (IS)	45	1	HMI H2	31543261	1.45	34041789	92.66	60	120	
Sc (IS)	45	2	HMI He	922623	1.79	989699	93.22	60	120	
Sc (IS)	45	3	No Gas	55024874	1.18	58466742	94.11	60	120	
Ge Internal Standard	72	1	HMI H2	12885348	1.57	14056514	91.67	60	120	
Ge Internal Standard	72	2	HMI He	1061805	2.29	1155188	91.92	60	120	
In Internal Standard	115	2	HMI He	3559905	2.12	3786036	94.03	60	120	
Ho-165	165	2	HMI He	18194136	2.23	18554642	98.06	60	120	

Sample Report

Sample Table

Sample Name	280-116309-b-1-d msd
Data File Name	070SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:06:40-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435914 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	85.381	ppb	85.381	8.84	222487	500000	
Li	7	2	45	76.186	ppb	76.186	21.08	12149	500000	
Li	7	3	45	88.248	ppb	88.248	5.10	8189084	50000	
Be	9	1	6	30.582	ppb	30.582	4.54	14171	2000	
B	11	1	6	25.294	ppb	25.294	3.02	13086	2000	
Na	23	1	45	15471.943	ppb	15471.943	1.33	57074976	2000	>LDR
Na	23	2	45	15040.370	ppb	15040.370	0.64	3568456	400000	
Mg	24	2	45	23965.460	ppb	23965.460	0.39	2583155	400000	
Al	27	2	45	2300.162	ppb	2300.162	0.66	58775	400000	
K	39	1	45	2883.050	ppb	2883.050	1.72	21641380	400000	
K	39	2	45	2472.872	ppb	2472.872	2.22	153036	400000	
Ca	40	1	45	405660.413	ppb	405660.413	1.12	2259673193	400000	
Ca	44	2	45	411661.116	ppb	411661.116	0.47	1191288	400000	
Ti	47	2	45	0.007	ppb	0.007	3196.80	3	4000	
V	51	2	72	31.337	ppb	31.337	3.03	38084	2000	
Cr	52	2	72	31.825	ppb	31.825	2.18	45981	5000	
Mn	55	2	72	1827.327	ppb	1827.327	0.59	967413	10000	
Fe	57	2	72	469.483	ppb	469.483	1.93	12479	400000	
Co	59	2	72	33.683	ppb	33.683	0.66	83642	2000	
Ni	60	2	72	32.778	ppb	32.778	3.00	23393	5000	
Cu	63	2	72	77.585	ppb	77.585	1.49	155905	5000	
Zn	66	2	72	42.627	ppb	42.627	2.63	11105	5000	
As	75	2	72	31.565	ppb	31.565	1.45	5705	2000	
Se	78	1	72	32.483	ppb	32.483	2.45	10327	2000	
Sr	88	2	72	680.024	ppb	680.024	1.00	389070	4000	
Zr	90	2	72	3262.911	ppb	3262.911	1.78	51899	1000	
Nb	93	2	72	0.203	ppb	0.203	24.73	1554	200	
Mo	95	2	115	29.362	ppb	29.362	1.91	29104	2000	
Pd	105	2	115	0.005	ppb	0.005	540.31	43	100	
Ag	107	2	115	31.848	ppb	31.848	1.50	106593	100	
Cd	111	2	115	30.737	ppb	30.737	5.92	13000	2000	
Sn	120	2	115	31.315	ppb	31.315	3.25	34771	2000	
Sb	121	2	115	32.187	ppb	32.187	0.75	32680	1000	
Ba	137	2	115	35.382	ppb	35.382	4.43	12349	5000	
W	182	2	165	11.444	ppb	11.444	1.17	57133	100	
Pt	195	2	165	0.000	ppb	0.000	-7240.76	20	100	
Tl	205	2	165	32.445	ppb	32.445	1.22	284737	2000	
Pb	208	2	165	31.259	ppb	31.259	0.81	368047	5000	
Th	232	2	165	29.518	ppb	29.518	1.35	437942	2000	
U	238	2	165	29.531	ppb	29.531	0.99	473231	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1734823	1.14	1841092	94.23	60	120	
Sc (IS)	45	1	HMI H2	31599003	1.58	34041789	92.82	60	120	
Sc (IS)	45	2	HMI He	940148	0.74	989699	94.99	60	120	
Sc (IS)	45	3	No Gas	55303528	0.33	58466742	94.59	60	120	
Ge Internal Standard	72	1	HMI H2	12990356	1.68	14056514	92.42	60	120	
Ge Internal Standard	72	2	HMI He	1085006	0.47	1155188	93.92	60	120	
In Internal Standard	115	2	HMI He	3656382	0.83	3786036	96.58	60	120	
Ho-165	165	2	HMI He	18723891	1.15	18554642	100.91	60	120	

Sample Report

Sample Table

Sample Name	280-116326-c-1-a
Data File Name	071SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:10:30-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435914 200.8
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	12.238	ppb	12.238	39.33	190333	500000	
Li	7	2	45	11.731	ppb	11.731	45.80	10458	500000	
Li	7	3	45	13.537	ppb	13.537	41.89	6712367	50000	
Be	9	1	6	0.009	ppb	0.009	377.58	23	2000	
B	11	1	6	12.939	ppb	12.939	7.36	7132	2000	
Na	23	1	45	130525.877	ppb	130525.877	0.17	486955579	2000	>LDR
Na	23	2	45	126250.498	ppb	126250.498	1.02	29674662	400000	
Mg	24	2	45	817.257	ppb	817.257	1.81	88014	400000	
Al	27	2	45	21.480	ppb	21.480	9.83	640	400000	
K	39	1	45	31317.500	ppb	31317.500	0.72	126942968	400000	
K	39	2	45	32043.745	ppb	32043.745	0.55	1731753	400000	
Ca	40	1	45	3343.039	ppb	3343.039	0.37	18972629	400000	
Ca	44	2	45	3372.426	ppb	3372.426	2.64	9747	400000	
Ti	47	2	45	5.652	ppb	5.652	56.57	153	4000	
V	51	2	72	-0.446	ppb	-0.446	-13.04	3441	2000	
Cr	52	2	72	1.444	ppb	1.444	8.16	2374	5000	
Mn	55	2	72	3.179	ppb	3.179	8.36	1780	10000	
Fe	57	2	72	128.526	ppb	128.526	7.51	3584	400000	
Co	59	2	72	0.083	ppb	0.083	13.87	223	2000	
Ni	60	2	72	2.320	ppb	2.320	6.94	1834	5000	
Cu	63	2	72	25.338	ppb	25.338	1.92	52048	5000	
Zn	66	2	72	46.251	ppb	46.251	1.30	12082	5000	
As	75	2	72	0.409	ppb	0.409	10.66	89	2000	
Se	78	1	72	0.221	ppb	0.221	0.59	88	2000	
Sr	88	2	72	23.095	ppb	23.095	1.24	13293	4000	
Zr	90	2	72	86.227	ppb	86.227	16.31	1470	1000	
Nb	93	2	72	0.092	ppb	0.092	60.77	1163	200	
Mo	95	2	115	1.230	ppb	1.230	5.66	1270	2000	
Pd	105	2	115	-0.010	ppb	-0.010	-110.85	20	100	
Ag	107	2	115	0.018	ppb	0.018	89.31	103	100	
Cd	111	2	115	0.024	ppb	0.024	57.38	13	2000	
Sn	120	2	115	1.676	ppb	1.676	13.35	2097	2000	
Sb	121	2	115	0.523	ppb	0.523	2.48	580	1000	
Ba	137	2	115	6.450	ppb	6.450	5.22	2277	5000	
W	182	2	165	0.609	ppb	0.609	14.06	4654	100	
Pt	195	2	165	0.005	ppb	0.005	132.93	40	100	
Tl	205	2	165	0.018	ppb	0.018	20.53	267	2000	
Pb	208	2	165	0.240	ppb	0.240	10.18	3714	5000	
Th	232	2	165	0.073	ppb	0.073	2.67	1313	2000	
U	238	2	165	0.079	ppb	0.079	31.14	1410	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1786148	1.42	1841092	97.02	60	120	
Sc (IS)	45	1	HMI H2	32091125	0.35	34041789	94.27	60	120	
Sc (IS)	45	2	HMI He	936171	0.91	989699	94.59	60	120	
Sc (IS)	45	3	No Gas	54099144	0.59	58466742	92.53	60	120	
Ge Internal Standard	72	1	HMI H2	13249342	0.48	14056514	94.26	60	120	
Ge Internal Standard	72	2	HMI He	1090762	0.86	1155188	94.42	60	120	
In Internal Standard	115	2	HMI He	3668367	0.93	3786036	96.89	60	120	
Ho-165	165	2	HMI He	18653410	0.31	18554642	100.53	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	072_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:14:18-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	529.985	ppb	5.899	446216	500	106.0	90	110	
Li	7	2	45	502.521	ppb	9.114	23246	500	100.5	90	110	
Li	7	3	45	537.752	ppb	3.178	16044607	500	107.6	90	110	
Be	9	1	6	47.897	ppb	7.934	22508	50	95.8	90	110	
B	11	1	6	49.281	ppb	3.885	25432	50	98.6	90	110	
Na	23	1	45	5401.279	ppb	3.425	20583890	5000	108.0	90	110	
Na	23	2	45	5351.225	ppb	4.904	1293994	5000	107.0	90	110	
Mg	24	2	45	4899.764	ppb	4.592	532932	5000	98.0	90	110	
Al	27	2	45	5189.856	ppb	5.264	133621	5000	103.8	90	110	
K	39	1	45	5200.805	ppb	4.605	30778591	5000	104.0	90	110	
K	39	2	45	5059.577	ppb	4.709	294322	5000	101.2	90	110	
Ca	40	1	45	5106.238	ppb	4.781	29169601	5000	102.1	90	110	
Ca	44	2	45	5070.443	ppb	3.023	14831	5000	101.4	90	110	
Ti	47	2	45	48.676	ppb	11.815	1317	50	97.4	90	110	
V	51	2	72	49.508	ppb	3.668	58967	50	99.0	90	110	
Cr	52	2	72	48.647	ppb	4.307	71415	50	97.3	90	110	
Mn	55	2	72	49.093	ppb	6.772	26545	50	98.2	90	110	
Fe	57	2	72	4988.466	ppb	2.197	133041	5000	99.8	90	110	
Co	59	2	72	49.786	ppb	2.301	125925	50	99.6	90	110	
Ni	60	2	72	50.011	ppb	3.198	36257	50	100.0	90	110	
Cu	63	2	72	48.525	ppb	4.173	99783	50	97.0	90	110	
Zn	66	2	72	48.754	ppb	4.588	12883	50	97.5	90	110	
As	75	2	72	48.938	ppb	3.974	9001	50	97.9	90	110	
Se	78	1	72	48.817	ppb	4.861	15897	50	97.6	90	110	
Sr	88	2	72	50.361	ppb	5.285	29355	50	100.7	90	110	
Zr	90	2	72	143.451	ppb	9.613	2417	50	286.9	90	110	>+\-10%
Nb	93	2	72	90.891	ppb	4.152	331652	100	90.9	90	110	
Mo	95	2	115	47.754	ppb	3.252	48287	50	95.5	90	110	
Pd	105	2	115	49.606	ppb	2.469	77990	50	99.2	90	110	
Ag	107	2	115	47.749	ppb	3.210	163086	50	95.5	90	110	
Cd	111	2	115	47.305	ppb	5.867	20416	50	94.6	90	110	
Sn	120	2	115	48.713	ppb	1.891	55080	50	97.4	90	110	
Sb	121	2	115	49.289	ppb	4.321	51055	50	98.6	90	110	
Ba	137	2	115	47.214	ppb	4.898	16811	50	94.4	90	110	
W	182	2	165	48.143	ppb	5.446	235638	50	96.3	90	110	
Pt	195	2	165	47.763	ppb	4.077	193705	50	95.5	90	110	
Tl	205	2	165	49.546	ppb	3.413	436452	50	99.1	90	110	
Pb	208	2	165	49.189	ppb	3.982	580817	50	98.4	90	110	
Th	232	2	165	45.519	ppb	3.330	677871	50	91.0	90	110	
U	238	2	165	45.898	ppb	3.226	738298	50	91.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1762091	2.06	1841092	95.71	60	120	
Sc (IS)	45	1	HMI H2	32361038	2.46	34041789	95.06	60	120	
Sc (IS)	45	2	HMI He	948963	2.55	989699	95.88	60	120	
Sc (IS)	45	3	No Gas	54884919	3.04	58466742	93.87	60	120	
Ge Internal Standard	72	1	HMI H2	13324059	2.05	14056514	94.79	60	120	
Ge Internal Standard	72	2	HMI He	1105544	2.08	1155188	95.70	60	120	
In Internal Standard	115	2	HMI He	3733552	2.00	3786036	98.61	60	120	
Ho-165	165	2	HMI He	18802447	1.70	18554642	101.34	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	073_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:18:06-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	11.751	ppb	30.7	6874782	10	>RL
Be	9	1	6	0.030	ppb	203.2	33	0.5	
B	11	1	6	0.864	ppb	4.3	923	0.5	>RL
Na	23	1	45	46.744	ppb	2.0	455122	25	>RL
Na	23	2	45	32.947	ppb	7.7	28695	25	>RL
Mg	24	2	45	1.019	ppb	114.3	427	25	
Al	27	2	45	1.463	ppb	115.8	133	15	
K	39	1	45	32.034	ppb	63.9	11371024	50	
K	39	2	45	-18.159	ppb	-162.4	19564	50	
Ca	40	1	45	10.341	ppb	2.1	116765	50	
Ca	44	2	45	12.917	ppb	97.7	67	25	
Ti	47	2	45	-0.118	ppb	0.0	0	0.5	
V	51	2	72	0.835	ppb	27.2	4888	1	
Cr	52	2	72	0.035	ppb	5.1	343	1	
Mn	55	2	72	0.040	ppb	207.4	110	0.5	
Fe	57	2	72	3.515	ppb	69.8	303	25	
Co	59	2	72	0.004	ppb	288.3	27	0.5	
Ni	60	2	72	-0.024	ppb	-181.3	167	1	
Cu	63	2	72	0.212	ppb	24.6	1720	1	
Zn	66	2	72	-0.025	ppb	-1106.9	337	5	
As	75	2	72	0.115	ppb	12.3	36	1	
Se	78	1	72	0.016	ppb	46.1	21	1	
Sr	88	2	72	0.047	ppb	22.5	37	0.5	
Zr	90	2	72	-0.335	ppb	-501.1	90	1	
Nb	93	2	72	2.281	ppb	5.6	9113	2	>RL
Mo	95	2	115	0.084	ppb	33.5	133	0.5	
Pd	105	2	115	0.024	ppb	55.7	73	1	
Ag	107	2	115	0.007	ppb	145.5	67	1	
Cd	111	2	115	0.016	ppb	257.6	10	0.5	
Sn	120	2	115	0.031	ppb	139.8	280	1	
Sb	121	2	115	0.315	ppb	12.7	373	0.6	
Ba	137	2	115	0.001	ppb	12247.3	23	0.5	
W	182	2	165	0.019	ppb	275.0	1797	1	
Pt	195	2	165	0.013	ppb	72.0	70	1	
Tl	205	2	165	0.018	ppb	17.7	267	0.1	
Pb	208	2	165	0.030	ppb	52.2	1243	0.5	
Th	232	2	165	0.042	ppb	10.8	843	1	
U	238	2	165	0.027	ppb	49.6	567	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1781078	1.50	1841092	96.74	60	120	
Sc (IS)	45	1	HMI H2	31854075	0.90	34041789	93.57	60	120	
Sc (IS)	45	2	HMI He	946213	1.34	989699	95.61	60	120	
Sc (IS)	45	3	No Gas	55668554	1.90	58466742	95.21	60	120	
Ge Internal Standard	72	1	HMI H2	13169144	0.50	14056514	93.69	60	120	
Ge Internal Standard	72	2	HMI He	1100671	0.95	1155188	95.28	60	120	
In Internal Standard	115	2	HMI He	3710764	1.08	3786036	98.01	60	120	
Ho-165	165	2	HMI He	18491443	0.22	18554642	99.66	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	074LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:21:54-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	27.379	ppb	23.591	6967621	50	54.8	70	130	>+/-30%
Be	9	1	6	0.948	ppb	4.642	470	1	94.8	70	130	
Na	23	2	45	57.709	ppb	7.801	33883	50	115.4	70	130	
Mg	24	2	45	52.468	ppb	5.433	5888	50	104.9	70	130	
Al	27	2	45	36.708	ppb	10.890	1017	30	122.4	70	130	
K	39	2	45	77.531	ppb	11.557	24238	100	77.5	70	130	
Ca	44	2	45	71.707	ppb	34.989	233	50	143.4	70	130	>+/-30%
V	51	2	72	5.745	ppb	1.501	10191	5	114.9	70	130	
Cr	52	2	72	2.071	ppb	5.124	3267	2	103.6	70	130	
Mn	55	2	72	1.224	ppb	7.789	737	1	122.4	70	130	
Fe	57	2	72	56.256	ppb	7.669	1680	50	112.5	70	130	
Co	59	2	72	1.013	ppb	8.271	2537	1	101.3	70	130	
Ni	60	2	72	2.052	ppb	10.549	1637	2	102.6	70	130	
Cu	63	2	72	1.959	ppb	6.213	5185	2	98.0	70	130	
Zn	66	2	72	11.028	ppb	14.730	3127	10	110.3	70	130	
As	75	2	72	4.430	ppb	8.332	814	5	88.6	70	130	
Se	78	1	72	5.175	ppb	3.693	1667	5	103.5	70	130	
Sr	88	2	72	0.943	ppb	8.111	550	1	94.3	70	130	
Zr	90	2	72	31.602	ppb	21.595	597	0.5	6320.5	70	130	>+/-30%
Nb	93	2	72	4.904	ppb	4.643	18389	2	245.2	70	130	>+/-30%
Mo	95	2	115	1.780	ppb	3.896	1817	2	89.0	70	130	
Pd	105	2	115	0.005	ppb	526.679	43	1	0.5	70	130	>+/-30%
Ag	107	2	115	5.118	ppb	2.457	17231	5	102.4	70	130	
Cd	111	2	115	0.927	ppb	5.335	397	1	92.7	70	130	
Sn	120	2	115	9.926	ppb	6.575	11228	10	99.3	70	130	
Sb	121	2	115	2.169	ppb	6.506	2257	2	108.5	70	130	
Ba	137	2	115	0.840	ppb	21.483	317	1	84.0	70	130	
W	182	2	165	4.902	ppb	2.753	24964	1	490.2	70	130	>+/-30%
Pt	195	2	165	0.019	ppb	49.797	97	1	1.9	70	130	>+/-30%
Tl	205	2	165	1.011	ppb	0.867	8803	1	101.1	70	130	
Pb	208	2	165	1.024	ppb	1.166	12693	1	102.4	70	130	
Th	232	2	165	2.039	ppb	1.284	29889	2	102.0	70	130	
U	238	2	165	0.958	ppb	0.933	15190	1	95.8	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1782171	0.20	1841092	96.80	60	120	
Sc (IS)	45	1	HMI H2	31572670	0.45	34041789	92.75	60	120	
Sc (IS)	45	2	HMI He	927316	1.07	989699	93.70	60	120	
Sc (IS)	45	3	No Gas	54214501	0.76	58466742	92.73	60	120	
Ge Internal Standard	72	1	HMI H2	13055973	0.22	14056514	92.88	60	120	
Ge Internal Standard	72	2	HMI He	1086824	0.55	1155188	94.08	60	120	
In Internal Standard	115	2	HMI He	3670529	0.63	3786036	96.95	60	120	
Ho-165	165	2	HMI He	18364710	0.96	18554642	98.98	60	120	

Blank Report

Sample Table

Sample Name	mb 280-435184/1-a
Data File Name	075_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:25:41-06:00
Sample Type	Blank
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	3.154	ppb	141.9697259	185579	0.5
Li	7	2	45	5.998	ppb	200.8331535	10514	0.5
Li	7	3	45	11.350	ppb	45.08583326	6923926	10
Be	9	1	6	-0.033	ppb	-37.53930968	3	0.5
B	11	1	6	0.401	ppb	57.57983649	670	0.5
Na	23	1	45	-1.347	ppb	-13.44178911	278727	25
Na	23	2	45	-3.720	ppb	-71.1585585	20168	25
Mg	24	2	45	2.665	ppb	12.82613285	610	25
Al	27	2	45	27.832	ppb	8.965817099	817	15
K	39	1	45	-1378.819	ppb	-1.463792728	6237006	50
K	39	2	45	-34.117	ppb	-41.40646831	18866	50
Ca	40	1	45	20.770	ppb	16.26135156	176450	50
Ca	44	2	45	55.897	ppb	12.97283328	193	25
Ti	47	2	45	0.007	ppb	3183.992516	3	0.5
V	51	2	72	-1.304	ppb	-26.40974944	2547	1
Cr	52	2	72	0.181	ppb	12.9565564	560	1
Mn	55	2	72	0.351	ppb	6.387009181	280	0.5
Fe	57	2	72	7.798	ppb	31.54708041	420	25
Co	59	2	72	0.003	ppb	80.44126049	23	0.5
Ni	60	2	72	0.043	ppb	178.4337786	217	1
Cu	63	2	72	0.049	ppb	134.5641904	1403	1
Zn	66	2	72	1.021	ppb	9.660293055	610	5
As	75	2	72	0.103	ppb	58.41154704	34	1
Se	78	1	72	-0.034	ppb	-21.22567223	5	1
Sr	88	2	72	0.154	ppb	40.5967054	100	0.5
Zr	90	2	72	3.706	ppb	106.320121	157	1
Nb	93	2	72	0.408	ppb	2.445280521	2340	2
Mo	95	2	115	0.006	ppb	594.753013	57	0.5
Pd	105	2	115	-0.008	ppb	-119.3476549	23	1
Ag	107	2	115	0.001	ppb	458.3743074	47	1
Cd	111	2	115	0.000	ppb	-7783.751835	3	0.5
Sn	120	2	115	0.040	ppb	58.08293518	297	1
Sb	121	2	115	0.029	ppb	29.35742499	80	0.6
Ba	137	2	115	0.156	ppb	28.30561682	80	0.5
W	182	2	165	-0.008	ppb	-107.667158	1680	1
Pt	195	2	165	0.003	ppb	243.240742	33	1
Tl	205	2	165	0.004	ppb	90.59026301	143	0.1
Pb	208	2	165	0.066	ppb	25.06365308	1677	0.5
Th	232	2	165	0.044	ppb	7.885887289	890	1
U	238	2	165	0.007	ppb	49.00780813	253	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1741435	0.66	1841092	94.59	60	120	
Sc (IS)	45	1	HMI H2	32036625	1.03	34041789	94.11	60	120	
Sc (IS)	45	2	HMI He	954526	1.19	989699	96.45	60	120	
Sc (IS)	45	3	No Gas	56122684	0.95	58466742	95.99	60	120	
Ge Internal Standard	72	1	HMI H2	13010904	0.42	14056514	92.56	60	120	
Ge Internal Standard	72	2	HMI He	1110811	0.77	1155188	96.16	60	120	
In Internal Standard	115	2	HMI He	3788653	1.90	3786036	100.07	60	120	
Ho-165	165	2	HMI He	18651168	0.69	18554642	100.52	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-435184/2-a
Data File Name	076_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:29:29-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	435184 6020A DOD5
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	95.900	95.900	ppb	5.880	228871	400	24.0	80	120	>+/-20%
Li	7	2	45	67.806	67.806	ppb	23.748	12179	400	17.0	80	120	>+/-20%
Li	7	3	45	96.087	96.087	ppb	3.396	8474345	400	24.0	80	120	>+/-20%
Be	9	1	6	39.852	39.852	ppb	4.726	18502	40	99.6	80	120	
Na	23	2	45	-18.186	-18.186	ppb	-12.365	16787	40	-45.5	80	120	>+/-20%
Mg	24	2	45	-0.966	-0.966	ppb	-36.961	213	40	-2.4	80	120	>+/-20%
Al	27	2	45	418.966	418.966	ppb	2.528	11001	40	1047.4	80	120	>+/-20%
K	39	2	45	-27.185	-27.185	ppb	-35.880	19347	40	-68.0	80	120	>+/-20%
Ca	44	2	45	222.750	222.750	ppb	15.320	687	40	556.9	80	120	>+/-20%
V	51	2	72	39.834	39.834	ppb	1.761	48398	40	99.6	80	120	
Cr	52	2	72	40.882	40.882	ppb	3.106	60282	40	102.2	80	120	
Mn	55	2	72	42.685	42.685	ppb	0.351	23186	40	106.7	80	120	
Fe	57	2	72	409.072	409.072	ppb	3.563	11141	40	1022.7	80	120	>+/-20%
Co	59	2	72	40.357	40.357	ppb	0.222	102433	40	100.9	80	120	
Ni	60	2	72	40.279	40.279	ppb	1.555	29341	40	100.7	80	120	
Cu	63	2	72	39.848	39.848	ppb	0.775	82474	40	99.6	80	120	
Zn	66	2	72	40.416	40.416	ppb	4.061	10778	40	101.0	80	120	
As	75	2	72	38.163	38.163	ppb	1.685	7047	40	95.4	80	120	
Se	78	1	72	39.165	39.165	ppb	3.095	12494	40	97.9	80	120	
Nb	93	2	72	0.360	0.360	ppb	17.120	2164	40	0.9	80	120	>+/-20%
Mo	95	2	115	37.000	37.000	ppb	1.469	38005	40	92.5	80	120	
Pd	105	2	115	-0.002	-0.002	ppb	-454.866	33	40	0.0	80	120	>+/-20%
Ag	107	2	115	40.495	40.495	ppb	1.710	140466	40	101.2	80	120	
Cd	111	2	115	38.809	38.809	ppb	2.641	17014	40	97.0	80	120	
Sn	120	2	115	39.909	39.909	ppb	2.794	45864	40	99.8	80	120	
Sb	121	2	115	39.565	39.565	ppb	4.396	41620	40	98.9	80	120	
Ba	137	2	115	39.835	39.835	ppb	2.459	14411	40	99.6	80	120	
W	182	2	165	12.544	12.544	ppb	0.434	62588	40	31.4	80	120	>+/-20%
Pt	195	2	165	-0.004	-0.004	ppb	-33.686	3	40	0.0	80	120	>+/-20%
Tl	205	2	165	40.307	40.307	ppb	0.844	354471	40	100.8	80	120	
Pb	208	2	165	40.854	40.854	ppb	0.857	481767	40	102.1	80	120	
Th	232	2	165	37.424	37.424	ppb	0.989	556437	40	93.6	80	120	
U	238	2	165	37.659	37.659	ppb	1.549	604817	40	94.1	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1738906	0.92	1841092	94.45	60	120	
Sc (IS)	45	1	HMI H2	31780590	0.64	34041789	93.36	60	120	
Sc (IS)	45	2	HMI He	959238	0.79	989699	96.92	60	120	
Sc (IS)	45	3	No Gas	56272036	0.69	58466742	96.25	60	120	
Ge Internal Standard	72	1	HMI H2	13043062	1.02	14056514	92.79	60	120	
Ge Internal Standard	72	2	HMI He	1109035	0.43	1155188	96.00	60	120	
In Internal Standard	115	2	HMI He	3789914	0.67	3786036	100.10	60	120	
Ho-165	165	2	HMI He	18763829	1.20	18554642	101.13	60	120	

Sample Report

Sample Table

Sample Name	lcsd 280-435184/3-a
Data File Name	077SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:33:17-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	91.489	ppb	91.489	7.88	224984	500000	
Li	7	2	45	69.679	ppb	69.679	19.19	12169	500000	
Li	7	3	45	92.353	ppb	92.353	4.16	8356787	50000	
Be	9	1	6	39.126	ppb	39.126	2.85	18392	2000	
B	11	1	6	28.035	ppb	28.035	4.44	14665	2000	
Na	23	1	45	-10.676	ppb	-10.676	-8.84	240167	2000	
Na	23	2	45	-18.369	ppb	-18.369	-17.95	16673	400000	
Mg	24	2	45	-0.196	ppb	-0.196	-151.65	297	400000	
Al	27	2	45	428.660	ppb	428.660	2.13	11205	400000	
K	39	1	45	-1455.900	ppb	-1455.900	-1.20	5859940	400000	
K	39	2	45	-35.973	ppb	-35.973	-60.16	18776	400000	
Ca	40	1	45	16.579	ppb	16.579	1.27	150269	400000	
Ca	44	2	45	234.155	ppb	234.155	16.12	717	400000	
Ti	47	2	45	2.577	ppb	2.577	35.10	73	4000	
V	51	2	72	37.846	ppb	37.846	1.68	45867	2000	
Cr	52	2	72	40.132	ppb	40.132	1.17	58783	5000	
Mn	55	2	72	40.681	ppb	40.681	0.95	21954	10000	
Fe	57	2	72	434.885	ppb	434.885	4.24	11752	400000	
Co	59	2	72	39.730	ppb	39.730	0.65	100161	2000	
Ni	60	2	72	40.054	ppb	40.054	0.23	28983	5000	
Cu	63	2	72	39.559	ppb	39.559	1.08	81333	5000	
Zn	66	2	72	40.730	ppb	40.730	6.29	10788	5000	
As	75	2	72	36.452	ppb	36.452	0.69	6687	2000	
Se	78	1	72	37.298	ppb	37.298	2.76	11830	2000	
Sr	88	2	72	40.758	ppb	40.758	0.94	23687	4000	
Zr	90	2	72	3949.225	ppb	3949.225	2.65	63757	1000	
Nb	93	2	72	0.193	ppb	0.193	26.01	1544	200	
Mo	95	2	115	36.065	ppb	36.065	1.54	36157	2000	
Pd	105	2	115	-0.019	ppb	-0.019	-39.89	7	100	
Ag	107	2	115	40.436	ppb	40.436	1.44	136863	100	
Cd	111	2	115	38.823	ppb	38.823	4.26	16607	2000	
Sn	120	2	115	41.335	ppb	41.335	0.60	46349	2000	
Sb	121	2	115	40.402	ppb	40.402	3.78	41476	1000	
Ba	137	2	115	39.297	ppb	39.297	0.69	13874	5000	
W	182	2	165	12.493	ppb	12.493	1.27	62072	100	
Pt	195	2	165	0.003	ppb	0.003	266.23	33	100	
Tl	205	2	165	40.439	ppb	40.439	1.16	354107	2000	
Pb	208	2	165	40.731	ppb	40.731	1.53	478271	5000	
Th	232	2	165	37.053	ppb	37.053	1.16	548535	2000	
U	238	2	165	37.533	ppb	37.533	0.37	600146	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1760764	1.11	1841092	95.64	60	120	
Sc (IS)	45	1	HMI H2	31535407	0.86	34041789	92.64	60	120	
Sc (IS)	45	2	HMI He	954908	0.75	989699	96.48	60	120	
Sc (IS)	45	3	No Gas	55940521	0.96	58466742	95.68	60	120	
Ge Internal Standard	72	1	HMI H2	12965505	0.42	14056514	92.24	60	120	
Ge Internal Standard	72	2	HMI He	1101600	1.42	1155188	95.36	60	120	
In Internal Standard	115	2	HMI He	3698598	1.18	3786036	97.69	60	120	
Ho-165	165	2	HMI He	18682933	0.56	18554642	100.69	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-1-b
Data File Name	078SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:37:06-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	189.114	ppb	189.114	3.79	259264	500000	
Li	7	2	45	183.294	ppb	183.294	3.51	14481	500000	
Li	7	3	45	184.170	ppb	184.170	1.67	9526165	50000	
Be	9	1	6	3.389	ppb	3.389	15.72	1477	2000	
B	11	1	6	273.316	ppb	273.316	3.06	127500	2000	
Na	23	1	45	186033.946	ppb	186033.946	0.39	650532097	2000	>LDR
Na	23	2	45	176670.923	ppb	176670.923	0.65	40558324	400000	
Mg	24	2	45	4785.047	ppb	4785.047	0.67	501953	400000	
Al	27	2	45	24963.149	ppb	24963.149	1.73	619667	400000	
K	39	1	45	7669.019	ppb	7669.019	0.20	37168629	400000	
K	39	2	45	8859.600	ppb	8859.600	0.67	482085	400000	
Ca	40	1	45	35340.810	ppb	35340.810	0.97	187496397	400000	
Ca	44	2	45	36500.950	ppb	36500.950	0.88	102786	400000	
Ti	47	2	45	314.814	ppb	314.814	5.18	8199	4000	
V	51	2	72	64.283	ppb	64.283	1.73	71851	2000	
Cr	52	2	72	291.422	ppb	291.422	0.97	406449	5000	
Mn	55	2	72	940.274	ppb	940.274	0.46	483286	10000	
Fe	57	2	72	60270.782	ppb	60270.782	1.37	1529436	400000	
Co	59	2	72	18.742	ppb	18.742	2.66	45181	2000	
Ni	60	2	72	132.894	ppb	132.894	1.12	91535	5000	
Cu	63	2	72	133.289	ppb	133.289	2.18	259069	5000	
Zn	66	2	72	513.056	ppb	513.056	1.33	126100	5000	
As	75	2	72	55.907	ppb	55.907	2.16	9796	2000	
Se	78	1	72	1.780	ppb	1.780	1.33	544	2000	
Sr	88	2	72	378.818	ppb	378.818	1.24	210424	4000	
Zr	90	2	72	3102.495	ppb	3102.495	2.56	47919	1000	
Nb	93	2	72	1.733	ppb	1.733	4.30	6819	200	
Mo	95	2	115	26.732	ppb	26.732	5.26	25771	2000	
Pd	105	2	115	0.004	ppb	0.004	186.75	40	100	
Ag	107	2	115	0.409	ppb	0.409	12.90	1370	100	
Cd	111	2	115	0.268	ppb	0.268	32.60	113	2000	
Sn	120	2	115	2.178	ppb	2.178	3.43	2570	2000	
Sb	121	2	115	1.302	ppb	1.302	4.67	1330	1000	
Ba	137	2	115	202.206	ppb	202.206	2.24	68527	5000	
W	182	2	165	1.401	ppb	1.401	3.97	8353	100	
Pt	195	2	165	-0.001	ppb	-0.001	-188.52	17	100	
Tl	205	2	165	0.640	ppb	0.640	1.71	5618	2000	
Pb	208	2	165	44.293	ppb	44.293	0.81	511406	5000	
Th	232	2	165	31.450	ppb	31.450	0.90	457921	2000	
U	238	2	165	12.130	ppb	12.130	1.16	190875	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1617430	1.99	1841092	87.85	60	120	
Sc (IS)	45	1	HMI H2	30084875	0.46	34041789	88.38	60	120	
Sc (IS)	45	2	HMI He	914562	1.42	989699	92.41	60	120	
Sc (IS)	45	3	No Gas	53254133	0.36	58466742	91.08	60	120	
Ge Internal Standard	72	1	HMI H2	12163794	0.27	14056514	86.53	60	120	
Ge Internal Standard	72	2	HMI He	1053255	1.24	1155188	91.18	60	120	
In Internal Standard	115	2	HMI He	3555975	1.83	3786036	93.92	60	120	
Ho-165	165	2	HMI He	18374834	1.21	18554642	99.03	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-2-b
Data File Name	079SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:40:53-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	175.336	ppb	175.336	2.46	256234	500000	
Li	7	2	45	147.276	ppb	147.276	12.22	13733	500000	
Li	7	3	45	178.539	ppb	178.539	0.13	9458193	50000	
Be	9	1	6	2.825	ppb	2.825	9.90	1257	2000	
B	11	1	6	272.945	ppb	272.945	1.00	129468	2000	
Na	23	1	45	185125.386	ppb	185125.386	0.98	655647630	2000	>LDR
Na	23	2	45	177263.063	ppb	177263.063	0.56	41136885	400000	
Mg	24	2	45	4357.649	ppb	4357.649	0.58	462124	400000	
Al	27	2	45	23825.857	ppb	23825.857	1.18	597838	400000	
K	39	1	45	7245.230	ppb	7245.230	0.27	36160884	400000	
K	39	2	45	8402.653	ppb	8402.653	0.18	463249	400000	
Ca	40	1	45	34420.905	ppb	34420.905	1.02	184958757	400000	
Ca	44	2	45	35426.211	ppb	35426.211	1.97	100852	400000	
Ti	47	2	45	291.583	ppb	291.583	8.04	7679	4000	
V	51	2	72	55.470	ppb	55.470	1.15	63646	2000	
Cr	52	2	72	255.537	ppb	255.537	0.47	362880	5000	
Mn	55	2	72	771.517	ppb	771.517	0.87	403756	10000	
Fe	57	2	72	54464.070	ppb	54464.070	1.04	1407330	400000	
Co	59	2	72	16.243	ppb	16.243	1.90	39870	2000	
Ni	60	2	72	112.248	ppb	112.248	0.70	78747	5000	
Cu	63	2	72	118.210	ppb	118.210	1.37	234122	5000	
Zn	66	2	72	527.083	ppb	527.083	0.94	131908	5000	
As	75	2	72	49.619	ppb	49.619	1.07	8856	2000	
Se	78	1	72	1.866	ppb	1.866	5.97	579	2000	
Sr	88	2	72	359.274	ppb	359.274	1.71	203182	4000	
Zr	90	2	72	2870.890	ppb	2870.890	1.54	45146	1000	
Nb	93	2	72	1.687	ppb	1.687	11.23	6782	200	
Mo	95	2	115	24.915	ppb	24.915	1.20	24252	2000	
Pd	105	2	115	0.030	ppb	0.030	102.69	80	100	
Ag	107	2	115	0.235	ppb	0.235	25.65	813	100	
Cd	111	2	115	0.233	ppb	0.233	54.10	100	2000	
Sn	120	2	115	2.042	ppb	2.042	3.62	2447	2000	
Sb	121	2	115	0.971	ppb	0.971	12.04	1013	1000	
Ba	137	2	115	180.969	ppb	180.969	0.63	61920	5000	
W	182	2	165	1.273	ppb	1.273	5.83	7776	100	
Pt	195	2	165	0.000	ppb	0.000	18791.27	20	100	
Tl	205	2	165	0.526	ppb	0.526	6.71	4654	2000	
Pb	208	2	165	40.984	ppb	40.984	1.27	475330	5000	
Th	232	2	165	29.001	ppb	29.001	0.67	424105	2000	
U	238	2	165	14.530	ppb	14.530	0.66	229559	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1644066	1.14	1841092	89.30	60	120	
Sc (IS)	45	1	HMI H2	30472033	1.03	34041789	89.51	60	120	
Sc (IS)	45	2	HMI He	924508	1.11	989699	93.41	60	120	
Sc (IS)	45	3	No Gas	53413929	0.56	58466742	91.36	60	120	
Ge Internal Standard	72	1	HMI H2	12358276	0.23	14056514	87.92	60	120	
Ge Internal Standard	72	2	HMI He	1072350	0.94	1155188	92.83	60	120	
In Internal Standard	115	2	HMI He	3589093	0.81	3786036	94.80	60	120	
Ho-165	165	2	HMI He	18453143	0.53	18554642	99.45	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-3-b
Data File Name	080SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:44:39-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	6.820	ppb	6.820	27.25	187971	500000	
Li	7	2	45	-14.967	ppb	-14.967	-153.56	10217	500000	
Li	7	3	45	5.239	ppb	5.239	120.36	6830995	50000	
Be	9	1	6	-0.033	ppb	-0.033	-36.66	3	2000	
B	11	1	6	3.384	ppb	3.384	10.64	2180	2000	
Na	23	1	45	446.054	ppb	446.054	11.44	1948864	2000	
Na	23	2	45	252.115	ppb	252.115	10.80	83441	400000	
Mg	24	2	45	4.760	ppb	4.760	5.87	860	400000	
Al	27	2	45	21.889	ppb	21.889	7.05	680	400000	
K	39	1	45	-1443.614	ppb	-1443.614	-1.72	6017123	400000	
K	39	2	45	-27.285	ppb	-27.285	-29.90	19724	400000	
Ca	40	1	45	78.119	ppb	78.119	9.22	501547	400000	
Ca	44	2	45	60.990	ppb	60.990	37.05	213	400000	
Ti	47	2	45	-0.118	ppb	-0.118	0.00	0	4000	
V	51	2	72	-1.577	ppb	-1.577	-9.72	2274	2000	
Cr	52	2	72	0.311	ppb	0.311	20.98	763	5000	
Mn	55	2	72	0.756	ppb	0.756	5.37	507	10000	
Fe	57	2	72	46.736	ppb	46.736	20.89	1483	400000	
Co	59	2	72	0.026	ppb	0.026	35.36	83	2000	
Ni	60	2	72	0.102	ppb	0.102	171.04	263	5000	
Cu	63	2	72	0.337	ppb	0.337	25.73	2020	5000	
Zn	66	2	72	1.381	ppb	1.381	17.49	713	5000	
As	75	2	72	0.051	ppb	0.051	91.29	25	2000	
Se	78	1	72	-0.022	ppb	-0.022	-182.43	9	2000	
Sr	88	2	72	0.338	ppb	0.338	49.74	210	4000	
Zr	90	2	72	24.010	ppb	24.010	27.44	493	1000	
Nb	93	2	72	0.067	ppb	0.067	54.18	1110	200	
Mo	95	2	115	-0.003	ppb	-0.003	-1567.39	47	2000	
Pd	105	2	115	-0.015	ppb	-0.015	-65.43	13	100	
Ag	107	2	115	0.000	ppb	0.000	-3966.01	43	100	
Cd	111	2	115	0.000	ppb	0.000	-4578.06	3	2000	
Sn	120	2	115	0.123	ppb	0.123	57.45	397	2000	
Sb	121	2	115	0.050	ppb	0.050	106.73	103	1000	
Ba	137	2	115	0.346	ppb	0.346	8.87	150	5000	
W	182	2	165	-0.024	ppb	-0.024	-240.45	1634	100	
Pt	195	2	165	-0.003	ppb	-0.003	-161.85	10	100	
Tl	205	2	165	0.008	ppb	0.008	112.63	180	2000	
Pb	208	2	165	0.083	ppb	0.083	7.88	1920	5000	
Th	232	2	165	0.093	ppb	0.093	5.40	1637	2000	
U	238	2	165	0.012	ppb	0.012	49.58	347	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1753471	0.67	1841092	95.24	60	120	
Sc (IS)	45	1	HMI H2	32138734	1.14	34041789	94.41	60	120	
Sc (IS)	45	2	HMI He	978344	0.75	989699	98.85	60	120	
Sc (IS)	45	3	No Gas	56264246	0.82	58466742	96.23	60	120	
Ge Internal Standard	72	1	HMI H2	13249176	0.36	14056514	94.26	60	120	
Ge Internal Standard	72	2	HMI He	1127397	0.75	1155188	97.59	60	120	
In Internal Standard	115	2	HMI He	3832940	1.57	3786036	101.24	60	120	
Ho-165	165	2	HMI He	19008281	0.80	18554642	102.44	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	081_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:48:26-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	525.663	ppb	0.838	437301	500	105.1	90	110	
Li	7	2	45	504.117	ppb	3.712	22982	500	100.8	90	110	
Li	7	3	45	546.293	ppb	1.120	15731977	500	109.3	90	110	
Be	9	1	6	49.624	ppb	6.045	23079	50	99.2	90	110	
B	11	1	6	50.578	ppb	3.300	25813	50	101.2	90	110	
Na	23	1	45	5356.003	ppb	0.323	20101041	5000	107.1	90	110	
Na	23	2	45	5395.138	ppb	2.259	1287754	5000	107.9	90	110	
Mg	24	2	45	4985.690	ppb	1.424	535351	5000	99.7	90	110	
Al	27	2	45	5243.637	ppb	0.341	133311	5000	104.9	90	110	
K	39	1	45	5152.344	ppb	0.209	30127569	5000	103.0	90	110	
K	39	2	45	5115.642	ppb	1.157	293542	5000	102.3	90	110	
Ca	40	1	45	5127.919	ppb	0.302	28851202	5000	102.6	90	110	
Ca	44	2	45	5267.808	ppb	2.941	15205	5000	105.4	90	110	
Ti	47	2	45	46.859	ppb	15.314	1250	50	93.7	90	110	
V	51	2	72	49.219	ppb	2.240	57813	50	98.4	90	110	
Cr	52	2	72	49.218	ppb	1.239	71218	50	98.4	90	110	
Mn	55	2	72	50.953	ppb	5.318	27160	50	101.9	90	110	
Fe	57	2	72	5141.832	ppb	2.640	135106	5000	102.8	90	110	
Co	59	2	72	49.332	ppb	1.862	122950	50	98.7	90	110	
Ni	60	2	72	50.574	ppb	2.016	36140	50	101.1	90	110	
Cu	63	2	72	49.353	ppb	0.763	100011	50	98.7	90	110	
Zn	66	2	72	50.193	ppb	1.431	13063	50	100.4	90	110	
As	75	2	72	47.714	ppb	2.305	8648	50	95.4	90	110	
Se	78	1	72	49.831	ppb	1.260	15840	50	99.7	90	110	
Sr	88	2	72	51.936	ppb	1.771	29836	50	103.9	90	110	
Zr	90	2	72	166.776	ppb	5.943	2754	50	333.6	90	110	>+\-10%
Nb	93	2	72	91.180	ppb	0.954	327936	100	91.2	90	110	
Mo	95	2	115	48.731	ppb	1.076	48625	50	97.5	90	110	
Pd	105	2	115	50.940	ppb	2.890	79015	50	101.9	90	110	
Ag	107	2	115	48.412	ppb	1.989	163147	50	96.8	90	110	
Cd	111	2	115	49.602	ppb	3.207	21127	50	99.2	90	110	
Sn	120	2	115	50.172	ppb	0.853	55964	50	100.3	90	110	
Sb	121	2	115	49.728	ppb	2.178	50821	50	99.5	90	110	
Ba	137	2	115	50.005	ppb	2.110	17572	50	100.0	90	110	
W	182	2	165	48.919	ppb	0.486	234623	50	97.8	90	110	
Pt	195	2	165	48.935	ppb	0.736	194460	50	97.9	90	110	
Tl	205	2	165	50.534	ppb	2.195	436122	50	101.1	90	110	
Pb	208	2	165	50.421	ppb	1.028	583345	50	100.8	90	110	
Th	232	2	165	47.088	ppb	1.150	687064	50	94.2	90	110	
U	238	2	165	47.105	ppb	0.602	742370	50	94.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1742365	0.65	1841092	94.64	60	120	
Sc (IS)	45	1	HMI H2	31848455	0.18	34041789	93.56	60	120	
Sc (IS)	45	2	HMI He	936218	1.18	989699	94.60	60	120	
Sc (IS)	45	3	No Gas	53295114	0.48	58466742	91.15	60	120	
Ge Internal Standard	72	1	HMI H2	12997211	0.76	14056514	92.46	60	120	
Ge Internal Standard	72	2	HMI He	1089150	1.13	1155188	94.28	60	120	
In Internal Standard	115	2	HMI He	3682929	1.57	3786036	97.28	60	120	
Ho-165	165	2	HMI He	18415511	1.05	18554642	99.25	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	082_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:52:14-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	15.343	ppb	10.7	6653278	10	>RL
Be	9	1	6	0.003	ppb	4.9	20	0.5	
B	11	1	6	1.525	ppb	17.6	1230	0.5	>RL
Na	23	1	45	69.010	ppb	4.6	529132	25	>RL
Na	23	2	45	55.956	ppb	2.2	33305	25	>RL
Mg	24	2	45	-0.041	ppb	-1534.0	303	25	
Al	27	2	45	0.939	ppb	61.8	117	15	
K	39	1	45	-24.912	ppb	-20.4	10989317	50	
K	39	2	45	-30.470	ppb	-50.7	18426	50	
Ca	40	1	45	5.065	ppb	6.1	85773	50	
Ca	44	2	45	6.507	ppb	187.8	47	25	
Ti	47	2	45	-0.118	ppb	0.0	0	0.5	
V	51	2	72	0.567	ppb	32.0	4488	1	
Cr	52	2	72	0.041	ppb	78.5	343	1	
Mn	55	2	72	0.014	ppb	1022.9	93	0.5	
Fe	57	2	72	2.653	ppb	52.2	273	25	
Co	59	2	72	0.018	ppb	80.6	60	0.5	
Ni	60	2	72	0.057	ppb	108.1	220	1	
Cu	63	2	72	0.185	ppb	7.8	1627	1	
Zn	66	2	72	0.432	ppb	23.3	443	5	
As	75	2	72	0.094	ppb	25.5	31	1	
Se	78	1	72	0.042	ppb	32.8	29	1	
Sr	88	2	72	0.019	ppb	2.4	20	0.5	
Zr	90	2	72	-0.400	ppb	-662.6	87	1	
Nb	93	2	72	2.386	ppb	7.9	9277	2	>RL
Mo	95	2	115	0.004	ppb	501.5	53	0.5	
Pd	105	2	115	0.005	ppb	204.0	43	1	
Ag	107	2	115	0.003	ppb	286.2	53	1	
Cd	111	2	115	0.000	ppb	7701.8	3	0.5	
Sn	120	2	115	0.059	ppb	78.2	310	1	
Sb	121	2	115	0.292	ppb	32.0	347	0.6	
Ba	137	2	115	-0.036	ppb	-1.0	10	0.5	
W	182	2	165	0.037	ppb	130.3	1874	1	
Pt	195	2	165	0.016	ppb	33.1	83	1	
Tl	205	2	165	0.019	ppb	64.8	270	0.1	
Pb	208	2	165	0.041	ppb	16.7	1370	0.5	
Th	232	2	165	0.038	ppb	17.9	787	1	
U	238	2	165	0.020	ppb	34.6	450	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1736935	0.29	1841092	94.34	60	120	
Sc (IS)	45	1	HMI H2	31358903	0.48	34041789	92.12	60	120	
Sc (IS)	45	2	HMI He	922495	0.99	989699	93.21	60	120	
Sc (IS)	45	3	No Gas	53371139	0.83	58466742	91.28	60	120	
Ge Internal Standard	72	1	HMI H2	12945879	0.96	14056514	92.10	60	120	
Ge Internal Standard	72	2	HMI He	1075308	1.28	1155188	93.09	60	120	
In Internal Standard	115	2	HMI He	3679307	1.28	3786036	97.18	60	120	
Ho-165	165	2	HMI He	18420859	0.40	18554642	99.28	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	083LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:56:02-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	27.815	ppb	7.289	6894624	50	55.6	70	130	>+/-30%
Be	9	1	6	0.897	ppb	26.961	443	1	89.7	70	130	
Na	23	2	45	81.709	ppb	3.019	39213	50	163.4	70	130	>+/-30%
Mg	24	2	45	47.197	ppb	4.802	5291	50	94.4	70	130	
Al	27	2	45	31.620	ppb	9.639	883	30	105.4	70	130	
K	39	2	45	82.482	ppb	7.655	24341	100	82.5	70	130	
Ca	44	2	45	57.148	ppb	21.497	190	50	114.3	70	130	
V	51	2	72	5.437	ppb	5.623	9760	5	108.7	70	130	
Cr	52	2	72	1.890	ppb	2.896	2977	2	94.5	70	130	
Mn	55	2	72	1.002	ppb	29.325	613	1	100.2	70	130	
Fe	57	2	72	61.635	ppb	2.317	1804	50	123.3	70	130	
Co	59	2	72	0.999	ppb	4.338	2477	1	99.9	70	130	
Ni	60	2	72	1.979	ppb	5.404	1570	2	99.0	70	130	
Cu	63	2	72	2.206	ppb	4.272	5625	2	110.3	70	130	
Zn	66	2	72	10.570	ppb	2.399	2984	10	105.7	70	130	
As	75	2	72	4.772	ppb	5.695	868	5	95.4	70	130	
Se	78	1	72	4.862	ppb	7.247	1529	5	97.2	70	130	
Sr	88	2	72	0.947	ppb	11.061	547	1	94.7	70	130	
Zr	90	2	72	34.916	ppb	7.395	643	0.5	6983.1	70	130	>+/-30%
Nb	93	2	72	4.933	ppb	4.290	18313	2	246.6	70	130	>+/-30%
Mo	95	2	115	1.914	ppb	18.387	1944	2	95.7	70	130	
Pd	105	2	115	0.009	ppb	68.769	50	1	0.9	70	130	>+/-30%
Ag	107	2	115	4.837	ppb	2.428	16237	5	96.7	70	130	
Cd	111	2	115	0.890	ppb	16.505	380	1	89.0	70	130	
Sn	120	2	115	9.895	ppb	2.471	11162	10	98.9	70	130	
Sb	121	2	115	1.976	ppb	4.901	2054	2	98.8	70	130	
Ba	137	2	115	1.082	ppb	25.438	400	1	108.2	70	130	
W	182	2	165	4.913	ppb	2.443	25148	1	491.3	70	130	>+/-30%
Pt	195	2	165	0.037	ppb	44.907	167	1	3.7	70	130	>+/-30%
Tl	205	2	165	1.059	ppb	1.132	9270	1	105.9	70	130	
Pb	208	2	165	1.040	ppb	3.883	12947	1	104.0	70	130	
Th	232	2	165	1.905	ppb	1.522	28078	2	95.2	70	130	
U	238	2	165	0.935	ppb	6.334	14913	1	93.5	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1768172	1.32	1841092	96.04	60	120	
Sc (IS)	45	1	HMI H2	31131045	0.65	34041789	91.45	60	120	
Sc (IS)	45	2	HMI He	921238	0.43	989699	93.08	60	120	
Sc (IS)	45	3	No Gas	53585399	0.75	58466742	91.65	60	120	
Ge Internal Standard	72	1	HMI H2	12741909	0.86	14056514	90.65	60	120	
Ge Internal Standard	72	2	HMI He	1076403	0.32	1155188	93.18	60	120	
In Internal Standard	115	2	HMI He	3659331	0.14	3786036	96.65	60	120	
Ho-165	165	2	HMI He	18460117	0.69	18554642	99.49	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-4-e
Data File Name	084SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T20:59:50-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	125.701	ppb	125.701	3.08	227819	500000	
Li	7	2	45	125.563	ppb	125.563	3.06	12612	500000	
Li	7	3	45	129.126	ppb	129.126	2.80	8327472	50000	
Be	9	1	6	1.054	ppb	1.054	12.35	463	2000	
B	11	1	6	240.319	ppb	240.319	0.48	110082	2000	
Na	23	1	45	188512.851	ppb	188512.851	0.81	652128710	2000	>LDR
Na	23	2	45	182004.451	ppb	182004.451	1.09	40400532	400000	
Mg	24	2	45	5151.200	ppb	5151.200	1.02	522469	400000	
Al	27	2	45	12556.296	ppb	12556.296	0.76	301378	400000	
K	39	1	45	8952.282	ppb	8952.282	1.07	41163190	400000	
K	39	2	45	10053.474	ppb	10053.474	0.60	526370	400000	
Ca	40	1	45	73415.470	ppb	73415.470	0.31	385275381	400000	
Ca	44	2	45	76479.054	ppb	76479.054	0.93	208182	400000	
Ti	47	2	45	324.500	ppb	324.500	2.88	8169	4000	
V	51	2	72	28.993	ppb	28.993	1.98	33513	2000	
Cr	52	2	72	123.104	ppb	123.104	1.79	167006	5000	
Mn	55	2	72	319.762	ppb	319.762	0.63	159774	10000	
Fe	57	2	72	14839.946	ppb	14839.946	0.88	366143	400000	
Co	59	2	72	6.578	ppb	6.578	4.84	15419	2000	
Ni	60	2	72	23.484	ppb	23.484	4.11	15863	5000	
Cu	63	2	72	20.763	ppb	20.763	1.83	40234	5000	
Zn	66	2	72	554.744	ppb	554.744	0.66	132488	5000	
As	75	2	72	25.351	ppb	25.351	2.72	4326	2000	
Se	78	1	72	2.206	ppb	2.206	16.93	664	2000	
Sr	88	2	72	1108.760	ppb	1108.760	0.91	598475	4000	
Zr	90	2	72	1340.200	ppb	1340.200	1.39	20162	1000	
Nb	93	2	72	1.334	ppb	1.334	3.82	5281	200	
Mo	95	2	115	10.723	ppb	10.723	2.44	10067	2000	
Pd	105	2	115	0.030	ppb	0.030	88.33	77	100	
Ag	107	2	115	0.086	ppb	0.086	28.50	310	100	
Cd	111	2	115	0.109	ppb	0.109	34.38	47	2000	
Sn	120	2	115	1.366	ppb	1.366	11.25	1650	2000	
Sb	121	2	115	0.472	ppb	0.472	20.77	497	1000	
Ba	137	2	115	139.532	ppb	139.532	1.00	45941	5000	
W	182	2	165	0.637	ppb	0.637	4.85	4601	100	
Pt	195	2	165	0.003	ppb	0.003	187.93	30	100	
Tl	205	2	165	0.215	ppb	0.215	18.90	1910	2000	
Pb	208	2	165	10.956	ppb	10.956	0.62	123982	5000	
Th	232	2	165	8.181	ppb	8.181	1.94	116297	2000	
U	238	2	165	7.112	ppb	7.112	2.29	109134	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1586880	0.95	1841092	86.19	60	120	
Sc (IS)	45	1	HMI H2	29763098	0.64	34041789	87.43	60	120	
Sc (IS)	45	2	HMI He	884258	0.42	989699	89.35	60	120	
Sc (IS)	45	3	No Gas	51658846	0.44	58466742	88.36	60	120	
Ge Internal Standard	72	1	HMI H2	12055839	0.73	14056514	85.77	60	120	
Ge Internal Standard	72	2	HMI He	1023556	0.79	1155188	88.61	60	120	
In Internal Standard	115	2	HMI He	3453252	0.82	3786036	91.21	60	120	
Ho-165	165	2	HMI He	17913151	0.72	18554642	96.54	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-4-eSD@5
Data File Name	085SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:03:36-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	31.843	ppb	31.843	18.36	189703	500000	
Li	7	2	45	16.727	ppb	16.727	105.38	10214	500000	
Li	7	3	45	41.721	ppb	41.721	4.66	6903651	50000	
Be	9	1	6	0.262	ppb	0.262	17.63	137	2000	
B	11	1	6	49.359	ppb	49.359	2.53	24477	2000	
Na	23	1	45	40900.431	ppb	40900.431	0.73	145006391	2000	>LDR
Na	23	2	45	39788.999	ppb	39788.999	0.57	9039603	400000	
Mg	24	2	45	1094.249	ppb	1094.249	2.27	113630	400000	
Al	27	2	45	2725.703	ppb	2725.703	1.64	66923	400000	
K	39	1	45	1888.833	ppb	1888.833	1.65	17377978	400000	
K	39	2	45	2119.429	ppb	2119.429	2.16	128863	400000	
Ca	40	1	45	15661.612	ppb	15661.612	0.34	84153772	400000	
Ca	44	2	45	16463.688	ppb	16463.688	2.20	45810	400000	
Ti	47	2	45	71.458	ppb	71.458	1.99	1840	4000	
V	51	2	72	6.118	ppb	6.118	9.91	10294	2000	
Cr	52	2	72	25.886	ppb	25.886	2.05	36430	5000	
Mn	55	2	72	65.756	ppb	65.756	2.30	33944	10000	
Fe	57	2	72	3152.683	ppb	3152.683	0.51	80366	400000	
Co	59	2	72	1.400	ppb	1.400	3.87	3397	2000	
Ni	60	2	72	5.204	ppb	5.204	11.44	3761	5000	
Cu	63	2	72	4.305	ppb	4.305	1.85	9584	5000	
Zn	66	2	72	115.220	ppb	115.220	0.65	28636	5000	
As	75	2	72	5.577	ppb	5.577	4.19	992	2000	
Se	78	1	72	0.469	ppb	0.469	21.00	160	2000	
Sr	88	2	72	233.223	ppb	233.223	0.82	129806	4000	
Zr	90	2	72	278.160	ppb	278.160	2.04	4388	1000	
Nb	93	2	72	0.269	ppb	0.269	15.27	1740	200	
Mo	95	2	115	2.043	ppb	2.043	6.17	2047	2000	
Pd	105	2	115	0.010	ppb	0.010	5.63	50	100	
Ag	107	2	115	0.009	ppb	0.009	95.57	70	100	
Cd	111	2	115	0.033	ppb	0.033	155.84	17	2000	
Sn	120	2	115	0.187	ppb	0.187	14.92	443	2000	
Sb	121	2	115	0.139	ppb	0.139	23.41	187	1000	
Ba	137	2	115	29.075	ppb	29.075	1.03	10044	5000	
W	182	2	165	0.109	ppb	0.109	14.30	2190	100	
Pt	195	2	165	-0.002	ppb	-0.002	-178.12	10	100	
Tl	205	2	165	0.042	ppb	0.042	24.43	460	2000	
Pb	208	2	165	2.450	ppb	2.450	0.83	28827	5000	
Th	232	2	165	1.700	ppb	1.700	3.48	24711	2000	
U	238	2	165	1.446	ppb	1.446	1.76	22641	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1692565	1.16	1841092	91.93	60	120	
Sc (IS)	45	1	HMI H2	30457498	0.63	34041789	89.47	60	120	
Sc (IS)	45	2	HMI He	903501	0.56	989699	91.29	60	120	
Sc (IS)	45	3	No Gas	51855378	0.67	58466742	88.69	60	120	
Ge Internal Standard	72	1	HMI H2	12601139	0.74	14056514	89.65	60	120	
Ge Internal Standard	72	2	HMI He	1055440	0.58	1155188	91.37	60	120	
In Internal Standard	115	2	HMI He	3616769	1.68	3786036	95.53	60	120	
Ho-165	165	2	HMI He	18183017	0.54	18554642	98.00	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-4-f ms
Data File Name	086SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:07:22-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	209.617	ppb	209.617	2.96	261922	500000	
Li	7	2	45	195.087	ppb	195.087	6.49	14374	500000	
Li	7	3	45	194.420	ppb	194.420	3.45	9468813	50000	
Be	9	1	6	41.395	ppb	41.395	3.70	17231	2000	
B	11	1	6	267.094	ppb	267.094	2.67	120156	2000	
Na	23	1	45	183547.843	ppb	183547.843	0.50	625789297	2000	>LDR
Na	23	2	45	175443.531	ppb	175443.531	0.48	39191357	400000	
Mg	24	2	45	4970.005	ppb	4970.005	0.12	507295	400000	
Al	27	2	45	12814.983	ppb	12814.983	0.94	309555	400000	
K	39	1	45	8619.795	ppb	8619.795	1.05	39446249	400000	
K	39	2	45	9705.005	ppb	9705.005	0.40	512018	400000	
Ca	40	1	45	71393.179	ppb	71393.179	0.88	369247608	400000	
Ca	44	2	45	74578.398	ppb	74578.398	1.10	204302	400000	
Ti	47	2	45	317.178	ppb	317.178	8.31	8033	4000	
V	51	2	72	68.004	ppb	68.004	0.88	74148	2000	
Cr	52	2	72	154.334	ppb	154.334	1.13	210723	5000	
Mn	55	2	72	344.457	ppb	344.457	1.80	173284	10000	
Fe	57	2	72	14586.288	ppb	14586.288	1.23	362343	400000	
Co	59	2	72	45.596	ppb	45.596	1.58	107529	2000	
Ni	60	2	72	62.180	ppb	62.180	1.63	41992	5000	
Cu	63	2	72	58.326	ppb	58.326	1.59	111621	5000	
Zn	66	2	72	571.206	ppb	571.206	0.93	137337	5000	
As	75	2	72	60.957	ppb	60.957	1.45	10450	2000	
Se	78	1	72	38.404	ppb	38.404	1.16	11241	2000	
Sr	88	2	72	1125.424	ppb	1125.424	0.89	611595	4000	
Zr	90	2	72	4543.940	ppb	4543.940	0.88	68609	1000	
Nb	93	2	72	0.977	ppb	0.977	1.64	4104	200	
Mo	95	2	115	46.140	ppb	46.140	2.28	43541	2000	
Pd	105	2	115	0.018	ppb	0.018	115.23	60	100	
Ag	107	2	115	38.512	ppb	38.512	0.78	122785	100	
Cd	111	2	115	39.590	ppb	39.590	3.36	15950	2000	
Sn	120	2	115	25.762	ppb	25.762	2.26	27291	2000	
Sb	121	2	115	27.961	ppb	27.961	4.56	27041	1000	
Ba	137	2	115	175.241	ppb	175.241	3.36	58184	5000	
W	182	2	165	8.513	ppb	8.513	1.53	41596	100	
Pt	195	2	165	0.001	ppb	0.001	309.12	23	100	
Tl	205	2	165	38.637	ppb	38.637	0.42	328443	2000	
Pb	208	2	165	49.404	ppb	49.404	0.18	562930	5000	
Th	232	2	165	44.886	ppb	44.886	0.24	645002	2000	
U	238	2	165	44.305	ppb	44.305	0.75	687672	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1559217	0.76	1841092	84.69	60	120	
Sc (IS)	45	1	HMI H2	29331965	0.40	34041789	86.16	60	120	
Sc (IS)	45	2	HMI He	889868	0.82	989699	89.91	60	120	
Sc (IS)	45	3	No Gas	51981929	1.50	58466742	88.91	60	120	
Ge Internal Standard	72	1	HMI H2	11965187	0.55	14056514	85.12	60	120	
Ge Internal Standard	72	2	HMI He	1030518	0.78	1155188	89.21	60	120	
In Internal Standard	115	2	HMI He	3483785	1.90	3786036	92.02	60	120	
Ho-165	165	2	HMI He	18136169	0.82	18554642	97.74	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-4-g msd
Data File Name	087SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:11:10-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	201.387	ppb	201.387	3.74	259581	500000	
Li	7	2	45	168.400	ppb	168.400	17.31	13850	500000	
Li	7	3	45	196.486	ppb	196.486	4.73	9484756	50000	
Be	9	1	6	40.126	ppb	40.126	1.51	16820	2000	
B	11	1	6	262.530	ppb	262.530	0.78	118939	2000	
Na	23	1	45	184359.982	ppb	184359.982	0.18	631794417	2000	>LDR
Na	23	2	45	173790.279	ppb	173790.279	1.69	39175985	400000	
Mg	24	2	45	4854.315	ppb	4854.315	1.19	500040	400000	
Al	27	2	45	12425.839	ppb	12425.839	1.30	302905	400000	
K	39	1	45	8594.348	ppb	8594.348	0.67	39562930	400000	
K	39	2	45	9576.094	ppb	9576.094	1.11	510124	400000	
Ca	40	1	45	71246.243	ppb	71246.243	0.55	370379488	400000	
Ca	44	2	45	74065.061	ppb	74065.061	1.49	204777	400000	
Ti	47	2	45	315.349	ppb	315.349	7.40	8056	4000	
V	51	2	72	66.249	ppb	66.249	1.89	72699	2000	
Cr	52	2	72	152.893	ppb	152.893	0.46	209832	5000	
Mn	55	2	72	337.316	ppb	337.316	1.55	170578	10000	
Fe	57	2	72	14237.432	ppb	14237.432	0.28	355509	400000	
Co	59	2	72	45.001	ppb	45.001	0.31	106687	2000	
Ni	60	2	72	61.392	ppb	61.392	1.12	41681	5000	
Cu	63	2	72	57.867	ppb	57.867	0.27	111322	5000	
Zn	66	2	72	567.681	ppb	567.681	1.55	137188	5000	
As	75	2	72	61.473	ppb	61.473	1.32	10594	2000	
Se	78	1	72	39.170	ppb	39.170	2.11	11482	2000	
Sr	88	2	72	1123.283	ppb	1123.283	0.26	613579	4000	
Zr	90	2	72	4577.438	ppb	4577.438	1.53	69484	1000	
Nb	93	2	72	0.897	ppb	0.897	5.66	3854	200	
Mo	95	2	115	45.832	ppb	45.832	0.94	43829	2000	
Pd	105	2	115	0.042	ppb	0.042	90.42	97	100	
Ag	107	2	115	38.118	ppb	38.118	1.23	123125	100	
Cd	111	2	115	37.996	ppb	37.996	1.88	15516	2000	
Sn	120	2	115	25.273	ppb	25.273	1.16	27134	2000	
Sb	121	2	115	28.506	ppb	28.506	1.78	27939	1000	
Ba	137	2	115	170.029	ppb	170.029	1.24	57207	5000	
W	182	2	165	9.533	ppb	9.533	1.18	45806	100	
Pt	195	2	165	-0.002	ppb	-0.002	-106.97	10	100	
Tl	205	2	165	39.118	ppb	39.118	0.62	328419	2000	
Pb	208	2	165	49.552	ppb	49.552	1.22	557635	5000	
Th	232	2	165	45.221	ppb	45.221	0.37	641844	2000	
U	238	2	165	44.324	ppb	44.324	0.46	679495	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1570095	1.34	1841092	85.28	60	120	
Sc (IS)	45	1	HMI H2	29483232	0.33	34041789	86.61	60	120	
Sc (IS)	45	2	HMI He	898172	1.99	989699	90.75	60	120	
Sc (IS)	45	3	No Gas	51880583	0.95	58466742	88.74	60	120	
Ge Internal Standard	72	1	HMI H2	11983621	0.52	14056514	85.25	60	120	
Ge Internal Standard	72	2	HMI He	1035882	1.26	1155188	89.67	60	120	
In Internal Standard	115	2	HMI He	3529277	1.22	3786036	93.22	60	120	
Ho-165	165	2	HMI He	17913289	1.40	18554642	96.54	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-4-e PDS
Data File Name	088SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:14:57-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	121.051	ppb	121.051	4.02	225665	500000	
Li	7	2	45	100.753	ppb	100.753	16.50	12299	500000	
Li	7	3	45	116.700	ppb	116.700	2.19	8098566	50000	
Be	9	1	6	211.298	ppb	211.298	0.95	87648	2000	
B	11	1	6	243.451	ppb	243.451	0.32	109256	2000	
Na	23	1	45	188399.568	ppb	188399.568	1.09	651586284	2000	>LDR
Na	23	2	45	177217.635	ppb	177217.635	0.04	40265912	400000	
Mg	24	2	45	5025.111	ppb	5025.111	1.05	521675	400000	
Al	27	2	45	13720.229	ppb	13720.229	0.56	337089	400000	
K	39	1	45	8975.925	ppb	8975.925	0.70	41237129	400000	
K	39	2	45	9936.479	ppb	9936.479	0.89	532719	400000	
Ca	40	1	45	73018.100	ppb	73018.100	0.33	383112488	400000	
Ca	44	2	45	75769.468	ppb	75769.468	0.77	211133	400000	
Ti	47	2	45	346.825	ppb	346.825	0.94	8937	4000	
V	51	2	72	230.987	ppb	230.987	0.54	246649	2000	
Cr	52	2	72	316.540	ppb	316.540	1.01	438445	5000	
Mn	55	2	72	517.889	ppb	517.889	0.75	264412	10000	
Fe	57	2	72	15385.478	ppb	15385.478	1.51	387917	400000	
Co	59	2	72	205.956	ppb	205.956	0.70	493008	2000	
Ni	60	2	72	217.525	ppb	217.525	0.52	148697	5000	
Cu	63	2	72	217.396	ppb	217.396	1.18	418926	5000	
Zn	66	2	72	741.071	ppb	741.071	1.40	180797	5000	
As	75	2	72	218.303	ppb	218.303	1.58	37954	2000	
Se	78	1	72	196.303	ppb	196.303	0.50	57744	2000	
Sr	88	2	72	1120.609	ppb	1120.609	0.46	618200	4000	
Zr	90	2	72	11320.555	ppb	11320.555	1.08	173399	1000	>LDR
Nb	93	2	72	2.626	ppb	2.626	11.05	9857	200	
Mo	95	2	115	103.258	ppb	103.258	2.59	99192	2000	
Pd	105	2	115	0.071	ppb	0.071	17.01	140	100	
Ag	107	2	115	39.924	ppb	39.924	0.43	129630	100	
Cd	111	2	115	195.498	ppb	195.498	0.98	80233	2000	
Sn	120	2	115	99.127	ppb	99.127	0.80	106297	2000	
Sb	121	2	115	99.604	ppb	99.604	1.56	98040	1000	
Ba	137	2	115	339.963	ppb	339.963	0.99	114963	5000	
W	182	2	165	93.946	ppb	93.946	0.58	441819	100	
Pt	195	2	165	0.049	ppb	0.049	26.83	210	100	
Tl	205	2	165	213.612	ppb	213.612	1.14	1813804	2000	
Pb	208	2	165	214.352	ppb	214.352	1.93	2437179	5000	
Th	232	2	165	20.436	ppb	20.436	0.18	293522	2000	
U	238	2	165	212.828	ppb	212.828	0.53	3299860	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1554774	0.54	1841092	84.45	60	120	
Sc (IS)	45	1	HMI H2	29756705	0.71	34041789	87.41	60	120	
Sc (IS)	45	2	HMI He	905131	1.30	989699	91.46	60	120	
Sc (IS)	45	3	No Gas	51512976	0.49	58466742	88.11	60	120	
Ge Internal Standard	72	1	HMI H2	12037386	0.76	14056514	85.64	60	120	
Ge Internal Standard	72	2	HMI He	1046118	1.28	1155188	90.56	60	120	
In Internal Standard	115	2	HMI He	3547825	1.14	3786036	93.71	60	120	
Ho-165	165	2	HMI He	18120127	0.68	18554642	97.66	60	120	

Sample Report

Sample Table

Sample Name	280-116051-c-5-b
Data File Name	089SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:18:44-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	7.762	ppb	7.762	104.79	179412	500000	
Li	7	2	45	-19.419	ppb	-19.419	-143.81	9587	500000	
Li	7	3	45	2.558	ppb	2.558	144.66	6435017	50000	
Be	9	1	6	0.201	ppb	0.201	16.75	107	2000	
B	11	1	6	4.486	ppb	4.486	8.78	2577	2000	
Na	23	1	45	547.775	ppb	547.775	4.91	2218320	2000	
Na	23	2	45	408.316	ppb	408.316	4.29	115677	400000	
Mg	24	2	45	5.169	ppb	5.169	11.25	860	400000	
Al	27	2	45	15.728	ppb	15.728	14.48	490	400000	
K	39	1	45	-1421.392	ppb	-1421.392	-0.59	5807953	400000	
K	39	2	45	-14.658	ppb	-14.658	-69.40	19400	400000	
Ca	40	1	45	169.353	ppb	169.353	10.40	969820	400000	
Ca	44	2	45	138.306	ppb	138.306	11.72	423	400000	
Ti	47	2	45	0.881	ppb	0.881	128.68	27	4000	
V	51	2	72	-1.141	ppb	-1.141	-3.73	2660	2000	
Cr	52	2	72	0.354	ppb	0.354	14.77	793	5000	
Mn	55	2	72	0.529	ppb	0.529	31.38	367	10000	
Fe	57	2	72	24.632	ppb	24.632	20.42	850	400000	
Co	59	2	72	0.109	ppb	0.109	11.30	287	2000	
Ni	60	2	72	0.169	ppb	0.169	14.40	300	5000	
Cu	63	2	72	0.188	ppb	0.188	57.95	1644	5000	
Zn	66	2	72	2.615	ppb	2.615	36.04	997	5000	
As	75	2	72	0.194	ppb	0.194	49.36	50	2000	
Se	78	1	72	0.235	ppb	0.235	29.28	88	2000	
Sr	88	2	72	1.455	ppb	1.455	7.87	840	4000	
Zr	90	2	72	14.903	ppb	14.903	12.33	330	1000	
Nb	93	2	72	-0.049	ppb	-0.049	-25.66	653	200	
Mo	95	2	115	0.118	ppb	0.118	20.69	167	2000	
Pd	105	2	115	-0.014	ppb	-0.014	-69.00	13	100	
Ag	107	2	115	0.028	ppb	0.028	23.40	137	100	
Cd	111	2	115	0.133	ppb	0.133	47.64	60	2000	
Sn	120	2	115	0.308	ppb	0.308	71.67	587	2000	
Sb	121	2	115	0.060	ppb	0.060	75.78	110	1000	
Ba	137	2	115	0.428	ppb	0.428	31.63	173	5000	
W	182	2	165	0.097	ppb	0.097	33.27	2180	100	
Pt	195	2	165	-0.001	ppb	-0.001	-173.12	17	100	
Tl	205	2	165	0.115	ppb	0.115	25.62	1110	2000	
Pb	208	2	165	0.155	ppb	0.155	9.15	2710	5000	
Th	232	2	165	0.034	ppb	0.034	11.62	740	2000	
U	238	2	165	0.168	ppb	0.168	13.55	2817	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1652678	0.76	1841092	89.77	60	120	
Sc (IS)	45	1	HMI H2	30600714	0.41	34041789	89.89	60	120	
Sc (IS)	45	2	HMI He	929253	1.47	989699	93.89	60	120	
Sc (IS)	45	3	No Gas	53377776	1.04	58466742	91.30	60	120	
Ge Internal Standard	72	1	HMI H2	12627572	0.59	14056514	89.83	60	120	
Ge Internal Standard	72	2	HMI He	1083191	1.14	1155188	93.77	60	120	
In Internal Standard	115	2	HMI He	3685087	0.98	3786036	97.33	60	120	
Ho-165	165	2	HMI He	18592905	0.84	18554642	100.21	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	090_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:22:32-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	541.727	ppb	0.286	426855	500	108.3	90	110	
Li	7	2	45	511.914	ppb	4.672	22534	500	102.4	90	110	
Li	7	3	45	535.648	ppb	0.866	15186244	500	107.1	90	110	
Be	9	1	6	50.895	ppb	3.263	22741	50	101.8	90	110	
B	11	1	6	51.741	ppb	4.736	25356	50	103.5	90	110	
Na	23	1	45	5495.489	ppb	0.106	19773308	5000	109.9	90	110	
Na	23	2	45	5470.507	ppb	0.555	1269043	5000	109.4	90	110	
Mg	24	2	45	4982.418	ppb	0.712	520051	5000	99.6	90	110	
Al	27	2	45	5332.090	ppb	1.219	131764	5000	106.6	90	110	
K	39	1	45	5274.212	ppb	0.528	29322286	5000	105.5	90	110	
K	39	2	45	5177.507	ppb	0.591	288540	5000	103.6	90	110	
Ca	40	1	45	5191.462	ppb	0.375	28012497	5000	103.8	90	110	
Ca	44	2	45	5195.469	ppb	2.156	14581	5000	103.9	90	110	
Ti	47	2	45	52.153	ppb	1.229	1353	50	104.3	90	110	
V	51	2	72	49.564	ppb	0.800	56828	50	99.1	90	110	
Cr	52	2	72	49.566	ppb	0.898	70049	50	99.1	90	110	
Mn	55	2	72	51.775	ppb	2.823	26959	50	103.6	90	110	
Fe	57	2	72	5036.122	ppb	0.579	129267	5000	100.7	90	110	
Co	59	2	72	49.840	ppb	1.323	121333	50	99.7	90	110	
Ni	60	2	72	49.444	ppb	4.626	34502	50	98.9	90	110	
Cu	63	2	72	48.808	ppb	1.884	96619	50	97.6	90	110	
Zn	66	2	72	48.703	ppb	4.098	12389	50	97.4	90	110	
As	75	2	72	48.119	ppb	0.872	8520	50	96.2	90	110	
Se	78	1	72	49.109	ppb	3.280	15053	50	98.2	90	110	
Sr	88	2	72	50.930	ppb	3.802	28580	50	101.9	90	110	
Zr	90	2	72	60.480	ppb	8.035	1033	50	121.0	90	110	>+\-10%
Nb	93	2	72	91.300	ppb	1.303	320753	100	91.3	90	110	
Mo	95	2	115	46.746	ppb	1.861	45785	50	93.5	90	110	
Pd	105	2	115	49.554	ppb	0.249	75456	50	99.1	90	110	
Ag	107	2	115	47.562	ppb	0.602	157339	50	95.1	90	110	
Cd	111	2	115	48.079	ppb	4.705	20109	50	96.2	90	110	
Sn	120	2	115	49.967	ppb	2.165	54716	50	99.9	90	110	
Sb	121	2	115	50.200	ppb	2.502	50373	50	100.4	90	110	
Ba	137	2	115	47.599	ppb	1.860	16417	50	95.2	90	110	
W	182	2	165	48.889	ppb	0.597	231250	50	97.8	90	110	
Pt	195	2	165	48.740	ppb	0.710	191037	50	97.5	90	110	
Tl	205	2	165	50.683	ppb	1.047	431380	50	101.4	90	110	
Pb	208	2	165	50.796	ppb	0.504	579574	50	101.6	90	110	
Th	232	2	165	46.987	ppb	1.594	676052	50	94.0	90	110	
U	238	2	165	47.051	ppb	0.828	731281	50	94.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1673949	0.49	1841092	90.92	60	120	
Sc (IS)	45	1	HMI H2	30544704	0.32	34041789	89.73	60	120	
Sc (IS)	45	2	HMI He	909987	1.46	989699	91.95	60	120	
Sc (IS)	45	3	No Gas	52052163	1.09	58466742	89.03	60	120	
Ge Internal Standard	72	1	HMI H2	12535898	1.01	14056514	89.18	60	120	
Ge Internal Standard	72	2	HMI He	1063796	0.74	1155188	92.09	60	120	
In Internal Standard	115	2	HMI He	3614794	1.09	3786036	95.48	60	120	
Ho-165	165	2	HMI He	18162138	1.44	18554642	97.88	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	091_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:26:18-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	11.182	ppb	31.7	6441955	10	>RL
Be	9	1	6	0.004	ppb	595.2	20	0.5	
B	11	1	6	1.947	ppb	13.4	1407	0.5	>RL
Na	23	1	45	101.213	ppb	0.5	625824	25	>RL
Na	23	2	45	91.924	ppb	2.2	40660	25	>RL
Mg	24	2	45	-0.033	ppb	-5153.0	297	25	
Al	27	2	45	3.777	ppb	37.6	183	15	
K	39	1	45	16.945	ppb	144.2	10783919	50	
K	39	2	45	-21.920	ppb	-22.9	18439	50	
Ca	40	1	45	5.118	ppb	2.1	83317	50	
Ca	44	2	45	8.108	ppb	201.9	50	25	
Ti	47	2	45	-0.118	ppb	0.0	0	0.5	
V	51	2	72	0.865	ppb	43.4	4708	1	
Cr	52	2	72	-0.047	ppb	-29.5	213	1	
Mn	55	2	72	0.108	ppb	97.7	140	0.5	
Fe	57	2	72	3.808	ppb	96.1	297	25	
Co	59	2	72	0.019	ppb	45.7	60	0.5	
Ni	60	2	72	0.036	ppb	87.7	200	1	
Cu	63	2	72	0.187	ppb	105.6	1594	1	
Zn	66	2	72	0.036	ppb	649.0	337	5	
As	75	2	72	0.057	ppb	169.5	24	1	
Se	78	1	72	0.076	ppb	43.6	39	1	
Sr	88	2	72	0.073	ppb	48.4	50	0.5	
Zr	90	2	72	-1.814	ppb	-55.2	63	1	
Nb	93	2	72	2.293	ppb	9.4	8756	2	>RL
Mo	95	2	115	0.040	ppb	157.6	87	0.5	
Pd	105	2	115	0.027	ppb	78.5	77	1	
Ag	107	2	115	0.024	ppb	46.1	120	1	
Cd	111	2	115	0.016	ppb	148.2	10	0.5	
Sn	120	2	115	0.071	ppb	111.0	317	1	
Sb	121	2	115	0.321	ppb	31.6	370	0.6	
Ba	137	2	115	-0.055	ppb	-30.1	3	0.5	
W	182	2	165	0.008	ppb	282.9	1707	1	
Pt	195	2	165	0.004	ppb	88.8	37	1	
Tl	205	2	165	0.017	ppb	38.7	247	0.1	
Pb	208	2	165	0.034	ppb	36.5	1270	0.5	
Th	232	2	165	0.035	ppb	15.6	730	1	
U	238	2	165	0.017	ppb	7.3	407	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1695178	0.84	1841092	92.07	60	120	
Sc (IS)	45	1	HMI H2	30356084	0.20	34041789	89.17	60	120	
Sc (IS)	45	2	HMI He	900974	0.74	989699	91.04	60	120	
Sc (IS)	45	3	No Gas	52237626	0.90	58466742	89.35	60	120	
Ge Internal Standard	72	1	HMI H2	12485719	0.52	14056514	88.83	60	120	
Ge Internal Standard	72	2	HMI He	1052518	0.74	1155188	91.11	60	120	
In Internal Standard	115	2	HMI He	3613310	1.16	3786036	95.44	60	120	
Ho-165	165	2	HMI He	18119268	0.55	18554642	97.65	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	092LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:30:07-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	31.002	ppb	12.317	6713110	50	62.0	70	130	>+/-30%
Be	9	1	6	0.975	ppb	29.532	457	1	97.5	70	130	
Na	23	2	45	107.107	ppb	1.612	43973	50	214.2	70	130	>+/-30%
Mg	24	2	45	50.926	ppb	1.338	5545	50	101.9	70	130	
Al	27	2	45	34.010	ppb	6.120	920	30	113.4	70	130	
K	39	2	45	77.169	ppb	17.570	23466	100	77.2	70	130	
Ca	44	2	45	32.310	ppb	32.094	117	50	64.6	70	130	>+/-30%
V	51	2	72	5.432	ppb	6.210	9477	5	108.6	70	130	
Cr	52	2	72	2.004	ppb	0.647	3050	2	100.2	70	130	
Mn	55	2	72	1.082	ppb	21.561	637	1	108.2	70	130	
Fe	57	2	72	50.974	ppb	2.349	1483	50	101.9	70	130	
Co	59	2	72	1.125	ppb	7.102	2707	1	112.5	70	130	
Ni	60	2	72	2.069	ppb	7.331	1587	2	103.4	70	130	
Cu	63	2	72	2.085	ppb	4.213	5231	2	104.2	70	130	
Zn	66	2	72	10.548	ppb	3.604	2894	10	105.5	70	130	
As	75	2	72	4.643	ppb	1.080	821	5	92.9	70	130	
Se	78	1	72	5.098	ppb	10.138	1564	5	102.0	70	130	
Sr	88	2	72	1.059	ppb	12.009	593	1	105.9	70	130	
Zr	90	2	72	16.055	ppb	73.165	337	0.5	3211.0	70	130	>+/-30%
Nb	93	2	72	4.468	ppb	4.927	16193	2	223.4	70	130	>+/-30%
Mo	95	2	115	1.802	ppb	10.163	1807	2	90.1	70	130	
Pd	105	2	115	-0.003	ppb	-664.654	30	1	-0.3	70	130	>+/-30%
Ag	107	2	115	5.028	ppb	2.592	16641	5	100.6	70	130	
Cd	111	2	115	1.013	ppb	34.781	427	1	101.3	70	130	
Sn	120	2	115	9.748	ppb	5.575	10848	10	97.5	70	130	
Sb	121	2	115	2.222	ppb	6.674	2270	2	111.1	70	130	
Ba	137	2	115	0.790	ppb	29.043	293	1	79.0	70	130	
W	182	2	165	4.902	ppb	0.666	24804	1	490.2	70	130	>+/-30%
Pt	195	2	165	0.014	ppb	61.522	77	1	1.4	70	130	>+/-30%
Tl	205	2	165	1.006	ppb	1.916	8703	1	100.6	70	130	
Pb	208	2	165	1.040	ppb	1.971	12793	1	104.0	70	130	
Th	232	2	165	1.894	ppb	3.613	27600	2	94.7	70	130	
U	238	2	165	0.960	ppb	2.797	15130	1	96.0	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1689747	1.74	1841092	91.78	60	120	
Sc (IS)	45	1	HMI H2	30099157	0.63	34041789	88.42	60	120	
Sc (IS)	45	2	HMI He	898494	0.55	989699	90.78	60	120	
Sc (IS)	45	3	No Gas	51765086	1.48	58466742	88.54	60	120	
Ge Internal Standard	72	1	HMI H2	12437186	0.35	14056514	88.48	60	120	
Ge Internal Standard	72	2	HMI He	1045791	0.49	1155188	90.53	60	120	
In Internal Standard	115	2	HMI He	3609271	1.14	3786036	95.33	60	120	
Ho-165	165	2	HMI He	18244426	0.33	18554642	98.33	60	120	

Sample Report

Sample Table

Sample Name	280-116020-g-1-b
Data File Name	093SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:33:55-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	28.203	ppb	28.203	10.65	181613	500000	
Li	7	2	45	24.400	ppb	24.400	12.15	10157	500000	
Li	7	3	45	26.811	ppb	26.811	15.64	6607220	50000	
Be	9	1	6	0.021	ppb	0.021	168.23	27	2000	
B	11	1	6	26.229	ppb	26.229	0.97	12656	2000	
Na	23	1	45	12809.915	ppb	12809.915	0.34	44044473	2000	>LDR
Na	23	2	45	12560.002	ppb	12560.002	2.48	2798971	400000	
Mg	24	2	45	33958.202	ppb	33958.202	0.33	3434409	400000	
Al	27	2	45	8.129	ppb	8.129	51.29	283	400000	
K	39	1	45	873.382	ppb	873.382	2.49	13348915	400000	
K	39	2	45	2147.214	ppb	2147.214	3.07	127196	400000	
Ca	40	1	45	93500.341	ppb	93500.341	0.85	484982539	400000	
Ca	44	2	45	91880.228	ppb	91880.228	0.13	249505	400000	
Ti	47	2	45	0.283	ppb	0.283	142.60	10	4000	
V	51	2	72	-1.462	ppb	-1.462	-4.50	2214	2000	
Cr	52	2	72	0.159	ppb	0.159	45.20	493	5000	
Mn	55	2	72	256.326	ppb	256.326	1.52	129875	10000	
Fe	57	2	72	1824.065	ppb	1824.065	1.06	45807	400000	
Co	59	2	72	0.359	ppb	0.359	1.74	867	2000	
Ni	60	2	72	0.065	ppb	0.065	192.67	217	5000	
Cu	63	2	72	-0.054	ppb	-0.054	-123.84	1113	5000	
Zn	66	2	72	0.732	ppb	0.732	54.62	500	5000	
As	75	2	72	11.445	ppb	11.445	3.44	1988	2000	
Se	78	1	72	0.053	ppb	0.053	37.08	31	2000	
Sr	88	2	72	152.812	ppb	152.812	1.53	83639	4000	
Zr	90	2	72	2.193	ppb	2.193	121.07	123	1000	
Nb	93	2	72	0.428	ppb	0.428	11.76	2257	200	
Mo	95	2	115	0.755	ppb	0.755	6.87	770	2000	
Pd	105	2	115	-0.007	ppb	-0.007	-186.19	23	100	
Ag	107	2	115	0.007	ppb	0.007	90.37	63	100	
Cd	111	2	115	0.000	ppb	0.000	3495.35	3	2000	
Sn	120	2	115	0.134	ppb	0.134	49.00	377	2000	
Sb	121	2	115	0.061	ppb	0.061	99.48	107	1000	
Ba	137	2	115	49.173	ppb	49.173	1.03	16601	5000	
W	182	2	165	-0.022	ppb	-0.022	-100.89	1544	100	
Pt	195	2	165	0.005	ppb	0.005	145.41	40	100	
Tl	205	2	165	0.007	ppb	0.007	32.85	163	2000	
Pb	208	2	165	0.075	ppb	0.075	20.32	1710	5000	
Th	232	2	165	0.039	ppb	0.039	1.80	770	2000	
U	238	2	165	0.829	ppb	0.829	4.15	12800	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1620172	0.96	1841092	88.00	60	120	
Sc (IS)	45	1	HMI H2	29418325	0.31	34041789	86.42	60	120	
Sc (IS)	45	2	HMI He	882160	1.12	989699	89.13	60	120	
Sc (IS)	45	3	No Gas	51481921	0.73	58466742	88.05	60	120	
Ge Internal Standard	72	1	HMI H2	12156064	1.17	14056514	86.48	60	120	
Ge Internal Standard	72	2	HMI He	1037859	0.38	1155188	89.84	60	120	
In Internal Standard	115	2	HMI He	3538101	0.73	3786036	93.45	60	120	
Ho-165	165	2	HMI He	17858818	0.61	18554642	96.25	60	120	

Sample Report

Sample Table

Sample Name	280-116020-e-4-b
Data File Name	094SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:37:41-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	25.198	ppb	25.198	23.10	185604	500000	
Li	7	2	45	-10.794	ppb	-10.794	-72.87	9630	500000	
Li	7	3	45	29.705	ppb	29.705	15.17	6760728	50000	
Be	9	1	6	-0.003	ppb	-0.003	-479.75	17	2000	
B	11	1	6	21.117	ppb	21.117	0.58	10447	2000	
Na	23	1	45	3664.679	ppb	3664.679	1.33	13164405	2000	
Na	23	2	45	3459.783	ppb	3459.783	0.57	811823	400000	
Mg	24	2	45	15772.552	ppb	15772.552	0.63	1649356	400000	
Al	27	2	45	21.185	ppb	21.185	16.47	617	400000	
K	39	1	45	-840.559	ppb	-840.559	-3.07	7772321	400000	
K	39	2	45	567.416	ppb	567.416	0.38	49331	400000	
Ca	40	1	45	53465.325	ppb	53465.325	1.53	285543309	400000	
Ca	44	2	45	52273.769	ppb	52273.769	2.06	146777	400000	
Ti	47	2	45	0.395	ppb	0.395	55.53	13	4000	
V	51	2	72	-1.558	ppb	-1.558	-13.48	2170	2000	
Cr	52	2	72	0.284	ppb	0.284	21.03	683	5000	
Mn	55	2	72	22.091	ppb	22.091	0.81	11572	10000	
Fe	57	2	72	39.297	ppb	39.297	21.99	1213	400000	
Co	59	2	72	0.155	ppb	0.155	31.52	393	2000	
Ni	60	2	72	0.918	ppb	0.918	5.33	817	5000	
Cu	63	2	72	0.229	ppb	0.229	19.37	1697	5000	
Zn	66	2	72	2.372	ppb	2.372	6.71	920	5000	
As	75	2	72	0.225	ppb	0.225	11.50	54	2000	
Se	78	1	72	0.028	ppb	0.028	1.80	24	2000	
Sr	88	2	72	91.162	ppb	91.162	2.19	51240	4000	
Zr	90	2	72	3.927	ppb	3.927	140.23	153	1000	
Nb	93	2	72	0.220	ppb	0.220	10.96	1587	200	
Mo	95	2	115	0.202	ppb	0.202	14.42	247	2000	
Pd	105	2	115	-0.008	ppb	-0.008	-47.49	23	100	
Ag	107	2	115	0.003	ppb	0.003	118.56	50	100	
Cd	111	2	115	0.008	ppb	0.008	167.46	7	2000	
Sn	120	2	115	0.078	ppb	0.078	125.82	327	2000	
Sb	121	2	115	0.075	ppb	0.075	45.13	123	1000	
Ba	137	2	115	10.982	ppb	10.982	8.88	3824	5000	
W	182	2	165	-0.014	ppb	-0.014	-243.83	1620	100	
Pt	195	2	165	0.000	ppb	0.000	16008.53	20	100	
Tl	205	2	165	0.011	ppb	0.011	10.52	197	2000	
Pb	208	2	165	0.081	ppb	0.081	18.33	1823	5000	
Th	232	2	165	0.032	ppb	0.032	12.44	697	2000	
U	238	2	165	0.502	ppb	0.502	2.38	7993	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1647328	0.80	1841092	89.48	60	120	
Sc (IS)	45	1	HMI H2	30289450	0.59	34041789	88.98	60	120	
Sc (IS)	45	2	HMI He	912047	0.69	989699	92.15	60	120	
Sc (IS)	45	3	No Gas	52293296	1.18	58466742	89.44	60	120	
Ge Internal Standard	72	1	HMI H2	12439069	0.65	14056514	88.49	60	120	
Ge Internal Standard	72	2	HMI He	1065721	1.44	1155188	92.26	60	120	
In Internal Standard	115	2	HMI He	3630100	1.48	3786036	95.88	60	120	
Ho-165	165	2	HMI He	18270891	1.12	18554642	98.47	60	120	

Sample Report

Sample Table

Sample Name	280-116020-g-6-b
Data File Name	095SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:41:28-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	20.114	ppb	20.114	33.25	181603	500000	
Li	7	2	45	-4.993	ppb	-4.993	-420.49	9524	500000	
Li	7	3	45	22.209	ppb	22.209	34.63	6530382	50000	
Be	9	1	6	0.127	ppb	0.127	73.72	73	2000	
B	11	1	6	70.807	ppb	70.807	2.43	33715	2000	
Na	23	1	45	3657.310	ppb	3657.310	1.02	13020096	2000	
Na	23	2	45	3529.222	ppb	3529.222	0.55	806767	400000	
Mg	24	2	45	3453.714	ppb	3453.714	0.40	352249	400000	
Al	27	2	45	466.609	ppb	466.609	5.75	11345	400000	
K	39	1	45	2059.715	ppb	2059.715	1.97	17717309	400000	
K	39	2	45	3397.066	ppb	3397.066	1.34	191588	400000	
Ca	40	1	45	49103.536	ppb	49103.536	0.87	259907909	400000	
Ca	44	2	45	48819.045	ppb	48819.045	1.61	133608	400000	
Ti	47	2	45	0.146	ppb	0.146	156.19	7	4000	
V	51	2	72	-1.711	ppb	-1.711	-15.56	1970	2000	
Cr	52	2	72	0.225	ppb	0.225	33.42	590	5000	
Mn	55	2	72	141.192	ppb	141.192	1.33	72223	10000	
Fe	57	2	72	24.319	ppb	24.319	14.14	813	400000	
Co	59	2	72	13.324	ppb	13.324	3.37	31940	2000	
Ni	60	2	72	34.279	ppb	34.279	2.57	23604	5000	
Cu	63	2	72	5.338	ppb	5.338	1.60	11498	5000	
Zn	66	2	72	66.560	ppb	66.560	2.07	16550	5000	
As	75	2	72	0.264	ppb	0.264	16.01	60	2000	
Se	78	1	72	1.464	ppb	1.464	11.77	459	2000	
Sr	88	2	72	137.571	ppb	137.571	1.09	75987	4000	
Zr	90	2	72	2.763	ppb	2.763	70.10	133	1000	
Nb	93	2	72	0.116	ppb	0.116	58.00	1200	200	
Mo	95	2	115	-0.004	ppb	-0.004	-364.86	43	2000	
Pd	105	2	115	-0.005	ppb	-0.005	-312.54	27	100	
Ag	107	2	115	0.007	ppb	0.007	53.32	63	100	
Cd	111	2	115	1.658	ppb	1.658	8.24	690	2000	
Sn	120	2	115	0.039	ppb	0.039	110.89	280	2000	
Sb	121	2	115	0.040	ppb	0.040	145.45	87	1000	
Ba	137	2	115	16.076	ppb	16.076	1.48	5508	5000	
W	182	2	165	0.236	ppb	0.236	20.84	2757	100	
Pt	195	2	165	-0.004	ppb	-0.004	-35.53	3	100	
Tl	205	2	165	0.463	ppb	0.463	7.18	4004	2000	
Pb	208	2	165	0.995	ppb	0.995	4.05	12110	5000	
Th	232	2	165	0.021	ppb	0.021	33.55	527	2000	
U	238	2	165	0.454	ppb	0.454	2.16	7132	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1634636	1.69	1841092	88.79	60	120	
Sc (IS)	45	1	HMI H2	30016599	0.83	34041789	88.18	60	120	
Sc (IS)	45	2	HMI He	888929	0.68	989699	89.82	60	120	
Sc (IS)	45	3	No Gas	51478681	0.75	58466742	88.05	60	120	
Ge Internal Standard	72	1	HMI H2	12383807	0.94	14056514	88.10	60	120	
Ge Internal Standard	72	2	HMI He	1047285	1.01	1155188	90.66	60	120	
In Internal Standard	115	2	HMI He	3580442	1.05	3786036	94.57	60	120	
Ho-165	165	2	HMI He	17989218	0.86	18554642	96.95	60	120	

Sample Report

Sample Table

Sample Name	280-116020-e-8-b
Data File Name	096SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:45:15-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	41.530	ppb	41.530	9.92	187996	500000	
Li	7	2	45	34.060	ppb	34.060	54.91	10431	500000	
Li	7	3	45	40.622	ppb	40.622	7.49	6792581	50000	
Be	9	1	6	-0.001	ppb	-0.001	-2546.37	17	2000	
B	11	1	6	66.845	ppb	66.845	1.73	31087	2000	
Na	23	1	45	11658.597	ppb	11658.597	1.01	40200397	2000	>LDR
Na	23	2	45	11491.201	ppb	11491.201	0.55	2573882	400000	
Mg	24	2	45	32571.166	ppb	32571.166	0.72	3308242	400000	
Al	27	2	45	10.300	ppb	10.300	20.57	337	400000	
K	39	1	45	2243.020	ppb	2243.020	1.68	18024593	400000	
K	39	2	45	3589.080	ppb	3589.080	1.26	200654	400000	
Ca	40	1	45	119187.615	ppb	119187.615	1.04	619610364	400000	
Ca	44	2	45	117169.631	ppb	117169.631	0.33	319546	400000	
Ti	47	2	45	0.278	ppb	0.278	143.09	10	4000	
V	51	2	72	-1.931	ppb	-1.931	-5.44	1717	2000	
Cr	52	2	72	0.441	ppb	0.441	15.15	877	5000	
Mn	55	2	72	111.168	ppb	111.168	2.18	56123	10000	
Fe	57	2	72	990.681	ppb	990.681	1.01	24855	400000	
Co	59	2	72	0.046	ppb	0.046	32.89	123	2000	
Ni	60	2	72	0.204	ppb	0.204	43.31	310	5000	
Cu	63	2	72	0.129	ppb	0.129	40.04	1457	5000	
Zn	66	2	72	2.197	ppb	2.197	11.45	850	5000	
As	75	2	72	1.591	ppb	1.591	15.52	287	2000	
Se	78	1	72	-0.015	ppb	-0.015	-52.31	11	2000	
Sr	88	2	72	382.668	ppb	382.668	0.64	208500	4000	
Zr	90	2	72	5.072	ppb	5.072	148.53	167	1000	
Nb	93	2	72	0.085	ppb	0.085	49.33	1080	200	
Mo	95	2	115	0.669	ppb	0.669	27.41	693	2000	
Pd	105	2	115	-0.003	ppb	-0.003	-366.25	30	100	
Ag	107	2	115	-0.008	ppb	-0.008	-83.37	13	100	
Cd	111	2	115	0.008	ppb	0.008	330.40	7	2000	
Sn	120	2	115	0.038	ppb	0.038	216.97	277	2000	
Sb	121	2	115	0.027	ppb	0.027	44.16	73	1000	
Ba	137	2	115	21.946	ppb	21.946	6.08	7476	5000	
W	182	2	165	-0.022	ppb	-0.022	-162.57	1567	100	
Pt	195	2	165	0.004	ppb	0.004	41.42	33	100	
Tl	205	2	165	0.004	ppb	0.004	210.03	140	2000	
Pb	208	2	165	0.035	ppb	0.035	28.50	1283	5000	
Th	232	2	165	0.014	ppb	0.014	33.03	433	2000	
U	238	2	165	0.073	ppb	0.073	13.10	1273	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1595074	0.70	1841092	86.64	60	120	
Sc (IS)	45	1	HMI H2	29485165	0.12	34041789	86.61	60	120	
Sc (IS)	45	2	HMI He	885986	1.24	989699	89.52	60	120	
Sc (IS)	45	3	No Gas	51157623	0.69	58466742	87.50	60	120	
Ge Internal Standard	72	1	HMI H2	12158011	0.43	14056514	86.49	60	120	
Ge Internal Standard	72	2	HMI He	1033199	0.75	1155188	89.44	60	120	
In Internal Standard	115	2	HMI He	3563296	0.81	3786036	94.12	60	120	
Ho-165	165	2	HMI He	18118834	0.81	18554642	97.65	60	120	

Sample Table

Sample Name	280-116020-c-8-c ms
Data File Name	097SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:49:02-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	117.915	ppb	117.915	2.79	222768	500000	
Li	7	2	45	101.123	ppb	101.123	8.66	12115	500000	
Li	7	3	45	111.721	ppb	111.721	4.07	8091140	50000	
Be	9	1	6	39.575	ppb	39.575	2.36	16850	2000	
B	11	1	6	94.619	ppb	94.619	1.60	43805	2000	
Na	23	1	45	11246.047	ppb	11246.047	0.74	38885648	2000	>LDR
Na	23	2	45	11021.749	ppb	11021.749	0.93	2483246	400000	
Mg	24	2	45	31050.270	ppb	31050.270	0.96	3171238	400000	
Al	27	2	45	449.046	ppb	449.046	3.82	10945	400000	
K	39	1	45	2130.492	ppb	2130.492	1.23	17687709	400000	
K	39	2	45	3467.375	ppb	3467.375	0.44	195571	400000	
Ca	40	1	45	115480.168	ppb	115480.168	0.60	601870098	400000	
Ca	44	2	45	114322.825	ppb	114322.825	1.77	313519	400000	
Ti	47	2	45	0.672	ppb	0.672	117.82	20	4000	
V	51	2	72	36.468	ppb	36.468	1.31	42062	2000	
Cr	52	2	72	39.115	ppb	39.115	0.21	54349	5000	
Mn	55	2	72	145.736	ppb	145.736	1.90	74364	10000	
Fe	57	2	72	1308.849	ppb	1308.849	1.36	33146	400000	
Co	59	2	72	38.136	ppb	38.136	2.25	91172	2000	
Ni	60	2	72	38.003	ppb	38.003	1.12	26088	5000	
Cu	63	2	72	35.867	ppb	35.867	1.71	70050	5000	
Zn	66	2	72	36.720	ppb	36.720	2.50	9257	5000	
As	75	2	72	39.180	ppb	39.180	0.74	6815	2000	
Se	78	1	72	37.103	ppb	37.103	1.17	11034	2000	
Sr	88	2	72	408.934	ppb	408.934	0.81	225290	4000	
Zr	90	2	72	3847.809	ppb	3847.809	2.35	58913	1000	
Nb	93	2	72	0.095	ppb	0.095	46.06	1127	200	
Mo	95	2	115	37.023	ppb	37.023	2.21	35663	2000	
Pd	105	2	115	-0.005	ppb	-0.005	-72.96	27	100	
Ag	107	2	115	38.395	ppb	38.395	1.59	124908	100	
Cd	111	2	115	37.241	ppb	37.241	0.33	15313	2000	
Sn	120	2	115	39.936	ppb	39.936	2.12	43044	2000	
Sb	121	2	115	39.208	ppb	39.208	2.77	38678	1000	
Ba	137	2	115	57.807	ppb	57.807	1.73	19601	5000	
W	182	2	165	12.251	ppb	12.251	0.91	59199	100	
Pt	195	2	165	0.002	ppb	0.002	430.84	27	100	
Tl	205	2	165	39.067	ppb	39.067	1.77	332527	2000	
Pb	208	2	165	38.887	ppb	38.887	1.27	443864	5000	
Th	232	2	165	36.681	ppb	36.681	1.34	527840	2000	
U	238	2	165	37.607	ppb	37.607	0.69	584509	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1594345	0.80	1841092	86.60	60	120	
Sc (IS)	45	1	HMI H2	29559650	0.49	34041789	86.83	60	120	
Sc (IS)	45	2	HMI He	890863	0.43	989699	90.01	60	120	
Sc (IS)	45	3	No Gas	51998796	1.23	58466742	88.94	60	120	
Ge Internal Standard	72	1	HMI H2	12155415	0.53	14056514	86.48	60	120	
Ge Internal Standard	72	2	HMI He	1044760	1.13	1155188	90.44	60	120	
In Internal Standard	115	2	HMI He	3554246	1.39	3786036	93.88	60	120	
Ho-165	165	2	HMI He	18160531	0.55	18554642	97.88	60	120	

Sample Report

Sample Table

Sample Name	280-116020-c-8-d msd
Data File Name	098SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:52:49-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	120.353	ppb	120.353	2.18	224327	500000	
Li	7	2	45	104.890	ppb	104.890	9.60	12165	500000	
Li	7	3	45	122.968	ppb	122.968	1.69	8150818	50000	
Be	9	1	6	40.291	ppb	40.291	3.05	17201	2000	
B	11	1	6	98.894	ppb	98.894	3.54	45898	2000	
Na	23	1	45	11796.024	ppb	11796.024	0.63	40857314	2000	>LDR
Na	23	2	45	11556.839	ppb	11556.839	0.57	2593874	400000	
Mg	24	2	45	32352.496	ppb	32352.496	0.29	3292965	400000	
Al	27	2	45	451.703	ppb	451.703	5.34	10975	400000	
K	39	1	45	2301.335	ppb	2301.335	1.02	18305799	400000	
K	39	2	45	3644.112	ppb	3644.112	1.01	203859	400000	
Ca	40	1	45	120108.767	ppb	120108.767	0.97	627263017	400000	
Ca	44	2	45	118711.663	ppb	118711.663	1.31	324425	400000	
Ti	47	2	45	0.674	ppb	0.674	0.85	20	4000	
V	51	2	72	38.931	ppb	38.931	1.41	44583	2000	
Cr	52	2	72	40.275	ppb	40.275	2.21	55882	5000	
Mn	55	2	72	151.854	ppb	151.854	1.89	77380	10000	
Fe	57	2	72	1426.297	ppb	1426.297	2.03	36049	400000	
Co	59	2	72	39.051	ppb	39.051	0.56	93252	2000	
Ni	60	2	72	39.791	ppb	39.791	0.16	27273	5000	
Cu	63	2	72	37.999	ppb	37.999	0.48	74050	5000	
Zn	66	2	72	38.708	ppb	38.708	2.55	9727	5000	
As	75	2	72	39.992	ppb	39.992	2.36	6947	2000	
Se	78	1	72	38.304	ppb	38.304	0.34	11453	2000	
Sr	88	2	72	425.777	ppb	425.777	1.95	234308	4000	
Zr	90	2	72	4056.356	ppb	4056.356	1.81	62026	1000	
Nb	93	2	72	0.016	ppb	0.016	354.51	853	200	
Mo	95	2	115	38.466	ppb	38.466	1.13	37003	2000	
Pd	105	2	115	-0.007	ppb	-0.007	-49.43	23	100	
Ag	107	2	115	39.968	ppb	39.968	0.79	129835	100	
Cd	111	2	115	38.485	ppb	38.485	1.87	15806	2000	
Sn	120	2	115	41.287	ppb	41.287	2.75	44429	2000	
Sb	121	2	115	40.458	ppb	40.458	2.34	39875	1000	
Ba	137	2	115	61.631	ppb	61.631	4.04	20877	5000	
W	182	2	165	12.813	ppb	12.813	0.92	61790	100	
Pt	195	2	165	-0.004	ppb	-0.004	-35.56	3	100	
Tl	205	2	165	40.413	ppb	40.413	0.95	343706	2000	
Pb	208	2	165	40.211	ppb	40.211	0.92	458587	5000	
Th	232	2	165	38.293	ppb	38.293	1.30	550579	2000	
U	238	2	165	38.678	ppb	38.678	1.08	600670	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1599225	1.28	1841092	86.86	60	120	
Sc (IS)	45	1	HMI H2	29619730	0.56	34041789	87.01	60	120	
Sc (IS)	45	2	HMI He	887808	0.72	989699	89.70	60	120	
Sc (IS)	45	3	No Gas	51190763	1.32	58466742	87.56	60	120	
Ge Internal Standard	72	1	HMI H2	12222140	0.60	14056514	86.95	60	120	
Ge Internal Standard	72	2	HMI He	1043413	1.06	1155188	90.32	60	120	
In Internal Standard	115	2	HMI He	3549602	1.30	3786036	93.76	60	120	
Ho-165	165	2	HMI He	18145567	0.23	18554642	97.80	60	120	

Sample Report

Sample Table

Sample Name	280-116020-c-9-b
Data File Name	099SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T21:56:35-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	35.732	ppb	35.732	6.81	185206	500000	
Li	7	2	45	19.854	ppb	19.854	63.43	10214	500000	
Li	7	3	45	37.266	ppb	37.266	10.80	6761860	50000	
Be	9	1	6	-0.017	ppb	-0.017	-236.91	10	2000	
B	11	1	6	66.422	ppb	66.422	1.66	30926	2000	
Na	23	1	45	12873.780	ppb	12873.780	0.08	44317686	2000	>LDR
Na	23	2	45	12594.929	ppb	12594.929	1.70	2853490	400000	
Mg	24	2	45	31009.472	ppb	31009.472	0.81	3188116	400000	
Al	27	2	45	11.053	ppb	11.053	18.67	360	400000	
K	39	1	45	2119.838	ppb	2119.838	1.07	17588411	400000	
K	39	2	45	3482.440	ppb	3482.440	1.86	197622	400000	
Ca	40	1	45	114182.214	ppb	114182.214	0.43	592972738	400000	
Ca	44	2	45	112190.785	ppb	112190.785	1.13	309749	400000	
Ti	47	2	45	0.659	ppb	0.659	102.06	20	4000	
V	51	2	72	-2.062	ppb	-2.062	-7.75	1607	2000	
Cr	52	2	72	0.165	ppb	0.165	42.87	507	5000	
Mn	55	2	72	103.729	ppb	103.729	1.56	53192	10000	
Fe	57	2	72	910.721	ppb	910.721	5.56	23220	400000	
Co	59	2	72	0.038	ppb	0.038	44.40	107	2000	
Ni	60	2	72	0.144	ppb	0.144	41.86	273	5000	
Cu	63	2	72	0.025	ppb	0.025	165.70	1280	5000	
Zn	66	2	72	0.299	ppb	0.299	70.62	400	5000	
As	75	2	72	1.534	ppb	1.534	6.83	282	2000	
Se	78	1	72	0.003	ppb	0.003	5.84	16	2000	
Sr	88	2	72	366.380	ppb	366.380	1.22	202735	4000	
Zr	90	2	72	57.872	ppb	57.872	4.72	980	1000	
Nb	93	2	72	0.015	ppb	0.015	195.04	853	200	
Mo	95	2	115	0.776	ppb	0.776	12.42	797	2000	
Pd	105	2	115	-0.005	ppb	-0.005	-379.35	27	100	
Ag	107	2	115	-0.001	ppb	-0.001	-488.75	37	100	
Cd	111	2	115	0.000	ppb	0.000	3329.33	3	2000	
Sn	120	2	115	0.140	ppb	0.140	61.52	387	2000	
Sb	121	2	115	0.202	ppb	0.202	43.96	247	1000	
Ba	137	2	115	20.565	ppb	20.565	2.10	7022	5000	
W	182	2	165	0.051	ppb	0.051	86.42	1917	100	
Pt	195	2	165	0.002	ppb	0.002	217.49	27	100	
Tl	205	2	165	0.016	ppb	0.016	46.35	240	2000	
Pb	208	2	165	0.065	ppb	0.065	35.70	1623	5000	
Th	232	2	165	0.130	ppb	0.130	13.16	2097	2000	
U	238	2	165	0.088	ppb	0.088	9.96	1507	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1596813	0.71	1841092	86.73	60	120	
Sc (IS)	45	1	HMI H2	29454658	0.58	34041789	86.52	60	120	
Sc (IS)	45	2	HMI He	896824	1.68	989699	90.62	60	120	
Sc (IS)	45	3	No Gas	51342916	0.87	58466742	87.82	60	120	
Ge Internal Standard	72	1	HMI H2	12131762	0.37	14056514	86.31	60	120	
Ge Internal Standard	72	2	HMI He	1049351	1.39	1155188	90.84	60	120	
In Internal Standard	115	2	HMI He	3571676	0.44	3786036	94.34	60	120	
Ho-165	165	2	HMI He	18198482	1.05	18554642	98.08	60	120	

Sample Report

Sample Table

Sample Name	280-116020-g-12-b
Data File Name	100SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:00:21-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435184 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-3.383	ppb	-3.383	-141.46	171412	500000	
Li	7	2	45	-34.730	ppb	-34.730	-33.77	9130	500000	
Li	7	3	45	2.501	ppb	2.501	190.50	6292814	50000	
Be	9	1	6	-0.017	ppb	-0.017	-137.74	10	2000	
B	11	1	6	53.712	ppb	53.712	4.62	25389	2000	
Na	23	1	45	2330.925	ppb	2330.925	0.93	8421316	2000	
Na	23	2	45	2141.205	ppb	2141.205	0.60	515453	400000	
Mg	24	2	45	28709.406	ppb	28709.406	0.93	3033313	400000	
Al	27	2	45	7.343	ppb	7.343	21.87	277	400000	
K	39	1	45	23.107	ppb	23.107	141.75	10716587	400000	
K	39	2	45	1411.195	ppb	1411.195	1.64	94214	400000	
Ca	40	1	45	150601.752	ppb	150601.752	0.12	799470441	400000	
Ca	44	2	45	146222.722	ppb	146222.722	0.33	414815	400000	
Ti	47	2	45	-0.118	ppb	-0.118	0.00	0	4000	
V	51	2	72	-2.304	ppb	-2.304	-3.66	1370	2000	
Cr	52	2	72	0.315	ppb	0.315	42.73	727	5000	
Mn	55	2	72	37.310	ppb	37.310	2.19	19477	10000	
Fe	57	2	72	55.307	ppb	55.307	8.06	1624	400000	
Co	59	2	72	0.035	ppb	0.035	22.27	100	2000	
Ni	60	2	72	0.809	ppb	0.809	17.53	740	5000	
Cu	63	2	72	1.306	ppb	1.306	21.29	3801	5000	
Zn	66	2	72	21.001	ppb	21.001	6.08	5541	5000	
As	75	2	72	0.277	ppb	0.277	5.94	63	2000	
Se	78	1	72	0.101	ppb	0.101	40.66	45	2000	
Sr	88	2	72	346.832	ppb	346.832	0.76	194876	4000	
Zr	90	2	72	76.281	ppb	76.281	96.21	1284	1000	
Nb	93	2	72	-0.009	ppb	-0.009	-234.76	783	200	
Mo	95	2	115	0.259	ppb	0.259	17.21	303	2000	
Pd	105	2	115	-0.008	ppb	-0.008	-132.79	23	100	
Ag	107	2	115	0.002	ppb	0.002	576.36	50	100	
Cd	111	2	115	0.126	ppb	0.126	59.25	57	2000	
Sn	120	2	115	0.166	ppb	0.166	31.20	423	2000	
Sb	121	2	115	0.316	ppb	0.316	14.72	367	1000	
Ba	137	2	115	71.840	ppb	71.840	3.88	24967	5000	
W	182	2	165	-0.007	ppb	-0.007	-350.48	1654	100	
Pt	195	2	165	-0.002	ppb	-0.002	-91.20	13	100	
Tl	205	2	165	0.014	ppb	0.014	3.83	227	2000	
Pb	208	2	165	0.048	ppb	0.048	6.08	1440	5000	
Th	232	2	165	0.054	ppb	0.054	4.57	1020	2000	
U	238	2	165	2.198	ppb	2.198	4.38	34588	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1616101	1.57	1841092	87.78	60	120	
Sc (IS)	45	1	HMI H2	30108851	1.28	34041789	88.45	60	120	
Sc (IS)	45	2	HMI He	921606	0.92	989699	93.12	60	120	
Sc (IS)	45	3	No Gas	52208673	0.70	58466742	89.30	60	120	
Ge Internal Standard	72	1	HMI H2	12283196	0.25	14056514	87.38	60	120	
Ge Internal Standard	72	2	HMI He	1065436	1.30	1155188	92.23	60	120	
In Internal Standard	115	2	HMI He	3645674	2.47	3786036	96.29	60	120	
Ho-165	165	2	HMI He	18314411	0.51	18554642	98.71	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	101_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:04:09-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	537.284	ppb	1.500	417878	500	107.5	90	110	
Li	7	2	45	498.737	ppb	7.654	21677	500	99.7	90	110	
Li	7	3	45	533.727	ppb	0.983	14678479	500	106.7	90	110	
Be	9	1	6	49.395	ppb	1.181	21767	50	98.8	90	110	
B	11	1	6	51.902	ppb	0.653	25079	50	103.8	90	110	
Na	23	1	45	5284.621	ppb	1.034	18715183	5000	105.7	90	110	
Na	23	2	45	5342.997	ppb	0.522	1210294	5000	106.9	90	110	
Mg	24	2	45	4983.066	ppb	0.848	507665	5000	99.7	90	110	
Al	27	2	45	5327.993	ppb	0.800	128513	5000	106.6	90	110	
K	39	1	45	5242.104	ppb	0.909	28734045	5000	104.8	90	110	
K	39	2	45	5179.995	ppb	1.051	281778	5000	103.6	90	110	
Ca	40	1	45	5385.006	ppb	0.752	28581471	5000	107.7	90	110	
Ca	44	2	45	5480.852	ppb	2.634	15012	5000	109.6	90	110	
Ti	47	2	45	44.059	ppb	6.543	1117	50	88.1	90	110	>+\-10%
V	51	2	72	48.580	ppb	0.556	54704	50	97.2	90	110	
Cr	52	2	72	48.801	ppb	2.860	67651	50	97.6	90	110	
Mn	55	2	72	50.099	ppb	2.026	25590	50	100.2	90	110	
Fe	57	2	72	5041.964	ppb	0.852	126940	5000	100.8	90	110	
Co	59	2	72	49.322	ppb	0.621	117776	50	98.6	90	110	
Ni	60	2	72	49.974	ppb	1.601	34208	50	99.9	90	110	
Cu	63	2	72	48.314	ppb	0.785	93820	50	96.6	90	110	
Zn	66	2	72	49.117	ppb	3.572	12252	50	98.2	90	110	
As	75	2	72	49.212	ppb	1.602	8546	50	98.4	90	110	
Se	78	1	72	49.568	ppb	2.147	15043	50	99.1	90	110	
Sr	88	2	72	52.511	ppb	3.077	28897	50	105.0	90	110	
Zr	90	2	72	144.022	ppb	8.513	2290	50	288.0	90	110	>+\-10%
Nb	93	2	72	92.680	ppb	0.985	319330	100	92.7	90	110	
Mo	95	2	115	47.628	ppb	3.774	46491	50	95.3	90	110	
Pd	105	2	115	50.408	ppb	1.369	76509	50	100.8	90	110	
Ag	107	2	115	47.901	ppb	1.033	157964	50	95.8	90	110	
Cd	111	2	115	46.990	ppb	2.943	19585	50	94.0	90	110	
Sn	120	2	115	50.835	ppb	2.252	55475	50	101.7	90	110	
Sb	121	2	115	49.722	ppb	1.343	49727	50	99.4	90	110	
Ba	137	2	115	49.162	ppb	4.400	16905	50	98.3	90	110	
W	182	2	165	47.810	ppb	0.497	227638	50	95.6	90	110	
Pt	195	2	165	47.798	ppb	1.434	188539	50	95.6	90	110	
Tl	205	2	165	49.722	ppb	1.401	425974	50	99.4	90	110	
Pb	208	2	165	49.784	ppb	1.250	571720	50	99.6	90	110	
Th	232	2	165	46.621	ppb	1.010	675181	50	93.2	90	110	
U	238	2	165	46.810	ppb	0.656	732269	50	93.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1650544	0.87	1841092	89.65	60	120	
Sc (IS)	45	1	HMI H2	30047480	0.07	34041789	88.27	60	120	
Sc (IS)	45	2	HMI He	888218	0.64	989699	89.75	60	120	
Sc (IS)	45	3	No Gas	50418028	0.79	58466742	86.23	60	120	
Ge Internal Standard	72	1	HMI H2	12409392	0.31	14056514	88.28	60	120	
Ge Internal Standard	72	2	HMI He	1043403	0.66	1155188	90.32	60	120	
In Internal Standard	115	2	HMI He	3603518	1.07	3786036	95.18	60	120	
Ho-165	165	2	HMI He	18278760	0.29	18554642	98.51	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	102_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:07:56-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	8.660	ppb	30.0	6191643	10	
Be	9	1	6	0.004	ppb	9.1	20	0.5	
B	11	1	6	1.674	ppb	4.6	1253	0.5	>RL
Na	23	1	45	-2.329	ppb	-24.1	258378	25	
Na	23	2	45	-11.985	ppb	-10.0	16767	25	
Mg	24	2	45	2.745	ppb	22.3	570	25	
Al	27	2	45	0.332	ppb	696.3	97	15	
K	39	1	45	-9.678	ppb	-158.4	10598401	50	
K	39	2	45	-23.261	ppb	-28.2	17938	50	
Ca	40	1	45	11.811	ppb	6.9	118095	50	
Ca	44	2	45	24.579	ppb	73.8	93	25	
Ti	47	2	45	0.015	ppb	1501.5	3	0.5	
V	51	2	72	0.083	ppb	357.4	3807	1	
Cr	52	2	72	-0.027	ppb	-124.1	237	1	
Mn	55	2	72	0.000	ppb	-202278.9	83	0.5	
Fe	57	2	72	1.053	ppb	392.4	223	25	
Co	59	2	72	-0.004	ppb	-139.3	7	0.5	
Ni	60	2	72	0.026	ppb	407.8	190	1	
Cu	63	2	72	0.031	ppb	169.6	1270	1	
Zn	66	2	72	-0.161	ppb	-169.8	283	5	
As	75	2	72	0.071	ppb	62.1	26	1	
Se	78	1	72	0.046	ppb	64.2	29	1	
Sr	88	2	72	0.057	ppb	96.5	40	0.5	
Zr	90	2	72	1.574	ppb	107.9	113	1	>RL
Nb	93	2	72	2.232	ppb	9.7	8386	2	>RL
Mo	95	2	115	-0.015	ppb	-162.9	33	0.5	
Pd	105	2	115	0.032	ppb	10.7	83	1	
Ag	107	2	115	0.004	ppb	341.6	53	1	
Cd	111	2	115	0.000	ppb	3969.6	3	0.5	
Sn	120	2	115	0.100	ppb	36.2	347	1	
Sb	121	2	115	0.300	ppb	32.7	347	0.6	
Ba	137	2	115	-0.036	ppb	-81.4	10	0.5	
W	182	2	165	0.025	ppb	64.6	1777	1	
Pt	195	2	165	0.013	ppb	85.9	70	1	
Tl	205	2	165	0.022	ppb	19.0	287	0.1	
Pb	208	2	165	0.011	ppb	27.4	1007	0.5	
Th	232	2	165	0.037	ppb	23.0	760	1	
U	238	2	165	0.019	ppb	27.6	433	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1668468	0.89	1841092	90.62	60	120	
Sc (IS)	45	1	HMI H2	30092887	0.18	34041789	88.40	60	120	
Sc (IS)	45	2	HMI He	879750	0.16	989699	88.89	60	120	
Sc (IS)	45	3	No Gas	50538726	0.56	58466742	86.44	60	120	
Ge Internal Standard	72	1	HMI H2	12411658	0.88	14056514	88.30	60	120	
Ge Internal Standard	72	2	HMI He	1033015	0.57	1155188	89.42	60	120	
In Internal Standard	115	2	HMI He	3596692	0.68	3786036	95.00	60	120	
Ho-165	165	2	HMI He	18027970	0.31	18554642	97.16	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	103LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:11:43-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	28.327	ppb	16.901	6481093	50	56.7	70	130	>+/-30%
Be	9	1	6	0.954	ppb	14.066	440	1	95.4	70	130	
Na	23	2	45	32.839	ppb	4.087	26605	50	65.7	70	130	>+/-30%
Mg	24	2	45	48.863	ppb	6.634	5211	50	97.7	70	130	
Al	27	2	45	39.085	ppb	12.939	1020	30	130.3	70	130	>+/-30%
K	39	2	45	81.908	ppb	19.472	23166	100	81.9	70	130	
Ca	44	2	45	79.013	ppb	19.386	240	50	158.0	70	130	>+/-30%
V	51	2	72	4.815	ppb	3.827	8660	5	96.3	70	130	
Cr	52	2	72	1.998	ppb	5.869	2984	2	99.9	70	130	
Mn	55	2	72	0.853	ppb	16.204	510	1	85.3	70	130	
Fe	57	2	72	50.597	ppb	21.808	1447	50	101.2	70	130	
Co	59	2	72	1.042	ppb	4.679	2460	1	104.2	70	130	
Ni	60	2	72	1.801	ppb	3.858	1377	2	90.0	70	130	
Cu	63	2	72	2.007	ppb	14.443	4988	2	100.3	70	130	
Zn	66	2	72	11.202	ppb	4.689	2994	10	112.0	70	130	
As	75	2	72	4.720	ppb	5.514	818	5	94.4	70	130	
Se	78	1	72	4.690	ppb	3.973	1431	5	93.8	70	130	
Sr	88	2	72	1.038	ppb	7.172	570	1	103.8	70	130	
Zr	90	2	72	36.248	ppb	14.831	633	0.5	7249.6	70	130	>+/-30%
Nb	93	2	72	4.567	ppb	4.230	16220	2	228.3	70	130	>+/-30%
Mo	95	2	115	1.870	ppb	19.991	1854	2	93.5	70	130	
Pd	105	2	115	-0.001	ppb	-1507.557	33	1	-0.1	70	130	>+/-30%
Ag	107	2	115	4.860	ppb	7.094	15923	5	97.2	70	130	
Cd	111	2	115	0.905	ppb	16.049	377	1	90.5	70	130	
Sn	120	2	115	10.032	ppb	3.624	11042	10	100.3	70	130	
Sb	121	2	115	2.056	ppb	7.254	2084	2	102.8	70	130	
Ba	137	2	115	1.112	ppb	30.724	400	1	111.2	70	130	
W	182	2	165	4.722	ppb	0.738	23732	1	472.2	70	130	>+/-30%
Pt	195	2	165	0.014	ppb	39.491	73	1	1.4	70	130	>+/-30%
Tl	205	2	165	1.006	ppb	6.071	8620	1	100.6	70	130	
Pb	208	2	165	0.995	ppb	3.233	12160	1	99.5	70	130	
Th	232	2	165	1.901	ppb	2.828	27440	2	95.1	70	130	
U	238	2	165	0.953	ppb	2.217	14879	1	95.3	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1657896	1.22	1841092	90.05	60	120	
Sc (IS)	45	1	HMI H2	29817202	0.61	34041789	87.59	60	120	
Sc (IS)	45	2	HMI He	877911	0.64	989699	88.70	60	120	
Sc (IS)	45	3	No Gas	50305851	0.53	58466742	86.04	60	120	
Ge Internal Standard	72	1	HMI H2	12353968	0.46	14056514	87.89	60	120	
Ge Internal Standard	72	2	HMI He	1025866	0.91	1155188	88.81	60	120	
In Internal Standard	115	2	HMI He	3572299	0.99	3786036	94.35	60	120	
Ho-165	165	2	HMI He	18071842	0.83	18554642	97.40	60	120	

Blank Report

Sample Table

Sample Name	mb 280-435187/1-a
Data File Name	104_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:15:31-06:00
Sample Type	Blank
Dilution	1
Comment	435187 6020A DOD5
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-1.714	ppb	-340.7474768	173185	0.5
Li	7	2	45	-1.427	ppb	-1727.483278	9690	0.5
Li	7	3	45	3.881	ppb	106.7720826	6262816	10
Be	9	1	6	-0.033	ppb	-38.36078244	3	0.5
B	11	1	6	0.699	ppb	66.36998472	790	0.5
Na	23	1	45	-21.185	ppb	-3.20571103	193642	25
Na	23	2	45	-27.971	ppb	-3.738992185	13487	25
Mg	24	2	45	0.370	ppb	68.17842326	337	25
Al	27	2	45	4.221	ppb	58.2673261	193	15
K	39	1	45	-1407.167	ppb	-1.804841782	5796387	50
K	39	2	45	-21.829	ppb	-78.34372254	18342	50
Ca	40	1	45	8.594	ppb	0.465532032	101667	50
Ca	44	2	45	5.815	ppb	250.8806251	43	25
Ti	47	2	45	-0.118	ppb	0	0	0.5
V	51	2	72	-1.456	ppb	-14.59083446	2244	1
Cr	52	2	72	0.109	ppb	90.27062563	430	1
Mn	55	2	72	0.101	ppb	122.5607822	137	0.5
Fe	57	2	72	1.727	ppb	118.6073757	243	25
Co	59	2	72	0.005	ppb	253.5516935	27	0.5
Ni	60	2	72	-0.070	ppb	-117.4309272	127	1
Cu	63	2	72	0.004	ppb	2755.913478	1237	1
Zn	66	2	72	0.478	ppb	45.69269296	443	5
As	75	2	72	0.095	ppb	80.892963	31	1
Se	78	1	72	-0.029	ppb	-26.4426337	7	1
Sr	88	2	72	0.056	ppb	33.18101207	40	0.5
Zr	90	2	72	1.028	ppb	152.0157118	107	1
Nb	93	2	72	0.231	ppb	31.64418863	1600	2
Mo	95	2	115	-0.035	ppb	-67.06553361	13	0.5
Pd	105	2	115	-0.023	ppb	0	0	1
Ag	107	2	115	-0.004	ppb	-207.9696169	27	1
Cd	111	2	115	0.008	ppb	165.9832022	7	0.5
Sn	120	2	115	0.016	ppb	350.7237626	257	1
Sb	121	2	115	0.042	ppb	43.4552013	90	0.6
Ba	137	2	115	0.002	ppb	3082.90954	23	0.5
W	182	2	165	-0.022	ppb	-93.50791348	1567	1
Pt	195	2	165	0.000	ppb	2160.513638	20	1
Tl	205	2	165	0.002	ppb	169.5280192	120	0.1
Pb	208	2	165	0.010	ppb	142.6022569	993	0.5
Th	232	2	165	0.018	ppb	42.60684154	493	1
U	238	2	165	0.002	ppb	250.7164901	167	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1674470	1.42	1841092	90.95	60	120	
Sc (IS)	45	1	HMI H2	30281648	1.09	34041789	88.95	60	120	
Sc (IS)	45	2	HMI He	896166	0.78	989699	90.55	60	120	
Sc (IS)	45	3	No Gas	51770638	1.23	58466742	88.55	60	120	
Ge Internal Standard	72	1	HMI H2	12469377	0.82	14056514	88.71	60	120	
Ge Internal Standard	72	2	HMI He	1049471	1.06	1155188	90.85	60	120	
In Internal Standard	115	2	HMI He	3617251	1.56	3786036	95.54	60	120	
Ho-165	165	2	HMI He	18113830	0.43	18554642	97.62	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-435187/2-a
Data File Name	105_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:19:19-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	435187 6020A DOD5
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	90.553	90.553	ppb	3.910	215318	400	22.6	80	120	>+/-20%
Li	7	2	45	54.291	54.291	ppb	43.581	11051	400	13.6	80	120	>+/-20%
Li	7	3	45	90.639	90.639	ppb	3.108	7663946	400	22.7	80	120	>+/-20%
Be	9	1	6	40.592	40.592	ppb	4.903	17805	40	101.5	80	120	
Na	23	2	45	-27.463	-27.463	ppb	-12.086	13604	40	-68.7	80	120	>+/-20%
Mg	24	2	45	-1.126	-1.126	ppb	-87.578	183	40	-2.8	80	120	>+/-20%
Al	27	2	45	419.792	419.792	ppb	4.589	10304	40	1049.5	80	120	>+/-20%
K	39	2	45	-24.428	-24.428	ppb	-61.116	18212	40	-61.1	80	120	>+/-20%
Ca	44	2	45	210.035	210.035	ppb	34.980	607	40	525.1	80	120	>+/-20%
V	51	2	72	37.493	37.493	ppb	3.049	43082	40	93.7	80	120	
Cr	52	2	72	39.289	39.289	ppb	1.742	54506	40	98.2	80	120	
Mn	55	2	72	41.334	41.334	ppb	1.537	21126	40	103.3	80	120	
Fe	57	2	72	396.662	396.662	ppb	1.581	10167	40	991.7	80	120	>+/-20%
Co	59	2	72	40.225	40.225	ppb	1.754	96047	40	100.6	80	120	
Ni	60	2	72	39.948	39.948	ppb	0.835	27377	40	99.9	80	120	
Cu	63	2	72	38.764	38.764	ppb	2.086	75497	40	96.9	80	120	
Zn	66	2	72	37.263	37.263	ppb	3.595	9377	40	93.2	80	120	
As	75	2	72	37.031	37.031	ppb	1.587	6432	40	92.6	80	120	
Se	78	1	72	37.963	37.963	ppb	1.851	11517	40	94.9	80	120	
Nb	93	2	72	0.153	0.153	ppb	12.146	1323	40	0.4	80	120	>+/-20%
Mo	95	2	115	35.692	35.692	ppb	0.504	34878	40	89.2	80	120	
Pd	105	2	115	-0.021	-0.021	ppb	-18.029	3	40	-0.1	80	120	>+/-20%
Ag	107	2	115	39.790	39.790	ppb	1.044	131288	40	99.5	80	120	
Cd	111	2	115	38.915	38.915	ppb	3.535	16233	40	97.3	80	120	
Sn	120	2	115	39.374	39.374	ppb	1.660	43048	40	98.4	80	120	
Sb	121	2	115	39.275	39.275	ppb	0.976	39310	40	98.2	80	120	
Ba	137	2	115	38.422	38.422	ppb	3.177	13220	40	96.1	80	120	
W	182	2	165	12.172	12.172	ppb	0.696	58653	40	30.4	80	120	>+/-20%
Pt	195	2	165	0.000	0.000	ppb	6807.919	20	40	0.0	80	120	>+/-20%
Tl	205	2	165	40.000	40.000	ppb	1.039	339450	40	100.0	80	120	
Pb	208	2	165	40.208	40.208	ppb	0.842	457561	40	100.5	80	120	
Th	232	2	165	36.650	36.650	ppb	0.836	525823	40	91.6	80	120	
U	238	2	165	37.165	37.165	ppb	0.759	575916	40	92.9	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1642863	0.98	1841092	89.23	60	120	
Sc (IS)	45	1	HMI H2	30238541	0.24	34041789	88.83	60	120	
Sc (IS)	45	2	HMI He	896198	1.61	989699	90.55	60	120	
Sc (IS)	45	3	No Gas	51491104	0.63	58466742	88.07	60	120	
Ge Internal Standard	72	1	HMI H2	12401527	0.62	14056514	88.23	60	120	
Ge Internal Standard	72	2	HMI He	1043266	1.28	1155188	90.31	60	120	
In Internal Standard	115	2	HMI He	3605287	1.13	3786036	95.23	60	120	
Ho-165	165	2	HMI He	18106651	0.92	18554642	97.59	60	120	

Sample Report

Sample Table

Sample Name	280-116051-d-1-b
Data File Name	106SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:23:07-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435187 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	157.108	ppb	157.108	2.53	237153	500000	
Li	7	2	45	119.034	ppb	119.034	5.41	12386	500000	
Li	7	3	45	161.912	ppb	161.912	1.54	8560585	50000	
Be	9	1	6	0.032	ppb	0.032	77.88	30	2000	
B	11	1	6	270.618	ppb	270.618	1.36	121002	2000	
Na	23	1	45	183672.587	ppb	183672.587	1.08	622621751	2000	>LDR
Na	23	2	45	175021.681	ppb	175021.681	0.47	38632106	400000	
Mg	24	2	45	1387.365	ppb	1387.365	2.00	140144	400000	
Al	27	2	45	350.802	ppb	350.802	7.19	8463	400000	
K	39	1	45	2780.710	ppb	2780.710	0.96	19632073	400000	
K	39	2	45	3941.197	ppb	3941.197	1.09	216800	400000	
Ca	40	1	45	27236.860	ppb	27236.860	0.90	140092625	400000	
Ca	44	2	45	27718.615	ppb	27718.615	1.05	75050	400000	
Ti	47	2	45	5.865	ppb	5.865	50.54	150	4000	
V	51	2	72	15.094	ppb	15.094	3.49	19163	2000	
Cr	52	2	72	16.040	ppb	16.040	2.70	21931	5000	
Mn	55	2	72	19.353	ppb	19.353	1.11	9720	10000	
Fe	57	2	72	570.426	ppb	570.426	1.73	14221	400000	
Co	59	2	72	0.226	ppb	0.226	21.23	543	2000	
Ni	60	2	72	1.981	ppb	1.981	6.55	1490	5000	
Cu	63	2	72	1.901	ppb	1.901	2.73	4761	5000	
Zn	66	2	72	7.979	ppb	7.979	6.09	2214	5000	
As	75	2	72	21.949	ppb	21.949	2.63	3736	2000	
Se	78	1	72	1.521	ppb	1.521	15.71	461	2000	
Sr	88	2	72	240.903	ppb	240.903	1.53	129666	4000	
Zr	90	2	72	190.157	ppb	190.157	10.01	2930	1000	
Nb	93	2	72	0.457	ppb	0.457	14.89	2317	200	
Mo	95	2	115	13.284	ppb	13.284	4.93	12606	2000	
Pd	105	2	115	-0.018	ppb	-0.018	-42.98	7	100	
Ag	107	2	115	0.001	ppb	0.001	680.63	43	100	
Cd	111	2	115	0.017	ppb	0.017	249.90	10	2000	
Sn	120	2	115	0.264	ppb	0.264	36.81	510	2000	
Sb	121	2	115	0.537	ppb	0.537	28.64	567	1000	
Ba	137	2	115	11.037	ppb	11.037	2.94	3694	5000	
W	182	2	165	4.817	ppb	4.817	0.74	23495	100	
Pt	195	2	165	0.000	ppb	0.000	1799.57	20	100	
Tl	205	2	165	0.037	ppb	0.037	15.10	403	2000	
Pb	208	2	165	0.494	ppb	0.494	5.95	6294	5000	
Th	232	2	165	0.522	ppb	0.522	7.06	7486	2000	
U	238	2	165	4.664	ppb	4.664	0.32	70235	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1549594	2.35	1841092	84.17	60	120	
Sc (IS)	45	1	HMI H2	29164617	0.67	34041789	85.67	60	120	
Sc (IS)	45	2	HMI He	879317	0.95	989699	88.85	60	120	
Sc (IS)	45	3	No Gas	49846973	0.71	58466742	85.26	60	120	
Ge Internal Standard	72	1	HMI H2	12017506	0.96	14056514	85.49	60	120	
Ge Internal Standard	72	2	HMI He	1020691	0.89	1155188	88.36	60	120	
In Internal Standard	115	2	HMI He	3492129	1.00	3786036	92.24	60	120	
Ho-165	165	2	HMI He	17564112	0.90	18554642	94.66	60	120	

Sample Report

Sample Table

Sample Name	280-116051-d-2-b
Data File Name	107SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:26:55-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435187 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	155.212	ppb	155.212	4.29	239583	500000	
Li	7	2	45	154.102	ppb	154.102	17.89	13307	500000	
Li	7	3	45	155.215	ppb	155.215	3.10	8552725	50000	
Be	9	1	6	0.329	ppb	0.329	40.24	153	2000	
B	11	1	6	279.386	ppb	279.386	4.22	124990	2000	
Na	23	1	45	186199.999	ppb	186199.999	0.58	639928604	2000	>LDR
Na	23	2	45	178985.834	ppb	178985.834	0.80	39770842	400000	
Mg	24	2	45	1876.088	ppb	1876.088	1.80	190649	400000	
Al	27	2	45	4296.996	ppb	4296.996	1.05	103315	400000	
K	39	1	45	3731.316	ppb	3731.316	1.27	23137265	400000	
K	39	2	45	4967.141	ppb	4967.141	0.63	270092	400000	
Ca	40	1	45	28933.766	ppb	28933.766	0.03	150880338	400000	
Ca	44	2	45	29759.498	ppb	29759.498	0.83	81108	400000	
Ti	47	2	45	62.654	ppb	62.654	7.92	1580	4000	
V	51	2	72	18.971	ppb	18.971	2.74	23186	2000	
Cr	52	2	72	48.918	ppb	48.918	0.36	66482	5000	
Mn	55	2	72	124.871	ppb	124.871	0.27	62405	10000	
Fe	57	2	72	7537.266	ppb	7537.266	1.07	185941	400000	
Co	59	2	72	2.317	ppb	2.317	5.91	5441	2000	
Ni	60	2	72	17.074	ppb	17.074	2.86	11572	5000	
Cu	63	2	72	16.867	ppb	16.867	2.56	32885	5000	
Zn	66	2	72	85.149	ppb	85.149	7.85	20586	5000	
As	75	2	72	24.266	ppb	24.266	6.10	4138	2000	
Se	78	1	72	1.646	ppb	1.646	7.93	496	2000	
Sr	88	2	72	269.543	ppb	269.543	1.73	145413	4000	
Zr	90	2	72	696.876	ppb	696.876	7.23	10524	1000	
Nb	93	2	72	0.900	ppb	0.900	12.23	3814	200	
Mo	95	2	115	15.679	ppb	15.679	0.59	14858	2000	
Pd	105	2	115	-0.007	ppb	-0.007	-241.50	23	100	
Ag	107	2	115	0.024	ppb	0.024	12.62	117	100	
Cd	111	2	115	0.084	ppb	0.084	46.55	37	2000	
Sn	120	2	115	0.809	ppb	0.809	8.91	1083	2000	
Sb	121	2	115	0.630	ppb	0.630	17.46	657	1000	
Ba	137	2	115	39.035	ppb	39.035	5.03	13000	5000	
W	182	2	165	2.926	ppb	2.926	0.96	15063	100	
Pt	195	2	165	0.004	ppb	0.004	80.99	33	100	
Tl	205	2	165	0.105	ppb	0.105	5.49	977	2000	
Pb	208	2	165	6.082	ppb	6.082	1.25	68578	5000	
Th	232	2	165	4.226	ppb	4.226	0.44	59638	2000	
U	238	2	165	8.422	ppb	8.422	2.21	128012	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1551561	2.17	1841092	84.27	60	120	
Sc (IS)	45	1	HMI H2	29567950	0.51	34041789	86.86	60	120	
Sc (IS)	45	2	HMI He	885243	1.53	989699	89.45	60	120	
Sc (IS)	45	3	No Gas	50435303	1.51	58466742	86.26	60	120	
Ge Internal Standard	72	1	HMI H2	11964014	0.28	14056514	85.11	60	120	
Ge Internal Standard	72	2	HMI He	1022940	1.16	1155188	88.55	60	120	
In Internal Standard	115	2	HMI He	3490131	1.53	3786036	92.18	60	120	
Ho-165	165	2	HMI He	17748020	1.48	18554642	95.65	60	120	

Sample Report

Sample Table

Sample Name	280-116051-d-4-d
Data File Name	108SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:30:43-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435187 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	85.414	ppb	85.414	5.09	207044	500000	
Li	7	2	45	52.847	ppb	52.847	15.29	11064	500000	
Li	7	3	45	89.899	ppb	89.899	6.99	7424602	50000	
Be	9	1	6	-0.009	ppb	-0.009	-634.52	13	2000	
B	11	1	6	232.768	ppb	232.768	2.42	104047	2000	
Na	23	1	45	186417.334	ppb	186417.334	0.89	637001751	2000	>LDR
Na	23	2	45	175733.100	ppb	175733.100	1.30	39726444	400000	
Mg	24	2	45	1635.999	ppb	1635.999	2.83	169198	400000	
Al	27	2	45	32.308	ppb	32.308	18.97	880	400000	
K	39	1	45	5323.054	ppb	5323.054	0.73	28388446	400000	
K	39	2	45	6366.051	ppb	6366.051	1.88	346621	400000	
Ca	40	1	45	57877.690	ppb	57877.690	0.68	300033896	400000	
Ca	44	2	45	59481.790	ppb	59481.790	0.46	164904	400000	
Ti	47	2	45	1.314	ppb	1.314	74.57	37	4000	
V	51	2	72	11.195	ppb	11.195	2.64	15536	2000	
Cr	52	2	72	25.898	ppb	25.898	1.68	36123	5000	
Mn	55	2	72	1.853	ppb	1.853	4.23	1030	10000	
Fe	57	2	72	60.595	ppb	60.595	9.56	1727	400000	
Co	59	2	72	0.041	ppb	0.041	37.74	113	2000	
Ni	60	2	72	0.574	ppb	0.574	18.97	567	5000	
Cu	63	2	72	0.362	ppb	0.362	27.49	1920	5000	
Zn	66	2	72	13.564	ppb	13.564	5.06	3627	5000	
As	75	2	72	18.270	ppb	18.270	1.37	3189	2000	
Se	78	1	72	1.923	ppb	1.923	3.95	583	2000	
Sr	88	2	72	819.573	ppb	819.573	0.70	452065	4000	
Zr	90	2	72	25.431	ppb	25.431	3.47	480	1000	
Nb	93	2	72	0.094	ppb	0.094	23.54	1123	200	
Mo	95	2	115	6.606	ppb	6.606	7.97	6425	2000	
Pd	105	2	115	0.012	ppb	0.012	162.54	53	100	
Ag	107	2	115	0.000	ppb	0.000	-2034.09	40	100	
Cd	111	2	115	0.017	ppb	0.017	145.58	10	2000	
Sn	120	2	115	0.114	ppb	0.114	83.93	360	2000	
Sb	121	2	115	0.145	ppb	0.145	30.86	190	1000	
Ba	137	2	115	13.314	ppb	13.314	0.90	4551	5000	
W	182	2	165	1.016	ppb	1.016	5.15	6399	100	
Pt	195	2	165	0.002	ppb	0.002	161.92	27	100	
Tl	205	2	165	0.011	ppb	0.011	30.79	197	2000	
Pb	208	2	165	0.056	ppb	0.056	15.24	1517	5000	
Th	232	2	165	0.068	ppb	0.068	21.96	1203	2000	
U	238	2	165	2.596	ppb	2.596	1.41	40200	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1548656	1.54	1841092	84.12	60	120	
Sc (IS)	45	1	HMI H2	29399553	0.69	34041789	86.36	60	120	
Sc (IS)	45	2	HMI He	900534	0.74	989699	90.99	60	120	
Sc (IS)	45	3	No Gas	49959754	0.44	58466742	85.45	60	120	
Ge Internal Standard	72	1	HMI H2	12081273	0.61	14056514	85.95	60	120	
Ge Internal Standard	72	2	HMI He	1045951	1.08	1155188	90.54	60	120	
In Internal Standard	115	2	HMI He	3569307	1.19	3786036	94.28	60	120	
Ho-165	165	2	HMI He	18032786	0.51	18554642	97.19	60	120	

Sample Report

Sample Table

Sample Name	280-116051-d-4-dSD@5
Data File Name	109SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:34:30-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435187 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	16.037	ppb	16.037	46.47	181473	500000	
Li	7	2	45	-0.183	ppb	-0.183	-12798.01	9650	500000	
Li	7	3	45	24.954	ppb	24.954	14.93	6409451	50000	
Be	9	1	6	-0.025	ppb	-0.025	-104.63	7	2000	
B	11	1	6	49.873	ppb	49.873	2.39	23673	2000	
Na	23	1	45	38778.165	ppb	38778.165	0.43	136803725	2000	>LDR
Na	23	2	45	37314.582	ppb	37314.582	0.92	8347443	400000	
Mg	24	2	45	337.941	ppb	337.941	1.90	34759	400000	
Al	27	2	45	8.283	ppb	8.283	33.82	290	400000	
K	39	1	45	1094.156	ppb	1094.156	0.77	14520300	400000	
K	39	2	45	1317.599	ppb	1317.599	2.41	86172	400000	
Ca	40	1	45	11971.248	ppb	11971.248	1.05	64011007	400000	
Ca	44	2	45	12479.416	ppb	12479.416	0.96	34194	400000	
Ti	47	2	45	0.274	ppb	0.274	247.47	10	4000	
V	51	2	72	1.582	ppb	1.582	13.11	5431	2000	
Cr	52	2	72	5.238	ppb	5.238	5.22	7532	5000	
Mn	55	2	72	0.395	ppb	0.395	40.66	287	10000	
Fe	57	2	72	11.502	ppb	11.502	35.53	490	400000	
Co	59	2	72	0.008	ppb	0.008	178.49	33	2000	
Ni	60	2	72	0.041	ppb	0.041	334.02	203	5000	
Cu	63	2	72	0.158	ppb	0.158	50.60	1530	5000	
Zn	66	2	72	3.087	ppb	3.087	20.84	1077	5000	
As	75	2	72	3.922	ppb	3.922	8.52	695	2000	
Se	78	1	72	0.405	ppb	0.405	16.38	139	2000	
Sr	88	2	72	166.024	ppb	166.024	0.48	91604	4000	
Zr	90	2	72	5.844	ppb	5.844	50.45	180	1000	
Nb	93	2	72	-0.079	ppb	-0.079	-37.34	527	200	
Mo	95	2	115	1.419	ppb	1.419	5.61	1430	2000	
Pd	105	2	115	-0.010	ppb	-0.010	-134.00	20	100	
Ag	107	2	115	0.010	ppb	0.010	34.88	73	100	
Cd	111	2	115	0.016	ppb	0.016	146.59	10	2000	
Sn	120	2	115	0.097	ppb	0.097	6.92	343	2000	
Sb	121	2	115	0.016	ppb	0.016	71.00	63	1000	
Ba	137	2	115	2.917	ppb	2.917	8.84	1023	5000	
W	182	2	165	0.238	ppb	0.238	9.64	2750	100	
Pt	195	2	165	-0.001	ppb	-0.001	-436.08	17	100	
Tl	205	2	165	0.003	ppb	0.003	147.70	130	2000	
Pb	208	2	165	0.019	ppb	0.019	47.05	1087	5000	
Th	232	2	165	0.019	ppb	0.019	29.81	500	2000	
U	238	2	165	0.520	ppb	0.520	3.30	8103	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1620457	1.08	1841092	88.02	60	120	
Sc (IS)	45	1	HMI H2	30303910	0.52	34041789	89.02	60	120	
Sc (IS)	45	2	HMI He	889499	0.75	989699	89.88	60	120	
Sc (IS)	45	3	No Gas	50177148	1.78	58466742	85.82	60	120	
Ge Internal Standard	72	1	HMI H2	12460142	0.40	14056514	88.64	60	120	
Ge Internal Standard	72	2	HMI He	1046276	1.40	1155188	90.57	60	120	
In Internal Standard	115	2	HMI He	3600026	0.83	3786036	95.09	60	120	
Ho-165	165	2	HMI He	17899661	0.87	18554642	96.47	60	120	

Sample Report

Sample Table

Sample Name	280-116051-d-4-e ms
Data File Name	110SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:38:17-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435187 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	166.305	ppb	166.305	2.56	240775	500000	
Li	7	2	45	152.213	ppb	152.213	18.01	13327	500000	
Li	7	3	45	164.570	ppb	164.570	2.81	8607675	50000	
Be	9	1	6	41.193	ppb	41.193	2.33	16824	2000	
B	11	1	6	255.085	ppb	255.085	2.04	112611	2000	
Na	23	1	45	180171.687	ppb	180171.687	0.58	609613924	2000	>LDR
Na	23	2	45	170134.497	ppb	170134.497	1.21	37982047	400000	
Mg	24	2	45	1576.494	ppb	1576.494	0.65	161029	400000	
Al	27	2	45	453.827	ppb	453.827	5.53	11048	400000	
K	39	1	45	5079.263	ppb	5079.263	2.44	27290401	400000	
K	39	2	45	6180.098	ppb	6180.098	0.39	332904	400000	
Ca	40	1	45	55966.522	ppb	55966.522	1.28	287259669	400000	
Ca	44	2	45	58248.787	ppb	58248.787	0.95	159488	400000	
Ti	47	2	45	2.524	ppb	2.524	40.61	67	4000	
V	51	2	72	49.843	ppb	49.843	1.41	55654	2000	
Cr	52	2	72	61.963	ppb	61.963	1.16	85252	5000	
Mn	55	2	72	39.987	ppb	39.987	2.20	20308	10000	
Fe	57	2	72	431.439	ppb	431.439	0.72	10971	400000	
Co	59	2	72	38.857	ppb	38.857	0.42	92179	2000	
Ni	60	2	72	37.964	ppb	37.964	1.54	25861	5000	
Cu	63	2	72	38.445	ppb	38.445	1.63	74409	5000	
Zn	66	2	72	51.024	ppb	51.024	4.55	12630	5000	
As	75	2	72	55.387	ppb	55.387	2.07	9551	2000	
Se	78	1	72	39.004	ppb	39.004	0.45	11343	2000	
Sr	88	2	72	824.057	ppb	824.057	0.90	450436	4000	
Zr	90	2	72	3936.058	ppb	3936.058	2.16	59784	1000	
Nb	93	2	72	0.010	ppb	0.010	119.74	827	200	
Mo	95	2	115	41.703	ppb	41.703	0.94	40131	2000	
Pd	105	2	115	0.010	ppb	0.010	170.17	50	100	
Ag	107	2	115	37.308	ppb	37.308	1.76	121260	100	
Cd	111	2	115	38.027	ppb	38.027	1.33	15623	2000	
Sn	120	2	115	39.541	ppb	39.541	0.59	42580	2000	
Sb	121	2	115	39.684	ppb	39.684	0.14	39123	1000	
Ba	137	2	115	51.415	ppb	51.415	0.79	17422	5000	
W	182	2	165	13.257	ppb	13.257	1.29	62731	100	
Pt	195	2	165	-0.003	ppb	-0.003	-45.87	7	100	
Tl	205	2	165	38.657	ppb	38.657	0.45	322926	2000	
Pb	208	2	165	39.246	ppb	39.246	0.93	439625	5000	
Th	232	2	165	37.237	ppb	37.237	0.48	525874	2000	
U	238	2	165	39.928	ppb	39.928	0.61	609038	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1529771	1.08	1841092	83.09	60	120	
Sc (IS)	45	1	HMI H2	29109836	0.65	34041789	85.51	60	120	
Sc (IS)	45	2	HMI He	889407	1.28	989699	89.87	60	120	
Sc (IS)	45	3	No Gas	49876686	1.40	58466742	85.31	60	120	
Ge Internal Standard	72	1	HMI H2	11888723	0.71	14056514	84.58	60	120	
Ge Internal Standard	72	2	HMI He	1036521	1.32	1155188	89.73	60	120	
In Internal Standard	115	2	HMI He	3551144	0.24	3786036	93.80	60	120	
Ho-165	165	2	HMI He	17822434	0.35	18554642	96.05	60	120	

Sample Report

Sample Table

Sample Name	280-116051-d-4-f msd
Data File Name	111SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:42:06-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435187 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	157.272	ppb	157.272	3.17	238534	500000	
Li	7	2	45	145.591	ppb	145.591	14.34	13150	500000	
Li	7	3	45	163.482	ppb	163.482	2.88	8549728	50000	
Be	9	1	6	39.075	ppb	39.075	1.90	16043	2000	
B	11	1	6	250.425	ppb	250.425	2.21	111112	2000	
Na	23	1	45	178429.307	ppb	178429.307	0.25	608202431	2000	>LDR
Na	23	2	45	169368.284	ppb	169368.284	0.48	37763509	400000	
Mg	24	2	45	1558.127	ppb	1558.127	0.63	158951	400000	
Al	27	2	45	457.269	ppb	457.269	4.18	11111	400000	
K	39	1	45	5044.043	ppb	5044.043	1.30	27374565	400000	
K	39	2	45	6141.501	ppb	6141.501	1.02	330499	400000	
Ca	40	1	45	55034.530	ppb	55034.530	0.64	284584016	400000	
Ca	44	2	45	58089.198	ppb	58089.198	0.73	158831	400000	
Ti	47	2	45	1.733	ppb	1.733	48.34	47	4000	
V	51	2	72	49.614	ppb	49.614	0.96	55694	2000	
Cr	52	2	72	61.996	ppb	61.996	1.74	85722	5000	
Mn	55	2	72	41.977	ppb	41.977	4.91	21420	10000	
Fe	57	2	72	414.031	ppb	414.031	0.65	10588	400000	
Co	59	2	72	38.467	ppb	38.467	2.10	91706	2000	
Ni	60	2	72	39.039	ppb	39.039	1.36	26712	5000	
Cu	63	2	72	38.039	ppb	38.039	2.04	73989	5000	
Zn	66	2	72	54.201	ppb	54.201	2.46	13464	5000	
As	75	2	72	54.709	ppb	54.709	1.74	9482	2000	
Se	78	1	72	39.433	ppb	39.433	2.20	11614	2000	
Sr	88	2	72	826.827	ppb	826.827	0.13	454125	4000	
Zr	90	2	72	3945.292	ppb	3945.292	3.16	60230	1000	
Nb	93	2	72	-0.019	ppb	-0.019	-33.18	730	200	
Mo	95	2	115	42.260	ppb	42.260	0.67	40727	2000	
Pd	105	2	115	0.004	ppb	0.004	631.25	40	100	
Ag	107	2	115	37.645	ppb	37.645	1.55	122524	100	
Cd	111	2	115	37.908	ppb	37.908	3.05	15596	2000	
Sn	120	2	115	38.995	ppb	38.995	1.43	42061	2000	
Sb	121	2	115	41.308	ppb	41.308	0.62	40784	1000	
Ba	137	2	115	50.466	ppb	50.466	4.04	17131	5000	
W	182	2	165	13.028	ppb	13.028	1.25	62129	100	
Pt	195	2	165	-0.003	ppb	-0.003	-90.11	7	100	
Tl	205	2	165	38.383	ppb	38.383	0.14	322961	2000	
Pb	208	2	165	38.572	ppb	38.572	0.77	435244	5000	
Th	232	2	165	36.881	ppb	36.881	0.76	524620	2000	
U	238	2	165	39.503	ppb	39.503	0.62	606935	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1537466	0.78	1841092	83.51	60	120	
Sc (IS)	45	1	HMI H2	29325146	0.46	34041789	86.14	60	120	
Sc (IS)	45	2	HMI He	888211	0.84	989699	89.75	60	120	
Sc (IS)	45	3	No Gas	49640436	0.53	58466742	84.90	60	120	
Ge Internal Standard	72	1	HMI H2	12041171	0.65	14056514	85.66	60	120	
Ge Internal Standard	72	2	HMI He	1041555	0.89	1155188	90.16	60	120	
In Internal Standard	115	2	HMI He	3556539	1.28	3786036	93.94	60	120	
Ho-165	165	2	HMI He	17951818	0.45	18554642	96.75	60	120	

Sample Report

Sample Table

Sample Name	280-116051-d-4-d PDS
Data File Name	112SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:45:53-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435187 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	90.422	ppb	90.422	1.51	208229	500000	
Li	7	2	45	45.529	ppb	45.529	64.20	10921	500000	
Li	7	3	45	84.091	ppb	84.091	1.55	7368913	50000	
Be	9	1	6	211.984	ppb	211.984	0.98	85761	2000	
B	11	1	6	231.025	ppb	231.025	1.71	101137	2000	
Na	23	1	45	182147.920	ppb	182147.920	0.84	619277577	2000	>LDR
Na	23	2	45	172001.434	ppb	172001.434	2.21	39000102	400000	
Mg	24	2	45	1616.565	ppb	1616.565	1.09	167715	400000	
Al	27	2	45	2200.657	ppb	2200.657	0.82	54046	400000	
K	39	1	45	5255.916	ppb	5255.916	0.75	28017974	400000	
K	39	2	45	6330.270	ppb	6330.270	0.60	345898	400000	
Ca	40	1	45	56573.467	ppb	56573.467	0.37	291796516	400000	
Ca	44	2	45	59403.046	ppb	59403.046	1.35	165235	400000	
Ti	47	2	45	7.606	ppb	7.606	51.62	200	4000	
V	51	2	72	216.775	ppb	216.775	0.83	232142	2000	
Cr	52	2	72	222.284	ppb	222.284	1.29	308545	5000	
Mn	55	2	72	210.601	ppb	210.601	1.94	107777	10000	
Fe	57	2	72	2074.154	ppb	2074.154	1.57	52573	400000	
Co	59	2	72	198.271	ppb	198.271	1.46	475520	2000	
Ni	60	2	72	198.203	ppb	198.203	2.51	135746	5000	
Cu	63	2	72	198.185	ppb	198.185	1.80	382758	5000	
Zn	66	2	72	227.116	ppb	227.116	2.79	55729	5000	
As	75	2	72	210.219	ppb	210.219	0.85	36626	2000	
Se	78	1	72	192.641	ppb	192.641	0.38	56293	2000	
Sr	88	2	72	815.249	ppb	815.249	1.05	450584	4000	
Zr	90	2	72	21382.361	ppb	21382.361	0.85	328050	1000	>LDR
Nb	93	2	72	2.289	ppb	2.289	5.69	8707	200	
Mo	95	2	115	203.651	ppb	203.651	1.06	198793	2000	
Pd	105	2	115	0.045	ppb	0.045	8.22	103	100	
Ag	107	2	115	39.414	ppb	39.414	2.74	130043	100	
Cd	111	2	115	194.903	ppb	194.903	1.26	81300	2000	
Sn	120	2	115	208.475	ppb	208.475	2.10	226894	2000	
Sb	121	2	115	209.519	ppb	209.519	1.34	209508	1000	
Ba	137	2	115	212.396	ppb	212.396	1.84	73004	5000	
W	182	2	165	206.180	ppb	206.180	1.15	956513	100	
Pt	195	2	165	0.054	ppb	0.054	21.47	227	100	
Tl	205	2	165	216.979	ppb	216.979	0.90	1821292	2000	
Pb	208	2	165	200.419	ppb	200.419	1.01	2252764	5000	
Th	232	2	165	15.664	ppb	15.664	1.15	222459	2000	
U	238	2	165	208.918	ppb	208.918	1.58	3201938	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1516466	0.95	1841092	82.37	60	120	
Sc (IS)	45	1	HMI H2	29250568	0.70	34041789	85.93	60	120	
Sc (IS)	45	2	HMI He	903519	2.09	989699	91.29	60	120	
Sc (IS)	45	3	No Gas	50217243	0.62	58466742	85.89	60	120	
Ge Internal Standard	72	1	HMI H2	11957518	0.30	14056514	85.07	60	120	
Ge Internal Standard	72	2	HMI He	1048222	1.61	1155188	90.74	60	120	
In Internal Standard	115	2	HMI He	3605851	1.28	3786036	95.24	60	120	
Ho-165	165	2	HMI He	17913455	1.33	18554642	96.54	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	113_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:49:38-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	515.447	ppb	3.678	410852	500	103.1	90	110	
Li	7	2	45	478.203	ppb	5.757	21723	500	95.6	90	110	
Li	7	3	45	513.632	ppb	2.755	14365827	500	102.7	90	110	
Be	9	1	6	50.104	ppb	2.506	21840	50	100.2	90	110	
B	11	1	6	54.832	ppb	2.244	26184	50	109.7	90	110	
Na	23	1	45	5607.896	ppb	0.814	19988222	5000	112.2	90	110	>+\-10%
Na	23	2	45	5487.080	ppb	2.102	1273950	5000	109.7	90	110	
Mg	24	2	45	4907.002	ppb	0.813	512664	5000	98.1	90	110	
Al	27	2	45	5378.668	ppb	1.184	133042	5000	107.6	90	110	
K	39	1	45	5333.671	ppb	2.482	29260750	5000	106.7	90	110	
K	39	2	45	5171.017	ppb	0.374	288486	5000	103.4	90	110	
Ca	40	1	45	5208.627	ppb	1.910	27846659	5000	104.2	90	110	
Ca	44	2	45	5168.480	ppb	3.651	14515	5000	103.4	90	110	
Ti	47	2	45	50.549	ppb	12.335	1313	50	101.1	90	110	
V	51	2	72	47.407	ppb	1.627	54751	50	94.8	90	110	
Cr	52	2	72	47.508	ppb	1.503	67427	50	95.0	90	110	
Mn	55	2	72	49.826	ppb	3.151	26054	50	99.7	90	110	
Fe	57	2	72	4988.874	ppb	1.776	128575	5000	99.8	90	110	
Co	59	2	72	48.556	ppb	0.604	118705	50	97.1	90	110	
Ni	60	2	72	47.834	ppb	2.768	33523	50	95.7	90	110	
Cu	63	2	72	47.641	ppb	1.374	94736	50	95.3	90	110	
Zn	66	2	72	49.607	ppb	2.688	12666	50	99.2	90	110	
As	75	2	72	47.933	ppb	1.258	8522	50	95.9	90	110	
Se	78	1	72	48.115	ppb	5.607	14776	50	96.2	90	110	
Sr	88	2	72	53.113	ppb	2.144	29923	50	106.2	90	110	
Zr	90	2	72	62.723	ppb	5.164	1073	50	125.4	90	110	>+\-10%
Nb	93	2	72	90.804	ppb	0.476	320326	100	90.8	90	110	
Mo	95	2	115	47.634	ppb	1.695	47176	50	95.3	90	110	
Pd	105	2	115	49.228	ppb	2.859	75789	50	98.5	90	110	
Ag	107	2	115	46.211	ppb	1.856	154583	50	92.4	90	110	
Cd	111	2	115	47.753	ppb	1.890	20192	50	95.5	90	110	
Sn	120	2	115	49.699	ppb	1.220	55033	50	99.4	90	110	
Sb	121	2	115	51.066	ppb	2.876	51818	50	102.1	90	110	
Ba	137	2	115	49.080	ppb	3.433	17121	50	98.2	90	110	
W	182	2	165	47.704	ppb	1.236	229899	50	95.4	90	110	
Pt	195	2	165	47.019	ppb	1.218	187717	50	94.0	90	110	
Tl	205	2	165	49.481	ppb	1.001	429055	50	99.0	90	110	
Pb	208	2	165	49.589	ppb	0.596	576427	50	99.2	90	110	
Th	232	2	165	46.399	ppb	1.124	680136	50	92.8	90	110	
U	238	2	165	46.639	ppb	0.553	738463	50	93.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1632987	0.99	1841092	88.70	60	120	
Sc (IS)	45	1	HMI H2	30266990	0.73	34041789	88.91	60	120	
Sc (IS)	45	2	HMI He	910842	0.96	989699	92.03	60	120	
Sc (IS)	45	3	No Gas	50463534	0.78	58466742	86.31	60	120	
Ge Internal Standard	72	1	HMI H2	12558777	0.88	14056514	89.34	60	120	
Ge Internal Standard	72	2	HMI He	1068224	1.23	1155188	92.47	60	120	
In Internal Standard	115	2	HMI He	3655786	1.41	3786036	96.56	60	120	
Ho-165	165	2	HMI He	18501487	0.55	18554642	99.71	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	114_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:53:25-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	9.473	ppb	58.8	6192429	10	
Be	9	1	6	0.050	ppb	88.0	40	0.5	
B	11	1	6	2.631	ppb	9.7	1690	0.5	>RL
Na	23	1	45	121.136	ppb	1.3	687951	25	>RL
Na	23	2	45	105.998	ppb	4.9	44307	25	>RL
Mg	24	2	45	-0.064	ppb	-983.6	297	25	
Al	27	2	45	-1.016	ppb	-93.7	67	15	
K	39	1	45	66.832	ppb	54.6	10829678	50	>RL
K	39	2	45	-24.427	ppb	-58.8	18506	50	
Ca	40	1	45	5.752	ppb	9.5	85683	50	
Ca	44	2	45	10.325	ppb	38.2	57	25	
Ti	47	2	45	0.139	ppb	319.6	7	0.5	
V	51	2	72	-0.148	ppb	-52.2	3661	1	
Cr	52	2	72	-0.017	ppb	-189.0	257	1	
Mn	55	2	72	0.080	ppb	75.6	127	0.5	
Fe	57	2	72	4.884	ppb	23.7	327	25	
Co	59	2	72	0.018	ppb	39.6	60	0.5	
Ni	60	2	72	0.039	ppb	160.4	203	1	
Cu	63	2	72	0.074	ppb	138.4	1387	1	
Zn	66	2	72	-0.136	ppb	-89.3	297	5	
As	75	2	72	0.111	ppb	34.7	34	1	
Se	78	1	72	0.060	ppb	33.9	33	1	
Sr	88	2	72	0.055	ppb	32.7	40	0.5	
Zr	90	2	72	0.724	ppb	487.2	103	1	
Nb	93	2	72	2.192	ppb	14.0	8463	2	>RL
Mo	95	2	115	0.055	ppb	61.4	103	0.5	
Pd	105	2	115	-0.004	ppb	-170.6	30	1	
Ag	107	2	115	0.007	ppb	64.8	67	1	
Cd	111	2	115	0.008	ppb	343.2	7	0.5	
Sn	120	2	115	0.002	ppb	1225.9	247	1	
Sb	121	2	115	0.448	ppb	20.9	507	0.6	
Ba	137	2	115	0.030	ppb	196.7	33	0.5	
W	182	2	165	0.089	ppb	39.4	2124	1	
Pt	195	2	165	0.008	ppb	87.1	53	1	
Tl	205	2	165	0.027	ppb	29.5	340	0.1	
Pb	208	2	165	0.022	ppb	68.6	1147	0.5	
Th	232	2	165	0.038	ppb	20.6	787	1	
U	238	2	165	0.031	ppb	18.2	633	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1645661	1.59	1841092	89.39	60	120	
Sc (IS)	45	1	HMI H2	30001770	0.80	34041789	88.13	60	120	
Sc (IS)	45	2	HMI He	910686	1.07	989699	92.02	60	120	
Sc (IS)	45	3	No Gas	50437364	0.19	58466742	86.27	60	120	
Ge Internal Standard	72	1	HMI H2	12323101	0.22	14056514	87.67	60	120	
Ge Internal Standard	72	2	HMI He	1059753	0.52	1155188	91.74	60	120	
In Internal Standard	115	2	HMI He	3690143	1.23	3786036	97.47	60	120	
Ho-165	165	2	HMI He	18434989	1.71	18554642	99.36	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	115LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T22:57:12-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	18.310	ppb	19.074	6329901	50	36.6	70	130	>+/-30%
Be	9	1	6	1.018	ppb	33.244	463	1	101.8	70	130	
Na	23	2	45	126.244	ppb	6.678	48607	50	252.5	70	130	>+/-30%
Mg	24	2	45	47.087	ppb	7.858	5185	50	94.2	70	130	
Al	27	2	45	35.833	ppb	10.293	970	30	119.4	70	130	
K	39	2	45	78.661	ppb	12.720	23697	100	78.7	70	130	
Ca	44	2	45	50.108	ppb	34.983	167	50	100.2	70	130	
V	51	2	72	4.544	ppb	5.584	8633	5	90.9	70	130	
Cr	52	2	72	1.733	ppb	7.285	2704	2	86.7	70	130	
Mn	55	2	72	0.966	ppb	10.335	583	1	96.6	70	130	
Fe	57	2	72	50.377	ppb	7.297	1483	50	100.8	70	130	
Co	59	2	72	0.946	ppb	14.460	2304	1	94.6	70	130	
Ni	60	2	72	1.957	ppb	9.778	1527	2	97.9	70	130	
Cu	63	2	72	2.189	ppb	4.619	5488	2	109.5	70	130	
Zn	66	2	72	9.625	ppb	13.673	2697	10	96.3	70	130	
As	75	2	72	4.631	ppb	2.323	827	5	92.6	70	130	
Se	78	1	72	5.187	ppb	10.902	1584	5	103.7	70	130	
Sr	88	2	72	0.928	ppb	13.231	527	1	92.8	70	130	
Zr	90	2	72	15.179	ppb	33.636	327	0.5	3035.8	70	130	>+/-30%
Nb	93	2	72	4.315	ppb	6.967	15830	2	215.7	70	130	>+/-30%
Mo	95	2	115	1.868	ppb	3.682	1917	2	93.4	70	130	
Pd	105	2	115	-0.008	ppb	-165.466	23	1	-0.8	70	130	>+/-30%
Ag	107	2	115	4.712	ppb	3.482	15973	5	94.2	70	130	
Cd	111	2	115	0.959	ppb	16.147	413	1	95.9	70	130	
Sn	120	2	115	9.595	ppb	0.379	10935	10	96.0	70	130	
Sb	121	2	115	2.208	ppb	8.960	2310	2	110.4	70	130	
Ba	137	2	115	1.081	ppb	10.129	403	1	108.1	70	130	
W	182	2	165	5.000	ppb	2.315	25308	1	500.0	70	130	>+/-30%
Pt	195	2	165	0.015	ppb	42.774	80	1	1.5	70	130	>+/-30%
Tl	205	2	165	1.060	ppb	5.968	9180	1	106.0	70	130	
Pb	208	2	165	1.034	ppb	2.890	12740	1	103.4	70	130	
Th	232	2	165	1.909	ppb	1.111	27864	2	95.5	70	130	
U	238	2	165	0.962	ppb	1.537	15190	1	96.2	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1638258	0.94	1841092	88.98	60	120	
Sc (IS)	45	1	HMI H2	29935657	0.25	34041789	87.94	60	120	
Sc (IS)	45	2	HMI He	904344	0.92	989699	91.38	60	120	
Sc (IS)	45	3	No Gas	50391934	0.55	58466742	86.19	60	120	
Ge Internal Standard	72	1	HMI H2	12382267	0.48	14056514	88.09	60	120	
Ge Internal Standard	72	2	HMI He	1056716	0.70	1155188	91.48	60	120	
In Internal Standard	115	2	HMI He	3694455	0.68	3786036	97.58	60	120	
Ho-165	165	2	HMI He	18273143	0.87	18554642	98.48	60	120	

Blank Report

Sample Table

Sample Name	mb 280-434761/1-a
Data File Name	116_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:01:02-06:00
Sample Type	Blank
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	2.487	ppb	51.7801492	172766	0.5
Li	7	2	45	-26.545	ppb	-106.0696177	9163	0.5
Li	7	3	45	0.643	ppb	484.3412857	6106827	10
Be	9	1	6	-0.010	ppb	-557.8935482	13	0.5
B	11	1	6	2.207	ppb	13.7174382	1443	0.5
Na	23	1	45	66.685	ppb	1.838979066	496070	25
Na	23	2	45	73.501	ppb	7.204087365	36666	25
Mg	24	2	45	-0.237	ppb	-271.192299	277	25
Al	27	2	45	6.457	ppb	20.92444155	250	15
K	39	1	45	-1376.739	ppb	-0.217910825	5823901	50
K	39	2	45	-17.629	ppb	-52.91244192	18743	50
Ca	40	1	45	10.490	ppb	3.231617146	110291	50
Ca	44	2	45	20.046	ppb	27.10431507	83	25
Ti	47	2	45	0.271	ppb	142.6114641	10	0.5
V	51	2	72	-1.463	ppb	-13.20827439	2247	1
Cr	52	2	72	0.211	ppb	17.67621015	573	1
Mn	55	2	72	0.624	ppb	14.40270025	407	0.5
Fe	57	2	72	9.658	ppb	35.67345462	447	25
Co	59	2	72	0.020	ppb	23.10731232	63	0.5
Ni	60	2	72	-0.013	ppb	-402.0431218	167	1
Cu	63	2	72	0.052	ppb	121.4570532	1337	1
Zn	66	2	72	0.755	ppb	43.42767103	513	5
As	75	2	72	0.026	ppb	127.9119362	19	1
Se	78	1	72	-0.001	ppb	-1488.825041	15	1
Sr	88	2	72	0.097	ppb	28.16941894	63	0.5
Zr	90	2	72	1.215	ppb	279.8251051	110	1
Nb	93	2	72	0.329	ppb	16.02976222	1947	2
Mo	95	2	115	0.022	ppb	186.0272855	70	0.5
Pd	105	2	115	-0.014	ppb	-51.61673425	13	1
Ag	107	2	115	0.007	ppb	130.0573517	67	1
Cd	111	2	115	0.024	ppb	151.6989908	13	0.5
Sn	120	2	115	0.061	ppb	128.5999068	310	1
Sb	121	2	115	0.087	ppb	46.70471248	137	0.6
Ba	137	2	115	0.012	ppb	284.210938	27	0.5
W	182	2	165	0.034	ppb	74.46817003	1847	1
Pt	195	2	165	0.006	ppb	22.67067294	43	1
Tl	205	2	165	0.018	ppb	23.48882612	263	0.1
Pb	208	2	165	0.034	ppb	46.50745587	1280	0.5
Th	232	2	165	0.035	ppb	16.13564542	730	1
U	238	2	165	0.014	ppb	26.58541424	357	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1595857	1.00	1841092	86.68	60	120	
Sc (IS)	45	1	HMI H2	29876005	0.81	34041789	87.76	60	120	
Sc (IS)	45	2	HMI He	904981	0.98	989699	91.44	60	120	
Sc (IS)	45	3	No Gas	50919044	1.36	58466742	87.09	60	120	
Ge Internal Standard	72	1	HMI H2	12215806	0.38	14056514	86.90	60	120	
Ge Internal Standard	72	2	HMI He	1054483	0.86	1155188	91.28	60	120	
In Internal Standard	115	2	HMI He	3667975	0.43	3786036	96.88	60	120	
Ho-165	165	2	HMI He	18294300	0.94	18554642	98.60	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-434761/2-a
Data File Name	117_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:04:50-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	434761 6020A DOD5
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	79.416	79.416	ppb	12.199	208091	400	19.9	80	120	>+/-20%
Li	7	2	45	51.346	51.346	ppb	30.792	11195	400	12.8	80	120	>+/-20%
Li	7	3	45	86.662	86.662	ppb	4.752	7538839	400	21.7	80	120	>+/-20%
Be	9	1	6	39.859	39.859	ppb	3.701	17121	40	99.6	80	120	
Na	23	2	45	44.181	44.181	ppb	4.530	30302	40	110.5	80	120	
Mg	24	2	45	-0.138	-0.138	ppb	-325.756	290	40	-0.3	80	120	>+/-20%
Al	27	2	45	433.885	433.885	ppb	6.398	10851	40	1084.7	80	120	>+/-20%
K	39	2	45	-25.684	-25.684	ppb	-33.381	18509	40	-64.2	80	120	>+/-20%
Ca	44	2	45	256.679	256.679	ppb	17.800	750	40	641.7	80	120	>+/-20%
V	51	2	72	37.736	37.736	ppb	0.821	44098	40	94.3	80	120	
Cr	52	2	72	40.119	40.119	ppb	2.096	56648	40	100.3	80	120	
Mn	55	2	72	42.350	42.350	ppb	1.497	22024	40	105.9	80	120	
Fe	57	2	72	397.404	397.404	ppb	2.616	10368	40	993.5	80	120	>+/-20%
Co	59	2	72	39.916	39.916	ppb	2.079	96990	40	99.8	80	120	
Ni	60	2	72	38.883	38.883	ppb	1.814	27123	40	97.2	80	120	
Cu	63	2	72	38.806	38.806	ppb	0.952	76931	40	97.0	80	120	
Zn	66	2	72	39.476	39.476	ppb	0.918	10087	40	98.7	80	120	
As	75	2	72	37.265	37.265	ppb	0.164	6588	40	93.2	80	120	
Se	78	1	72	37.765	37.765	ppb	2.078	11397	40	94.4	80	120	
Nb	93	2	72	0.200	0.200	ppb	37.346	1510	40	0.5	80	120	>+/-20%
Mo	95	2	115	35.235	35.235	ppb	1.936	35075	40	88.1	80	120	
Pd	105	2	115	-0.014	-0.014	ppb	-52.089	13	40	0.0	80	120	>+/-20%
Ag	107	2	115	39.702	39.702	ppb	1.385	133436	40	99.3	80	120	
Cd	111	2	115	38.699	38.699	ppb	2.008	16444	40	96.7	80	120	
Sn	120	2	115	40.907	40.907	ppb	2.353	45542	40	102.3	80	120	
Sb	121	2	115	39.415	39.415	ppb	2.842	40183	40	98.5	80	120	
Ba	137	2	115	40.757	40.757	ppb	1.603	14288	40	101.9	80	120	
W	182	2	165	11.986	11.986	ppb	1.387	58844	40	30.0	80	120	>+/-20%
Pt	195	2	165	-0.001	-0.001	ppb	-853.710	17	40	0.0	80	120	>+/-20%
Tl	205	2	165	39.904	39.904	ppb	0.211	344901	40	99.8	80	120	
Pb	208	2	165	40.613	40.613	ppb	1.490	470644	40	101.5	80	120	
Th	232	2	165	36.913	36.913	ppb	0.585	539360	40	92.3	80	120	
U	238	2	165	37.496	37.496	ppb	1.295	591728	40	93.7	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1608273	1.51	1841092	87.35	60	120	
Sc (IS)	45	1	HMI H2	29936810	0.70	34041789	87.94	60	120	
Sc (IS)	45	2	HMI He	914004	0.61	989699	92.35	60	120	
Sc (IS)	45	3	No Gas	51087546	0.17	58466742	87.38	60	120	
Ge Internal Standard	72	1	HMI H2	12336896	0.97	14056514	87.77	60	120	
Ge Internal Standard	72	2	HMI He	1061802	0.78	1155188	91.92	60	120	
In Internal Standard	115	2	HMI He	3672475	0.86	3786036	97.00	60	120	
Ho-165	165	2	HMI He	18440257	0.88	18554642	99.38	60	120	

Sample Report

Sample Table

Sample Name	lcsd 280-434761/3-a
Data File Name	118SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:08:38-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	85.962	ppb	85.962	1.49	212659	500000	
Li	7	2	45	62.953	ppb	62.953	50.05	11441	500000	
Li	7	3	45	87.797	ppb	87.797	3.68	7551569	50000	
Be	9	1	6	38.847	ppb	38.847	3.94	16850	2000	
B	11	1	6	29.934	ppb	29.934	4.24	14428	2000	
Na	23	1	45	60.107	ppb	60.107	3.67	477714	2000	
Na	23	2	45	55.026	ppb	55.026	6.13	32684	400000	
Mg	24	2	45	4.146	ppb	4.146	15.58	737	400000	
Al	27	2	45	441.773	ppb	441.773	2.52	11015	400000	
K	39	1	45	-1432.052	ppb	-1432.052	-0.88	5687283	400000	
K	39	2	45	-23.460	ppb	-23.460	-26.13	18566	400000	
Ca	40	1	45	24.490	ppb	24.490	0.64	185785	400000	
Ca	44	2	45	218.328	ppb	218.328	17.52	640	400000	
Ti	47	2	45	2.578	ppb	2.578	38.78	70	4000	
V	51	2	72	38.697	ppb	38.697	2.00	45085	2000	
Cr	52	2	72	39.526	ppb	39.526	1.77	55764	5000	
Mn	55	2	72	41.579	ppb	41.579	4.22	21604	10000	
Fe	57	2	72	417.916	ppb	417.916	4.95	10885	400000	
Co	59	2	72	40.117	ppb	40.117	1.72	97393	2000	
Ni	60	2	72	39.989	ppb	39.989	2.24	27864	5000	
Cu	63	2	72	39.106	ppb	39.106	3.00	77435	5000	
Zn	66	2	72	41.133	ppb	41.133	0.56	10488	5000	
As	75	2	72	37.999	ppb	37.999	2.39	6713	2000	
Se	78	1	72	37.968	ppb	37.968	1.41	11466	2000	
Sr	88	2	72	41.303	ppb	41.303	0.83	23113	4000	
Zr	90	2	72	3903.529	ppb	3903.529	1.05	60687	1000	
Nb	93	2	72	0.084	ppb	0.084	71.06	1103	200	
Mo	95	2	115	35.865	ppb	35.865	1.63	35847	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-64.88	27	100	
Ag	107	2	115	39.152	ppb	39.152	1.04	132136	100	
Cd	111	2	115	38.222	ppb	38.222	1.48	16307	2000	
Sn	120	2	115	39.662	ppb	39.662	3.07	44346	2000	
Sb	121	2	115	39.049	ppb	39.049	3.68	39972	1000	
Ba	137	2	115	38.136	ppb	38.136	2.37	13424	5000	
W	182	2	165	12.474	ppb	12.474	2.56	61284	100	
Pt	195	2	165	0.003	ppb	0.003	171.27	30	100	
Tl	205	2	165	39.910	ppb	39.910	0.92	345581	2000	
Pb	208	2	165	40.374	ppb	40.374	0.42	468776	5000	
Th	232	2	165	37.003	ppb	37.003	0.59	541679	2000	
U	238	2	165	37.310	ppb	37.310	0.37	589916	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1625048	1.92	1841092	88.27	60	120	
Sc (IS)	45	1	HMI H2	30160814	0.94	34041789	88.60	60	120	
Sc (IS)	45	2	HMI He	911052	0.66	989699	92.05	60	120	
Sc (IS)	45	3	No Gas	51047731	0.43	58466742	87.31	60	120	
Ge Internal Standard	72	1	HMI H2	12344501	0.11	14056514	87.82	60	120	
Ge Internal Standard	72	2	HMI He	1060832	0.69	1155188	91.83	60	120	
In Internal Standard	115	2	HMI He	3687713	0.67	3786036	97.40	60	120	
Ho-165	165	2	HMI He	18474121	0.54	18554642	99.57	60	120	

Sample Report

Sample Table

Sample Name	280-115738-d-18-b
Data File Name	119SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:12:25-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	8.410	ppb	8.410	63.07	175244	500000	
Li	7	2	45	-29.222	ppb	-29.222	-47.22	9180	500000	
Li	7	3	45	1.297	ppb	1.297	380.18	6092374	50000	
Be	9	1	6	0.006	ppb	0.006	663.25	20	2000	
B	11	1	6	1.809	ppb	1.809	11.40	1277	2000	
Na	23	1	45	41.476	ppb	41.476	1.47	408086	2000	
Na	23	2	45	35.989	ppb	35.989	10.15	28382	400000	
Mg	24	2	45	0.881	ppb	0.881	70.39	397	400000	
Al	27	2	45	6.120	ppb	6.120	34.82	243	400000	
K	39	1	45	-1431.713	ppb	-1431.713	-0.23	5628343	400000	
K	39	2	45	-13.423	ppb	-13.423	-47.15	19127	400000	
Ca	40	1	45	32.916	ppb	32.916	1.85	228146	400000	
Ca	44	2	45	30.456	ppb	30.456	5.14	113	400000	
Ti	47	2	45	0.136	ppb	0.136	323.41	7	4000	
V	51	2	72	-1.626	ppb	-1.626	-7.49	2087	2000	
Cr	52	2	72	0.270	ppb	0.270	21.91	660	5000	
Mn	55	2	72	0.298	ppb	0.298	5.80	240	10000	
Fe	57	2	72	18.172	ppb	18.172	8.29	667	400000	
Co	59	2	72	0.029	ppb	0.029	49.69	87	2000	
Ni	60	2	72	0.038	ppb	0.038	174.25	203	5000	
Cu	63	2	72	0.753	ppb	0.753	24.17	2710	5000	
Zn	66	2	72	2.280	ppb	2.280	20.81	893	5000	
As	75	2	72	0.037	ppb	0.037	74.24	21	2000	
Se	78	1	72	0.025	ppb	0.025	254.00	23	2000	
Sr	88	2	72	0.168	ppb	0.168	32.92	103	4000	
Zr	90	2	72	50.320	ppb	50.320	8.50	873	1000	
Nb	93	2	72	0.006	ppb	0.006	500.51	830	200	
Mo	95	2	115	0.008	ppb	0.008	270.28	57	2000	
Pd	105	2	115	-0.006	ppb	-0.006	-231.30	27	100	
Ag	107	2	115	0.016	ppb	0.016	57.06	97	100	
Cd	111	2	115	0.000	ppb	0.000	7070.71	3	2000	
Sn	120	2	115	0.233	ppb	0.233	10.56	503	2000	
Sb	121	2	115	0.344	ppb	0.344	23.77	400	1000	
Ba	137	2	115	0.135	ppb	0.135	64.79	70	5000	
W	182	2	165	0.018	ppb	0.018	77.82	1784	100	
Pt	195	2	165	-0.002	ppb	-0.002	-237.50	13	100	
Tl	205	2	165	0.019	ppb	0.019	42.38	267	2000	
Pb	208	2	165	0.073	ppb	0.073	18.37	1743	5000	
Th	232	2	165	0.111	ppb	0.111	6.50	1850	2000	
U	238	2	165	0.015	ppb	0.015	29.74	373	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1615410	1.43	1841092	87.74	60	120	
Sc (IS)	45	1	HMI H2	29840715	0.30	34041789	87.66	60	120	
Sc (IS)	45	2	HMI He	912884	1.19	989699	92.24	60	120	
Sc (IS)	45	3	No Gas	50706578	0.95	58466742	86.73	60	120	
Ge Internal Standard	72	1	HMI H2	12302171	1.03	14056514	87.52	60	120	
Ge Internal Standard	72	2	HMI He	1060842	0.60	1155188	91.83	60	120	
In Internal Standard	115	2	HMI He	3692174	1.56	3786036	97.52	60	120	
Ho-165	165	2	HMI He	18410676	1.28	18554642	99.22	60	120	

Sample Report

Sample Table

Sample Name	280-115877-d-1-a
Data File Name	120SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:16:12-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	1.576	ppb	1.576	97.17	171340	500000	
Li	7	2	45	-5.610	ppb	-5.610	-390.94	9563	500000	
Li	7	3	45	4.867	ppb	4.867	48.78	6113153	50000	
Be	9	1	6	0.023	ppb	0.023	263.14	27	2000	
B	11	1	6	62.807	ppb	62.807	2.63	28799	2000	
Na	23	1	45	1538.071	ppb	1538.071	0.38	5570464	2000	
Na	23	2	45	1431.266	ppb	1431.266	0.90	340869	400000	
Mg	24	2	45	24404.319	ppb	24404.319	0.39	2502315	400000	
Al	27	2	45	39.110	ppb	39.110	12.85	1040	400000	
K	39	1	45	2565.335	ppb	2565.335	1.63	19256845	400000	
K	39	2	45	3851.674	ppb	3851.674	2.01	215899	400000	
Ca	40	1	45	19810.619	ppb	19810.619	0.35	103783562	400000	
Ca	44	2	45	19528.903	ppb	19528.903	1.48	53779	400000	
Ti	47	2	45	0.807	ppb	0.807	102.68	23	4000	
V	51	2	72	-1.239	ppb	-1.239	-16.03	2484	2000	
Cr	52	2	72	0.297	ppb	0.297	8.09	693	5000	
Mn	55	2	72	735.053	ppb	735.053	0.61	377811	10000	
Fe	57	2	72	6303.517	ppb	6303.517	0.73	160145	400000	
Co	59	2	72	3.379	ppb	3.379	5.43	8156	2000	
Ni	60	2	72	4.942	ppb	4.942	6.42	3574	5000	
Cu	63	2	72	1.370	ppb	1.370	7.08	3884	5000	
Zn	66	2	72	1.746	ppb	1.746	22.03	757	5000	
As	75	2	72	6.865	ppb	6.865	5.14	1216	2000	
Se	78	1	72	0.186	ppb	0.186	17.13	71	2000	
Sr	88	2	72	77.278	ppb	77.278	0.82	42930	4000	
Zr	90	2	72	61.288	ppb	61.288	16.15	1037	1000	
Nb	93	2	72	0.030	ppb	0.030	118.13	907	200	
Mo	95	2	115	0.074	ppb	0.074	65.19	120	2000	
Pd	105	2	115	-0.012	ppb	-0.012	-32.01	17	100	
Ag	107	2	115	0.009	ppb	0.009	3.77	70	100	
Cd	111	2	115	0.024	ppb	0.024	149.81	13	2000	
Sn	120	2	115	0.083	ppb	0.083	61.48	330	2000	
Sb	121	2	115	0.274	ppb	0.274	13.00	323	1000	
Ba	137	2	115	32.846	ppb	32.846	6.11	11355	5000	
W	182	2	165	0.271	ppb	0.271	29.43	2987	100	
Pt	195	2	165	0.002	ppb	0.002	84.83	27	100	
Tl	205	2	165	0.109	ppb	0.109	9.02	1043	2000	
Pb	208	2	165	0.757	ppb	0.757	2.55	9632	5000	
Th	232	2	165	0.106	ppb	0.106	1.45	1770	2000	
U	238	2	165	0.035	ppb	0.035	15.22	700	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1571368	0.96	1841092	85.35	60	120	
Sc (IS)	45	1	HMI H2	29699906	0.49	34041789	87.25	60	120	
Sc (IS)	45	2	HMI He	894343	1.64	989699	90.37	60	120	
Sc (IS)	45	3	No Gas	50397121	0.71	58466742	86.20	60	120	
Ge Internal Standard	72	1	HMI H2	12243075	0.91	14056514	87.10	60	120	
Ge Internal Standard	72	2	HMI He	1053239	1.20	1155188	91.17	60	120	
In Internal Standard	115	2	HMI He	3621291	1.53	3786036	95.65	60	120	
Ho-165	165	2	HMI He	18405346	0.27	18554642	99.20	60	120	

Sample Report

Sample Table

Sample Name	280-115950-c-1-a
Data File Name	121SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:20:01-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	0.730	ppb	0.730	480.14	169810	500000	
Li	7	2	45	-24.748	ppb	-24.748	-89.99	9107	500000	
Li	7	3	45	5.597	ppb	5.597	88.06	6108806	50000	
Be	9	1	6	-0.017	ppb	-0.017	-136.70	10	2000	
B	11	1	6	11.550	ppb	11.550	13.89	5715	2000	
Na	23	1	45	5740.023	ppb	5740.023	1.97	19934246	2000	
Na	23	2	45	5728.279	ppb	5728.279	1.76	1305230	400000	
Mg	24	2	45	10112.220	ppb	10112.220	4.37	1037201	400000	
Al	27	2	45	53.281	ppb	53.281	15.09	1383	400000	
K	39	1	45	-542.966	ppb	-542.966	-3.58	8579921	400000	
K	39	2	45	831.453	ppb	831.453	2.61	61854	400000	
Ca	40	1	45	60099.344	ppb	60099.344	1.39	312616942	400000	
Ca	44	2	45	58652.451	ppb	58652.451	0.11	161507	400000	
Ti	47	2	45	1.192	ppb	1.192	18.94	33	4000	
V	51	2	72	-1.578	ppb	-1.578	-8.12	2117	2000	
Cr	52	2	72	0.246	ppb	0.246	33.03	620	5000	
Mn	55	2	72	185.050	ppb	185.050	0.78	94896	10000	
Fe	57	2	72	1068.996	ppb	1068.996	0.11	27243	400000	
Co	59	2	72	0.283	ppb	0.283	16.83	697	2000	
Ni	60	2	72	0.065	ppb	0.065	81.22	220	5000	
Cu	63	2	72	0.054	ppb	0.054	136.89	1337	5000	
Zn	66	2	72	0.600	ppb	0.600	58.23	473	5000	
As	75	2	72	4.938	ppb	4.938	5.81	876	2000	
Se	78	1	72	0.017	ppb	0.017	240.11	20	2000	
Sr	88	2	72	97.658	ppb	97.658	1.85	54088	4000	
Zr	90	2	72	26.860	ppb	26.860	18.83	503	1000	
Nb	93	2	72	-0.021	ppb	-0.021	-123.07	730	200	
Mo	95	2	115	0.532	ppb	0.532	22.80	580	2000	
Pd	105	2	115	-0.023	ppb	-0.023	0.00	0	100	
Ag	107	2	115	0.001	ppb	0.001	731.74	47	100	
Cd	111	2	115	-0.008	ppb	-0.008	0.00	0	2000	
Sn	120	2	115	0.053	ppb	0.053	86.49	303	2000	
Sb	121	2	115	0.092	ppb	0.092	58.17	143	1000	
Ba	137	2	115	54.046	ppb	54.046	2.52	18974	5000	
W	182	2	165	-0.002	ppb	-0.002	-1829.34	1674	100	
Pt	195	2	165	-0.001	ppb	-0.001	-375.45	17	100	
Tl	205	2	165	0.009	ppb	0.009	13.45	180	2000	
Pb	208	2	165	0.176	ppb	0.176	7.90	2904	5000	
Th	232	2	165	0.044	ppb	0.044	14.19	867	2000	
U	238	2	165	0.092	ppb	0.092	5.78	1577	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1592446	1.00	1841092	86.49	60	120	
Sc (IS)	45	1	HMI H2	29500847	0.67	34041789	86.66	60	120	
Sc (IS)	45	2	HMI He	894465	0.47	989699	90.38	60	120	
Sc (IS)	45	3	No Gas	50268103	0.91	58466742	85.98	60	120	
Ge Internal Standard	72	1	HMI H2	12135629	0.35	14056514	86.33	60	120	
Ge Internal Standard	72	2	HMI He	1050069	0.93	1155188	90.90	60	120	
In Internal Standard	115	2	HMI He	3679561	1.71	3786036	97.19	60	120	
Ho-165	165	2	HMI He	18282833	0.08	18554642	98.54	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	122_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:23:48-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	527.217	ppb	0.973	410749	500	105.4	90	110	
Li	7	2	45	497.595	ppb	6.880	21636	500	99.5	90	110	
Li	7	3	45	513.306	ppb	2.338	14171247	500	102.7	90	110	
Be	9	1	6	48.578	ppb	4.376	20919	50	97.2	90	110	
B	11	1	6	52.016	ppb	1.996	24565	50	104.0	90	110	
Na	23	1	45	5293.584	ppb	0.471	18631740	5000	105.9	90	110	
Na	23	2	45	5220.204	ppb	0.796	1182200	5000	104.4	90	110	
Mg	24	2	45	4942.372	ppb	0.292	503224	5000	98.8	90	110	
Al	27	2	45	5255.035	ppb	0.114	126671	5000	105.1	90	110	
K	39	1	45	5291.822	ppb	1.464	28728494	5000	105.8	90	110	
K	39	2	45	5119.654	ppb	0.962	278529	5000	102.4	90	110	
Ca	40	1	45	5269.262	ppb	0.540	27797021	5000	105.4	90	110	
Ca	44	2	45	5288.262	ppb	1.889	14474	5000	105.8	90	110	
Ti	47	2	45	49.910	ppb	19.837	1263	50	99.8	90	110	
V	51	2	72	47.626	ppb	2.218	53746	50	95.3	90	110	
Cr	52	2	72	48.493	ppb	0.487	67283	50	97.0	90	110	
Mn	55	2	72	50.492	ppb	2.582	25811	50	101.0	90	110	
Fe	57	2	72	4926.263	ppb	1.254	124129	5000	98.5	90	110	
Co	59	2	72	48.258	ppb	0.179	115331	50	96.5	90	110	
Ni	60	2	72	49.385	ppb	2.654	33837	50	98.8	90	110	
Cu	63	2	72	47.630	ppb	1.060	92582	50	95.3	90	110	
Zn	66	2	72	49.245	ppb	2.462	12296	50	98.5	90	110	
As	75	2	72	49.296	ppb	1.418	8567	50	98.6	90	110	
Se	78	1	72	49.283	ppb	0.588	14823	50	98.6	90	110	
Sr	88	2	72	51.424	ppb	1.280	28326	50	102.8	90	110	
Zr	90	2	72	133.280	ppb	11.550	2127	50	266.6	90	110	>+\-10%
Nb	93	2	72	91.833	ppb	0.825	316680	100	91.8	90	110	
Mo	95	2	115	46.825	ppb	1.601	45585	50	93.7	90	110	
Pd	105	2	115	49.918	ppb	1.816	75550	50	99.8	90	110	
Ag	107	2	115	47.367	ppb	0.853	155742	50	94.7	90	110	
Cd	111	2	115	48.003	ppb	1.025	19952	50	96.0	90	110	
Sn	120	2	115	49.114	ppb	1.100	53447	50	98.2	90	110	
Sb	121	2	115	50.191	ppb	2.634	50041	50	100.4	90	110	
Ba	137	2	115	49.046	ppb	0.688	16814	50	98.1	90	110	
W	182	2	165	47.207	ppb	0.756	225985	50	94.4	90	110	
Pt	195	2	165	47.335	ppb	1.107	187694	50	94.7	90	110	
Tl	205	2	165	49.762	ppb	1.108	428546	50	99.5	90	110	
Pb	208	2	165	49.311	ppb	0.853	569285	50	98.6	90	110	
Th	232	2	165	46.176	ppb	0.458	672313	50	92.4	90	110	
U	238	2	165	46.669	ppb	1.350	733911	50	93.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1613693	2.01	1841092	87.65	60	120	
Sc (IS)	45	1	HMI H2	29863752	0.47	34041789	87.73	60	120	
Sc (IS)	45	2	HMI He	887655	0.57	989699	89.69	60	120	
Sc (IS)	45	3	No Gas	49797831	0.47	58466742	85.17	60	120	
Ge Internal Standard	72	1	HMI H2	12298043	1.13	14056514	87.49	60	120	
Ge Internal Standard	72	2	HMI He	1044262	0.55	1155188	90.40	60	120	
In Internal Standard	115	2	HMI He	3592656	0.75	3786036	94.89	60	120	
Ho-165	165	2	HMI He	18376570	1.17	18554642	99.04	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	123_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:27:36-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	7.594	ppb	86.4	6131424	10	
Be	9	1	6	0.029	ppb	139.6	30	0.5	
B	11	1	6	1.501	ppb	30.0	1137	0.5	>RL
Na	23	1	45	23.443	ppb	0.6	345708	25	
Na	23	2	45	17.020	ppb	2.5	23483	25	
Mg	24	2	45	0.908	ppb	109.9	390	25	
Al	27	2	45	1.513	ppb	54.7	127	15	
K	39	1	45	9.974	ppb	276.6	10581061	50	
K	39	2	45	-29.139	ppb	-16.9	17882	50	
Ca	40	1	45	6.643	ppb	2.6	89965	50	
Ca	44	2	45	22.875	ppb	54.1	90	25	
Ti	47	2	45	0.144	ppb	157.1	7	0.5	
V	51	2	72	0.372	ppb	62.0	4161	1	
Cr	52	2	72	-0.003	ppb	-696.8	273	1	
Mn	55	2	72	0.063	ppb	109.7	117	0.5	
Fe	57	2	72	0.804	ppb	260.7	220	25	
Co	59	2	72	0.002	ppb	207.6	20	0.5	
Ni	60	2	72	-0.006	ppb	-619.0	170	1	
Cu	63	2	72	0.058	ppb	71.9	1337	1	
Zn	66	2	72	-0.054	ppb	-848.8	313	5	
As	75	2	72	0.069	ppb	84.2	26	1	
Se	78	1	72	0.042	ppb	82.7	28	1	
Sr	88	2	72	0.044	ppb	167.3	33	0.5	
Zr	90	2	72	3.421	ppb	63.7	143	1	>RL
Nb	93	2	72	2.140	ppb	12.4	8180	2	>RL
Mo	95	2	115	0.042	ppb	47.8	90	0.5	
Pd	105	2	115	0.012	ppb	197.8	53	1	
Ag	107	2	115	0.023	ppb	21.7	120	1	
Cd	111	2	115	0.016	ppb	148.0	10	0.5	
Sn	120	2	115	0.043	ppb	139.8	290	1	
Sb	121	2	115	0.379	ppb	13.4	433	0.6	
Ba	137	2	115	-0.036	ppb	-79.4	10	0.5	
W	182	2	165	0.039	ppb	65.1	1870	1	
Pt	195	2	165	0.005	ppb	48.1	40	1	
Tl	205	2	165	0.020	ppb	72.0	273	0.1	
Pb	208	2	165	0.021	ppb	34.8	1133	0.5	
Th	232	2	165	0.036	ppb	6.8	747	1	
U	238	2	165	0.016	ppb	35.9	390	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1622785	1.25	1841092	88.14	60	120	
Sc (IS)	45	1	HMI H2	29852882	0.39	34041789	87.69	60	120	
Sc (IS)	45	2	HMI He	891668	0.64	989699	90.09	60	120	
Sc (IS)	45	3	No Gas	50184656	0.38	58466742	85.83	60	120	
Ge Internal Standard	72	1	HMI H2	12404383	0.46	14056514	88.25	60	120	
Ge Internal Standard	72	2	HMI He	1045981	1.26	1155188	90.55	60	120	
In Internal Standard	115	2	HMI He	3661882	0.36	3786036	96.72	60	120	
Ho-165	165	2	HMI He	18300584	0.88	18554642	98.63	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	124LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:31:24-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	20.160	ppb	38.694	6299687	50	40.3	70	130	>+/-30%
Be	9	1	6	1.072	ppb	4.816	483	1	107.2	70	130	
Na	23	2	45	58.315	ppb	6.532	32490	50	116.6	70	130	
Mg	24	2	45	49.681	ppb	7.465	5338	50	99.4	70	130	
Al	27	2	45	31.665	ppb	6.810	850	30	105.6	70	130	
K	39	2	45	74.936	ppb	10.434	23012	100	74.9	70	130	
Ca	44	2	45	58.729	ppb	47.713	187	50	117.5	70	130	
V	51	2	72	5.025	ppb	8.237	8977	5	100.5	70	130	
Cr	52	2	72	1.930	ppb	4.117	2924	2	96.5	70	130	
Mn	55	2	72	1.086	ppb	18.071	633	1	108.6	70	130	
Fe	57	2	72	44.899	ppb	6.060	1320	50	89.8	70	130	
Co	59	2	72	0.975	ppb	5.937	2330	1	97.5	70	130	
Ni	60	2	72	2.043	ppb	1.435	1557	2	102.2	70	130	
Cu	63	2	72	1.821	ppb	1.907	4688	2	91.1	70	130	
Zn	66	2	72	9.456	ppb	11.439	2607	10	94.6	70	130	
As	75	2	72	4.747	ppb	5.814	832	5	94.9	70	130	
Se	78	1	72	4.943	ppb	5.202	1509	5	98.9	70	130	
Sr	88	2	72	1.231	ppb	28.407	683	1	123.1	70	130	
Zr	90	2	72	30.518	ppb	8.528	553	0.5	6103.7	70	130	>+/-30%
Nb	93	2	72	4.652	ppb	3.943	16694	2	232.6	70	130	>+/-30%
Mo	95	2	115	1.858	ppb	6.589	1874	2	92.9	70	130	
Pd	105	2	115	-0.003	ppb	-0.527	30	1	-0.3	70	130	>+/-30%
Ag	107	2	115	4.745	ppb	2.265	15796	5	94.9	70	130	
Cd	111	2	115	1.072	ppb	16.786	453	1	107.2	70	130	
Sn	120	2	115	9.967	ppb	3.663	11148	10	99.7	70	130	
Sb	121	2	115	2.063	ppb	5.336	2124	2	103.1	70	130	
Ba	137	2	115	1.005	ppb	28.690	370	1	100.5	70	130	
W	182	2	165	4.642	ppb	2.289	23705	1	464.2	70	130	>+/-30%
Pt	195	2	165	0.016	ppb	59.533	83	1	1.6	70	130	>+/-30%
Tl	205	2	165	1.024	ppb	5.512	8907	1	102.4	70	130	
Pb	208	2	165	0.980	ppb	1.593	12163	1	98.0	70	130	
Th	232	2	165	1.904	ppb	3.571	27888	2	95.2	70	130	
U	238	2	165	0.943	ppb	4.618	14946	1	94.3	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1629659	1.17	1841092	88.52	60	120	
Sc (IS)	45	1	HMI H2	29969817	0.47	34041789	88.04	60	120	
Sc (IS)	45	2	HMI He	885274	0.64	989699	89.45	60	120	
Sc (IS)	45	3	No Gas	49916161	0.32	58466742	85.38	60	120	
Ge Internal Standard	72	1	HMI H2	12373326	0.44	14056514	88.03	60	120	
Ge Internal Standard	72	2	HMI He	1037528	0.88	1155188	89.81	60	120	
In Internal Standard	115	2	HMI He	3629281	0.09	3786036	95.86	60	120	
Ho-165	165	2	HMI He	18340294	0.71	18554642	98.84	60	120	

Sample Report

Sample Table

Sample Name	280-115950-g-2-a
Data File Name	125SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:35:11-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	30.369	ppb	30.369	19.96	179497	500000	
Li	7	2	45	18.534	ppb	18.534	34.82	9950	500000	
Li	7	3	45	31.537	ppb	31.537	2.87	6387386	50000	
Be	9	1	6	0.025	ppb	0.025	57.25	27	2000	
B	11	1	6	91.678	ppb	91.678	2.32	40817	2000	
Na	23	1	45	26291.546	ppb	26291.546	0.30	88600919	2000	>LDR
Na	23	2	45	25385.844	ppb	25385.844	1.29	5600269	400000	
Mg	24	2	45	35658.489	ppb	35658.489	0.27	3582232	400000	
Al	27	2	45	54.844	ppb	54.844	20.14	1393	400000	
K	39	1	45	984.468	ppb	984.468	2.21	13492569	400000	
K	39	2	45	2231.009	ppb	2231.009	1.03	130555	400000	
Ca	40	1	45	83943.820	ppb	83943.820	0.84	428063314	400000	
Ca	44	2	45	83894.771	ppb	83894.771	0.60	226302	400000	
Ti	47	2	45	0.151	ppb	0.151	308.18	7	4000	
V	51	2	72	-1.528	ppb	-1.528	-7.01	2144	2000	
Cr	52	2	72	0.322	ppb	0.322	9.42	717	5000	
Mn	55	2	72	44.954	ppb	44.954	2.95	22816	10000	
Fe	57	2	72	1523.135	ppb	1523.135	2.05	38235	400000	
Co	59	2	72	0.096	ppb	0.096	14.42	243	2000	
Ni	60	2	72	0.119	ppb	0.119	50.31	253	5000	
Cu	63	2	72	0.139	ppb	0.139	16.60	1480	5000	
Zn	66	2	72	0.939	ppb	0.939	24.76	550	5000	
As	75	2	72	29.453	ppb	29.453	3.93	5087	2000	
Se	78	1	72	0.013	ppb	0.013	361.57	19	2000	
Sr	88	2	72	568.906	ppb	568.906	1.62	311029	4000	
Zr	90	2	72	3.105	ppb	3.105	99.26	137	1000	
Nb	93	2	72	0.294	ppb	0.294	22.05	1797	200	
Mo	95	2	115	4.213	ppb	4.213	14.21	4149	2000	
Pd	105	2	115	-0.014	ppb	-0.014	-70.79	13	100	
Ag	107	2	115	0.004	ppb	0.004	125.35	53	100	
Cd	111	2	115	-0.008	ppb	-0.008	0.00	0	2000	
Sn	120	2	115	0.115	ppb	0.115	39.58	363	2000	
Sb	121	2	115	0.103	ppb	0.103	63.81	150	1000	
Ba	137	2	115	36.656	ppb	36.656	3.30	12586	5000	
W	182	2	165	-0.003	ppb	-0.003	-1075.00	1664	100	
Pt	195	2	165	0.009	ppb	0.009	95.82	53	100	
Tl	205	2	165	0.015	ppb	0.015	66.96	230	2000	
Pb	208	2	165	0.051	ppb	0.051	26.11	1467	5000	
Th	232	2	165	0.042	ppb	0.042	14.87	837	2000	
U	238	2	165	0.756	ppb	0.756	3.54	11913	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1532813	1.05	1841092	83.26	60	120	
Sc (IS)	45	1	HMI H2	28920665	0.34	34041789	84.96	60	120	
Sc (IS)	45	2	HMI He	876259	1.07	989699	88.54	60	120	
Sc (IS)	45	3	No Gas	49185933	0.44	58466742	84.13	60	120	
Ge Internal Standard	72	1	HMI H2	11963341	0.05	14056514	85.11	60	120	
Ge Internal Standard	72	2	HMI He	1036644	1.28	1155188	89.74	60	120	
In Internal Standard	115	2	HMI He	3596578	0.10	3786036	95.00	60	120	
Ho-165	165	2	HMI He	18196342	1.19	18554642	98.07	60	120	

Sample Report

Sample Table

Sample Name	280-115950-g-2-aSD@5
Data File Name	126SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:38:58-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	9.372	ppb	9.372	25.02	174624	500000	
Li	7	2	45	-10.904	ppb	-10.904	-193.85	9343	500000	
Li	7	3	45	13.609	ppb	13.609	28.51	6164054	50000	
Be	9	1	6	0.005	ppb	0.005	757.51	20	2000	
B	11	1	6	1.166	ppb	1.166	10.47	987	2000	
Na	23	1	45	76.115	ppb	76.115	6.03	525036	2000	
Na	23	2	45	40.316	ppb	40.316	9.88	28489	400000	
Mg	24	2	45	44.559	ppb	44.559	20.71	4814	400000	
Al	27	2	45	0.440	ppb	0.440	408.61	100	400000	
K	39	1	45	-0.915	ppb	-0.915	-2371.22	10475841	400000	
K	39	2	45	-24.385	ppb	-24.385	-19.06	17995	400000	
Ca	40	1	45	164.721	ppb	164.721	7.10	916094	400000	
Ca	44	2	45	84.357	ppb	84.357	14.43	257	400000	
Ti	47	2	45	0.146	ppb	0.146	156.25	7	4000	
V	51	2	72	-0.421	ppb	-0.421	-66.70	3327	2000	
Cr	52	2	72	0.029	ppb	0.029	132.67	317	5000	
Mn	55	2	72	0.076	ppb	0.076	81.55	123	10000	
Fe	57	2	72	3.464	ppb	3.464	8.15	287	400000	
Co	59	2	72	0.003	ppb	0.003	398.07	23	2000	
Ni	60	2	72	0.022	ppb	0.022	358.91	190	5000	
Cu	63	2	72	-0.040	ppb	-0.040	-260.73	1150	5000	
Zn	66	2	72	-0.202	ppb	-0.202	-41.32	277	5000	
As	75	2	72	0.155	ppb	0.155	62.35	41	2000	
Se	78	1	72	-0.015	ppb	-0.015	-101.48	11	2000	
Sr	88	2	72	0.830	ppb	0.830	23.92	467	4000	
Zr	90	2	72	-0.483	ppb	-0.483	-160.47	83	1000	
Nb	93	2	72	0.032	ppb	0.032	96.10	910	200	
Mo	95	2	115	0.060	ppb	0.060	63.72	107	2000	
Pd	105	2	115	-0.019	ppb	-0.019	-40.22	7	100	
Ag	107	2	115	-0.001	ppb	-0.001	-449.07	37	100	
Cd	111	2	115	0.000	ppb	0.000	4310.03	3	2000	
Sn	120	2	115	0.033	ppb	0.033	273.18	277	2000	
Sb	121	2	115	0.029	ppb	0.029	130.19	77	1000	
Ba	137	2	115	-0.007	ppb	-0.007	-419.57	20	5000	
W	182	2	165	-0.012	ppb	-0.012	-266.32	1644	100	
Pt	195	2	165	-0.002	ppb	-0.002	-176.67	13	100	
Tl	205	2	165	-0.001	ppb	-0.001	-286.14	93	2000	
Pb	208	2	165	0.004	ppb	0.004	175.12	950	5000	
Th	232	2	165	-0.003	ppb	-0.003	-340.02	193	2000	
U	238	2	165	-0.001	ppb	-0.001	-202.69	130	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1630133	0.77	1841092	88.54	60	120	
Sc (IS)	45	1	HMI H2	29660655	0.43	34041789	87.13	60	120	
Sc (IS)	45	2	HMI He	885342	0.55	989699	89.46	60	120	
Sc (IS)	45	3	No Gas	49668146	0.61	58466742	84.95	60	120	
Ge Internal Standard	72	1	HMI H2	12287773	0.71	14056514	87.42	60	120	
Ge Internal Standard	72	2	HMI He	1046322	0.73	1155188	90.58	60	120	
In Internal Standard	115	2	HMI He	3626442	0.65	3786036	95.78	60	120	
Ho-165	165	2	HMI He	18441779	0.90	18554642	99.39	60	120	

Sample Report

Sample Table

Sample Name	280-115950-g-2-b ms
Data File Name	127SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:42:47-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	112.239	ppb	112.239	3.56	213849	500000	
Li	7	2	45	76.509	ppb	76.509	14.30	11305	500000	
Li	7	3	45	107.109	ppb	107.109	4.96	7550823	50000	
Be	9	1	6	39.396	ppb	39.396	1.67	16059	2000	
B	11	1	6	118.863	ppb	118.863	1.24	52583	2000	
Na	23	1	45	26596.858	ppb	26596.858	0.64	88955535	2000	>LDR
Na	23	2	45	25384.284	ppb	25384.284	0.89	5587487	400000	
Mg	24	2	45	35590.844	ppb	35590.844	0.85	3567189	400000	
Al	27	2	45	471.568	ppb	471.568	4.62	11275	400000	
K	39	1	45	1010.863	ppb	1010.863	0.77	13479139	400000	
K	39	2	45	2322.597	ppb	2322.597	1.67	134846	400000	
Ca	40	1	45	85474.539	ppb	85474.539	0.32	432615314	400000	
Ca	44	2	45	86394.162	ppb	86394.162	1.19	232532	400000	
Ti	47	2	45	2.826	ppb	2.826	29.03	73	4000	
V	51	2	72	37.645	ppb	37.645	3.18	42530	2000	
Cr	52	2	72	39.030	ppb	39.030	0.68	53279	5000	
Mn	55	2	72	85.075	ppb	85.075	2.17	42684	10000	
Fe	57	2	72	1972.243	ppb	1972.243	2.43	48960	400000	
Co	59	2	72	37.592	ppb	37.592	1.64	88305	2000	
Ni	60	2	72	36.722	ppb	36.722	3.41	24765	5000	
Cu	63	2	72	36.522	ppb	36.522	0.54	70064	5000	
Zn	66	2	72	37.478	ppb	37.478	7.49	9280	5000	
As	75	2	72	68.112	ppb	68.112	2.64	11630	2000	
Se	78	1	72	37.411	ppb	37.411	2.42	10822	2000	
Sr	88	2	72	626.737	ppb	626.737	0.07	339228	4000	
Zr	90	2	72	3849.819	ppb	3849.819	1.44	57906	1000	
Nb	93	2	72	0.158	ppb	0.158	46.28	1320	200	
Mo	95	2	115	40.798	ppb	40.798	1.95	39232	2000	
Pd	105	2	115	-0.012	ppb	-0.012	-31.32	17	100	
Ag	107	2	115	38.224	ppb	38.224	0.91	124155	100	
Cd	111	2	115	37.976	ppb	37.976	1.80	15593	2000	
Sn	120	2	115	40.119	ppb	40.119	0.79	43171	2000	
Sb	121	2	115	39.762	ppb	39.762	3.03	39170	1000	
Ba	137	2	115	75.936	ppb	75.936	0.88	25708	5000	
W	182	2	165	12.528	ppb	12.528	1.94	59935	100	
Pt	195	2	165	-0.001	ppb	-0.001	-702.01	17	100	
Tl	205	2	165	39.298	ppb	39.298	0.82	331394	2000	
Pb	208	2	165	39.507	ppb	39.507	0.16	446730	5000	
Th	232	2	165	37.221	ppb	37.221	1.28	530662	2000	
U	238	2	165	38.855	ppb	38.855	0.48	598253	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1526482	0.91	1841092	82.91	60	120	
Sc (IS)	45	1	HMI H2	28704993	0.65	34041789	84.32	60	120	
Sc (IS)	45	2	HMI He	874283	1.11	989699	88.34	60	120	
Sc (IS)	45	3	No Gas	48991549	0.99	58466742	83.79	60	120	
Ge Internal Standard	72	1	HMI H2	11825306	0.82	14056514	84.13	60	120	
Ge Internal Standard	72	2	HMI He	1026411	1.39	1155188	88.85	60	120	
In Internal Standard	115	2	HMI He	3549330	2.15	3786036	93.75	60	120	
Ho-165	165	2	HMI He	17990981	1.20	18554642	96.96	60	120	

Sample Report

Sample Table

Sample Name	280-115950-g-2-c msd
Data File Name	128SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:46:37-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	112.278	ppb	112.278	4.88	215463	500000	
Li	7	2	45	82.660	ppb	82.660	19.18	11588	500000	
Li	7	3	45	107.366	ppb	107.366	2.87	7739454	50000	
Be	9	1	6	40.095	ppb	40.095	3.42	16583	2000	
B	11	1	6	121.000	ppb	121.000	2.10	54316	2000	
Na	23	1	45	26755.093	ppb	26755.093	0.66	90151649	2000	>LDR
Na	23	2	45	25819.539	ppb	25819.539	0.45	5751177	400000	
Mg	24	2	45	36162.098	ppb	36162.098	1.05	3668177	400000	
Al	27	2	45	478.392	ppb	478.392	5.83	11572	400000	
K	39	1	45	1007.928	ppb	1007.928	2.39	13569744	400000	
K	39	2	45	2316.721	ppb	2316.721	0.69	136151	400000	
Ca	40	1	45	86144.986	ppb	86144.986	0.69	439245487	400000	
Ca	44	2	45	88011.081	ppb	88011.081	0.60	239720	400000	
Ti	47	2	45	1.469	ppb	1.469	71.51	40	4000	
V	51	2	72	36.801	ppb	36.801	1.86	42513	2000	
Cr	52	2	72	39.529	ppb	39.529	1.78	55061	5000	
Mn	55	2	72	87.578	ppb	87.578	2.72	44834	10000	
Fe	57	2	72	1971.834	ppb	1971.834	1.97	49960	400000	
Co	59	2	72	38.493	ppb	38.493	0.86	92282	2000	
Ni	60	2	72	37.339	ppb	37.339	3.30	25697	5000	
Cu	63	2	72	37.237	ppb	37.237	1.34	72868	5000	
Zn	66	2	72	37.174	ppb	37.174	0.65	9390	5000	
As	75	2	72	68.341	ppb	68.341	2.12	11906	2000	
Se	78	1	72	37.281	ppb	37.281	2.66	10930	2000	
Sr	88	2	72	637.289	ppb	637.289	0.54	352019	4000	
Zr	90	2	72	3952.677	ppb	3952.677	0.60	60677	1000	
Nb	93	2	72	0.093	ppb	0.093	41.05	1123	200	
Mo	95	2	115	40.898	ppb	40.898	0.65	40172	2000	
Pd	105	2	115	-0.012	ppb	-0.012	-110.23	17	100	
Ag	107	2	115	38.833	ppb	38.833	0.67	128823	100	
Cd	111	2	115	36.395	ppb	36.395	0.81	15262	2000	
Sn	120	2	115	40.105	ppb	40.105	1.48	44084	2000	
Sb	121	2	115	40.976	ppb	40.976	1.85	41236	1000	
Ba	137	2	115	74.047	ppb	74.047	2.93	25595	5000	
W	182	2	165	12.704	ppb	12.704	1.99	61944	100	
Pt	195	2	165	0.000	ppb	0.000	4141.32	20	100	
Tl	205	2	165	39.934	ppb	39.934	0.92	343383	2000	
Pb	208	2	165	39.782	ppb	39.782	0.44	458731	5000	
Th	232	2	165	37.569	ppb	37.569	0.48	546170	2000	
U	238	2	165	38.555	ppb	38.555	0.38	605385	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1549204	0.74	1841092	84.15	60	120	
Sc (IS)	45	1	HMI H2	28918590	0.10	34041789	84.95	60	120	
Sc (IS)	45	2	HMI He	884786	0.93	989699	89.40	60	120	
Sc (IS)	45	3	No Gas	50186794	0.46	58466742	85.84	60	120	
Ge Internal Standard	72	1	HMI H2	11983788	0.37	14056514	85.25	60	120	
Ge Internal Standard	72	2	HMI He	1047447	0.92	1155188	90.67	60	120	
In Internal Standard	115	2	HMI He	3624802	1.43	3786036	95.74	60	120	
Ho-165	165	2	HMI He	18346777	1.31	18554642	98.88	60	120	

Sample Report

Sample Table

Sample Name	280-115950-g-2-a PDS
Data File Name	129SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:50:25-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	30.046	ppb	30.046	11.96	181323	500000	
Li	7	2	45	0.819	ppb	0.819	3065.21	9724	500000	
Li	7	3	45	30.289	ppb	30.289	1.23	6332015	50000	
Be	9	1	6	206.222	ppb	206.222	2.16	84203	2000	
B	11	1	6	90.474	ppb	90.474	2.33	40245	2000	
Na	23	1	45	25758.552	ppb	25758.552	1.37	87763369	2000	>LDR
Na	23	2	45	24539.894	ppb	24539.894	0.47	5529136	400000	
Mg	24	2	45	34085.529	ppb	34085.529	0.81	3496311	400000	
Al	27	2	45	2219.610	ppb	2219.610	0.62	53982	400000	
K	39	1	45	895.853	ppb	895.853	4.78	13342859	400000	
K	39	2	45	2239.172	ppb	2239.172	2.11	133749	400000	
Ca	40	1	45	82726.536	ppb	82726.536	1.50	426477314	400000	
Ca	44	2	45	83471.356	ppb	83471.356	0.89	229894	400000	
Ti	47	2	45	5.498	ppb	5.498	25.77	143	4000	
V	51	2	72	200.186	ppb	200.186	1.40	216890	2000	
Cr	52	2	72	198.743	ppb	198.743	0.80	278796	5000	
Mn	55	2	72	254.590	ppb	254.590	0.41	131641	10000	
Fe	57	2	72	3495.305	ppb	3495.305	2.18	89379	400000	
Co	59	2	72	192.053	ppb	192.053	0.96	465429	2000	
Ni	60	2	72	191.639	ppb	191.639	0.50	132662	5000	
Cu	63	2	72	189.231	ppb	189.231	1.05	369353	5000	
Zn	66	2	72	211.397	ppb	211.397	2.16	52440	5000	
As	75	2	72	219.185	ppb	219.185	1.42	38582	2000	
Se	78	1	72	192.098	ppb	192.098	1.86	56955	2000	
Sr	88	2	72	561.795	ppb	561.795	1.24	313799	4000	
Zr	90	2	72	20982.384	ppb	20982.384	1.16	325287	1000	>LDR
Nb	93	2	72	3.137	ppb	3.137	3.55	11755	200	
Mo	95	2	115	200.864	ppb	200.864	0.08	196202	2000	
Pd	105	2	115	0.029	ppb	0.029	117.68	80	100	
Ag	107	2	115	44.837	ppb	44.837	0.80	148055	100	
Cd	111	2	115	196.225	ppb	196.225	2.47	81903	2000	
Sn	120	2	115	209.440	ppb	209.440	1.24	228118	2000	
Sb	121	2	115	207.425	ppb	207.425	0.87	207561	1000	
Ba	137	2	115	239.561	ppb	239.561	1.60	82400	5000	
W	182	2	165	202.691	ppb	202.691	0.26	968662	100	
Pt	195	2	165	0.046	ppb	0.046	26.00	203	100	
Tl	205	2	165	219.835	ppb	219.835	0.05	1900660	2000	
Pb	208	2	165	207.028	ppb	207.028	3.78	2397479	5000	
Th	232	2	165	15.444	ppb	15.444	1.30	225928	2000	
U	238	2	165	208.687	ppb	208.687	0.86	3294913	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1530743	1.58	1841092	83.14	60	120	
Sc (IS)	45	1	HMI H2	29239102	0.41	34041789	85.89	60	120	
Sc (IS)	45	2	HMI He	894765	1.49	989699	90.41	60	120	
Sc (IS)	45	3	No Gas	48910096	1.10	58466742	83.65	60	120	
Ge Internal Standard	72	1	HMI H2	12133420	0.63	14056514	86.32	60	120	
Ge Internal Standard	72	2	HMI He	1059145	1.88	1155188	91.69	60	120	
In Internal Standard	115	2	HMI He	3607913	1.14	3786036	95.30	60	120	
Ho-165	165	2	HMI He	18450807	0.80	18554642	99.44	60	120	

Sample Report

Sample Table

Sample Name	280-115950-g-3-a
Data File Name	130SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:54:11-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	30.750	ppb	30.750	17.18	182064	500000	
Li	7	2	45	-2.350	ppb	-2.350	-198.28	9800	500000	
Li	7	3	45	29.679	ppb	29.679	8.52	6403258	50000	
Be	9	1	6	0.209	ppb	0.209	16.41	103	2000	
B	11	1	6	91.504	ppb	91.504	2.36	41204	2000	
Na	23	1	45	26142.401	ppb	26142.401	0.74	89274919	2000	>LDR
Na	23	2	45	24737.400	ppb	24737.400	0.77	5658736	400000	
Mg	24	2	45	34832.301	ppb	34832.301	1.86	3627683	400000	
Al	27	2	45	70.657	ppb	70.657	10.68	1834	400000	
K	39	1	45	933.475	ppb	933.475	5.06	13500696	400000	
K	39	2	45	2262.983	ppb	2262.983	1.96	137023	400000	
Ca	40	1	45	83571.969	ppb	83571.969	1.07	431841700	400000	
Ca	44	2	45	84902.413	ppb	84902.413	0.89	237476	400000	
Ti	47	2	45	0.786	ppb	0.786	75.18	23	4000	
V	51	2	72	-2.011	ppb	-2.011	-3.24	1677	2000	
Cr	52	2	72	0.239	ppb	0.239	33.59	617	5000	
Mn	55	2	72	47.033	ppb	47.033	2.89	24421	10000	
Fe	57	2	72	1539.422	ppb	1539.422	1.51	39545	400000	
Co	59	2	72	0.137	ppb	0.137	37.66	347	2000	
Ni	60	2	72	0.227	ppb	0.227	72.71	333	5000	
Cu	63	2	72	0.115	ppb	0.115	38.85	1467	5000	
Zn	66	2	72	3.453	ppb	3.453	7.92	1183	5000	
As	75	2	72	30.139	ppb	30.139	0.77	5326	2000	
Se	78	1	72	0.126	ppb	0.126	17.57	52	2000	
Sr	88	2	72	583.530	ppb	583.530	0.45	326379	4000	
Zr	90	2	72	17.942	ppb	17.942	50.55	370	1000	
Nb	93	2	72	-0.167	ppb	-0.167	-6.91	227	200	
Mo	95	2	115	4.440	ppb	4.440	6.74	4498	2000	
Pd	105	2	115	0.013	ppb	0.013	118.61	57	100	
Ag	107	2	115	0.011	ppb	0.011	98.09	80	100	
Cd	111	2	115	0.015	ppb	0.015	148.53	10	2000	
Sn	120	2	115	0.148	ppb	0.148	34.49	410	2000	
Sb	121	2	115	0.720	ppb	0.720	17.15	787	1000	
Ba	137	2	115	35.395	ppb	35.395	5.15	12510	5000	
W	182	2	165	0.092	ppb	0.092	57.15	2160	100	
Pt	195	2	165	0.001	ppb	0.001	473.17	23	100	
Tl	205	2	165	0.057	ppb	0.057	33.81	607	2000	
Pb	208	2	165	0.106	ppb	0.106	8.16	2150	5000	
Th	232	2	165	0.019	ppb	0.019	74.29	517	2000	
U	238	2	165	0.804	ppb	0.804	3.40	12974	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1549995	1.20	1841092	84.19	60	120	
Sc (IS)	45	1	HMI H2	29307389	0.71	34041789	86.09	60	120	
Sc (IS)	45	2	HMI He	908550	1.33	989699	91.80	60	120	
Sc (IS)	45	3	No Gas	49534839	1.13	58466742	84.72	60	120	
Ge Internal Standard	72	1	HMI H2	12051389	0.77	14056514	85.74	60	120	
Ge Internal Standard	72	2	HMI He	1060667	1.48	1155188	91.82	60	120	
In Internal Standard	115	2	HMI He	3704119	1.79	3786036	97.84	60	120	
Ho-165	165	2	HMI He	18641160	1.07	18554642	100.47	60	120	

Sample Report

Sample Table

Sample Name	280-115950-g-4-a
Data File Name	131SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-02T23:58:00-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	0.531	ppb	0.531	379.55	167775	500000	
Li	7	2	45	-33.688	ppb	-33.688	-57.16	8843	500000	
Li	7	3	45	1.450	ppb	1.450	358.70	5926864	50000	
Be	9	1	6	0.066	ppb	0.066	78.88	43	2000	
B	11	1	6	445.605	ppb	445.605	1.34	196064	2000	
Na	23	1	45	5190.692	ppb	5190.692	1.26	17846228	2000	
Na	23	2	45	5191.816	ppb	5191.816	1.20	1179221	400000	
Mg	24	2	45	94069.843	ppb	94069.843	1.40	9599087	400000	
Al	27	2	45	4.294	ppb	4.294	71.63	193	400000	
K	39	1	45	5252.912	ppb	5252.912	1.17	27924279	400000	
K	39	2	45	6506.940	ppb	6506.940	1.82	349765	400000	
Ca	40	1	45	141376.428	ppb	141376.428	0.49	726921163	400000	
Ca	44	2	45	141535.096	ppb	141535.096	0.24	387815	400000	
Ti	47	2	45	0.144	ppb	0.144	314.46	7	4000	
V	51	2	72	-2.097	ppb	-2.097	-3.48	1577	2000	
Cr	52	2	72	0.321	ppb	0.321	50.70	727	5000	
Mn	55	2	72	1075.001	ppb	1075.001	0.30	553323	10000	
Fe	57	2	72	11817.375	ppb	11817.375	0.44	300497	400000	
Co	59	2	72	4.067	ppb	4.067	2.70	9831	2000	
Ni	60	2	72	9.998	ppb	9.998	5.55	7059	5000	
Cu	63	2	72	0.103	ppb	0.103	37.64	1437	5000	
Zn	66	2	72	3.509	ppb	3.509	8.06	1190	5000	
As	75	2	72	31.579	ppb	31.579	1.88	5548	2000	
Se	78	1	72	0.140	ppb	0.140	42.38	56	2000	
Sr	88	2	72	587.217	ppb	587.217	0.67	326622	4000	
Zr	90	2	72	32.276	ppb	32.276	18.65	590	1000	
Nb	93	2	72	-0.155	ppb	-0.155	-25.04	267	200	
Mo	95	2	115	0.572	ppb	0.572	8.41	607	2000	
Pd	105	2	115	-0.014	ppb	-0.014	-110.53	13	100	
Ag	107	2	115	0.000	ppb	0.000	-660.40	40	100	
Cd	111	2	115	0.009	ppb	0.009	326.76	7	2000	
Sn	120	2	115	0.102	ppb	0.102	30.19	350	2000	
Sb	121	2	115	0.296	ppb	0.296	26.13	343	1000	
Ba	137	2	115	50.017	ppb	50.017	1.18	17225	5000	
W	182	2	165	0.074	ppb	0.074	29.22	2057	100	
Pt	195	2	165	-0.003	ppb	-0.003	-99.74	10	100	
Tl	205	2	165	0.016	ppb	0.016	23.57	247	2000	
Pb	208	2	165	0.119	ppb	0.119	28.03	2274	5000	
Th	232	2	165	0.016	ppb	0.016	17.41	467	2000	
U	238	2	165	2.995	ppb	2.995	3.05	47508	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1526950	1.64	1841092	82.94	60	120	
Sc (IS)	45	1	HMI H2	29162442	0.42	34041789	85.67	60	120	
Sc (IS)	45	2	HMI He	890145	0.53	989699	89.94	60	120	
Sc (IS)	45	3	No Gas	49310871	1.06	58466742	84.34	60	120	
Ge Internal Standard	72	1	HMI H2	12003337	0.14	14056514	85.39	60	120	
Ge Internal Standard	72	2	HMI He	1054797	0.60	1155188	91.31	60	120	
In Internal Standard	115	2	HMI He	3609607	2.12	3786036	95.34	60	120	
Ho-165	165	2	HMI He	18481372	0.61	18554642	99.61	60	120	

Sample Report

Sample Table

Sample Name	280-115950-g-5-a
Data File Name	132SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:01:47-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	8.031	ppb	8.031	57.82	169467	500000	
Li	7	2	45	-34.538	ppb	-34.538	-5.46	8853	500000	
Li	7	3	45	3.129	ppb	3.129	188.78	5867552	50000	
Be	9	1	6	0.009	ppb	0.009	501.73	20	2000	
B	11	1	6	255.719	ppb	255.719	2.72	113043	2000	
Na	23	1	45	3649.303	ppb	3649.303	0.45	12502641	2000	
Na	23	2	45	3363.557	ppb	3363.557	0.19	773396	400000	
Mg	24	2	45	47706.460	ppb	47706.460	0.70	4884625	400000	
Al	27	2	45	5.508	ppb	5.508	52.15	223	400000	
K	39	1	45	2287.624	ppb	2287.624	1.17	17805401	400000	
K	39	2	45	3577.804	ppb	3577.804	1.25	201681	400000	
Ca	40	1	45	54957.843	ppb	54957.843	0.70	279912736	400000	
Ca	44	2	45	53958.959	ppb	53958.959	1.47	148354	400000	
Ti	47	2	45	-0.118	ppb	-0.118	0.00	0	4000	
V	51	2	72	-2.557	ppb	-2.557	-4.58	1093	2000	
Cr	52	2	72	0.245	ppb	0.245	26.64	623	5000	
Mn	55	2	72	500.204	ppb	500.204	1.10	258306	10000	
Fe	57	2	72	51222.352	ppb	51222.352	2.08	1305728	400000	
Co	59	2	72	4.232	ppb	4.232	3.73	10261	2000	
Ni	60	2	72	9.492	ppb	9.492	0.81	6732	5000	
Cu	63	2	72	0.062	ppb	0.062	76.93	1360	5000	
Zn	66	2	72	818.409	ppb	818.409	0.83	201901	5000	
As	75	2	72	19.843	ppb	19.843	2.48	3502	2000	
Se	78	1	72	0.031	ppb	0.031	131.80	24	2000	
Sr	88	2	72	149.120	ppb	149.120	1.80	83204	4000	
Zr	90	2	72	8.922	ppb	8.922	10.94	230	1000	
Nb	93	2	72	-0.156	ppb	-0.156	-31.76	263	200	
Mo	95	2	115	0.092	ppb	0.092	65.78	137	2000	
Pd	105	2	115	-0.023	ppb	-0.023	0.00	0	100	
Ag	107	2	115	-0.006	ppb	-0.006	-48.92	20	100	
Cd	111	2	115	0.024	ppb	0.024	55.33	13	2000	
Sn	120	2	115	0.083	ppb	0.083	72.05	327	2000	
Sb	121	2	115	0.425	ppb	0.425	1.66	470	1000	
Ba	137	2	115	55.282	ppb	55.282	7.53	18927	5000	
W	182	2	165	0.073	ppb	0.073	29.44	2064	100	
Pt	195	2	165	-0.003	ppb	-0.003	-43.05	7	100	
Tl	205	2	165	0.264	ppb	0.264	11.19	2404	2000	
Pb	208	2	165	0.059	ppb	0.059	29.10	1590	5000	
Th	232	2	165	0.010	ppb	0.010	38.42	387	2000	
U	238	2	165	0.265	ppb	0.265	3.86	4351	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1532192	1.59	1841092	83.22	60	120	
Sc (IS)	45	1	HMI H2	28884281	0.13	34041789	84.85	60	120	
Sc (IS)	45	2	HMI He	893084	0.60	989699	90.24	60	120	
Sc (IS)	45	3	No Gas	48600359	0.86	58466742	83.12	60	120	
Ge Internal Standard	72	1	HMI H2	12071451	0.67	14056514	85.88	60	120	
Ge Internal Standard	72	2	HMI He	1058068	1.06	1155188	91.59	60	120	
In Internal Standard	115	2	HMI He	3591099	1.49	3786036	94.85	60	120	
Ho-165	165	2	HMI He	18586277	0.48	18554642	100.17	60	120	

Sample Report

Sample Table

Sample Name	280-115787-g-1-b
Data File Name	133SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:05:35-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-4.154	ppb	-4.154	-95.18	165852	500000	
Li	7	2	45	-38.060	ppb	-38.060	-54.71	8940	500000	
Li	7	3	45	-4.940	ppb	-4.940	-79.13	5843515	50000	
Be	9	1	6	0.015	ppb	0.015	327.61	23	2000	
B	11	1	6	4.439	ppb	4.439	10.83	2414	2000	
Na	23	1	45	-2.984	ppb	-2.984	-41.15	248396	2000	
Na	23	2	45	-14.004	ppb	-14.004	-7.68	16890	400000	
Mg	24	2	45	17.694	ppb	17.694	4.66	2150	400000	
Al	27	2	45	11.786	ppb	11.786	30.40	383	400000	
K	39	1	45	-1460.148	ppb	-1460.148	-1.21	5409972	400000	
K	39	2	45	-22.088	ppb	-22.088	-17.23	18623	400000	
Ca	40	1	45	53.586	ppb	53.586	7.31	329540	400000	
Ca	44	2	45	38.865	ppb	38.865	12.25	137	400000	
Ti	47	2	45	0.009	ppb	0.009	2431.11	3	4000	
V	51	2	72	-1.852	ppb	-1.852	-8.93	1850	2000	
Cr	52	2	72	0.124	ppb	0.124	61.10	457	5000	
Mn	55	2	72	0.476	ppb	0.476	33.65	333	10000	
Fe	57	2	72	21.933	ppb	21.933	7.66	763	400000	
Co	59	2	72	0.014	ppb	0.014	51.18	50	2000	
Ni	60	2	72	0.013	ppb	0.013	707.87	187	5000	
Cu	63	2	72	0.033	ppb	0.033	66.20	1310	5000	
Zn	66	2	72	1.328	ppb	1.328	19.15	660	5000	
As	75	2	72	0.070	ppb	0.070	21.51	27	2000	
Se	78	1	72	-0.023	ppb	-0.023	-58.92	8	2000	
Sr	88	2	72	0.227	ppb	0.227	15.02	137	4000	
Zr	90	2	72	1.584	ppb	1.584	66.61	117	1000	
Nb	93	2	72	-0.154	ppb	-0.154	-9.78	273	200	
Mo	95	2	115	0.000	ppb	0.000	6370.82	50	2000	
Pd	105	2	115	-0.023	ppb	-0.023	0.00	0	100	
Ag	107	2	115	-0.007	ppb	-0.007	-87.95	20	100	
Cd	111	2	115	-0.008	ppb	-0.008	0.00	0	2000	
Sn	120	2	115	-0.002	ppb	-0.002	-3104.37	247	2000	
Sb	121	2	115	0.129	ppb	0.129	23.55	183	1000	
Ba	137	2	115	0.161	ppb	0.161	49.10	80	5000	
W	182	2	165	-0.011	ppb	-0.011	-295.67	1664	100	
Pt	195	2	165	-0.001	ppb	-0.001	-442.47	17	100	
Tl	205	2	165	0.005	ppb	0.005	73.15	153	2000	
Pb	208	2	165	0.014	ppb	0.014	15.18	1077	5000	
Th	232	2	165	0.007	ppb	0.007	50.95	333	2000	
U	238	2	165	0.000	ppb	0.000	992.09	150	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1561497	0.97	1841092	84.81	60	120	
Sc (IS)	45	1	HMI H2	29189509	0.27	34041789	85.75	60	120	
Sc (IS)	45	2	HMI He	910301	1.54	989699	91.98	60	120	
Sc (IS)	45	3	No Gas	49459706	0.76	58466742	84.59	60	120	
Ge Internal Standard	72	1	HMI H2	12018028	0.49	14056514	85.50	60	120	
Ge Internal Standard	72	2	HMI He	1062342	1.45	1155188	91.96	60	120	
In Internal Standard	115	2	HMI He	3744791	1.87	3786036	98.91	60	120	
Ho-165	165	2	HMI He	18646880	1.00	18554642	100.50	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	134_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:09:25-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	515.937	ppb	0.360	397075	500	103.2	90	110	
Li	7	2	45	457.478	ppb	4.278	21159	500	91.5	90	110	
Li	7	3	45	518.769	ppb	1.391	13963913	500	103.8	90	110	
Be	9	1	6	51.202	ppb	2.760	21333	50	102.4	90	110	
B	11	1	6	52.177	ppb	0.814	23833	50	104.4	90	110	
Na	23	1	45	5290.025	ppb	0.876	18225771	5000	105.8	90	110	
Na	23	2	45	5124.525	ppb	1.780	1188704	5000	102.5	90	110	
Mg	24	2	45	4834.229	ppb	1.015	504003	5000	96.7	90	110	
Al	27	2	45	5243.786	ppb	1.315	129417	5000	104.9	90	110	
K	39	1	45	5363.847	ppb	1.151	28363900	5000	107.3	90	110	
K	39	2	45	5080.221	ppb	1.271	283149	5000	101.6	90	110	
Ca	40	1	45	5247.052	ppb	1.148	27094614	5000	104.9	90	110	
Ca	44	2	45	5255.458	ppb	3.152	14728	5000	105.1	90	110	
Ti	47	2	45	46.623	ppb	15.733	1210	50	93.2	90	110	
V	51	2	72	46.729	ppb	1.036	54001	50	93.5	90	110	
Cr	52	2	72	47.801	ppb	1.275	67819	50	95.6	90	110	
Mn	55	2	72	50.473	ppb	1.144	26382	50	100.9	90	110	
Fe	57	2	72	4980.258	ppb	1.566	128319	5000	99.6	90	110	
Co	59	2	72	48.639	ppb	2.942	118847	50	97.3	90	110	
Ni	60	2	72	48.515	ppb	1.973	33991	50	97.0	90	110	
Cu	63	2	72	47.393	ppb	1.580	94216	50	94.8	90	110	
Zn	66	2	72	48.544	ppb	4.552	12396	50	97.1	90	110	
As	75	2	72	48.799	ppb	1.234	8672	50	97.6	90	110	
Se	78	1	72	50.427	ppb	2.912	14853	50	100.9	90	110	
Sr	88	2	72	51.569	ppb	2.396	29044	50	103.1	90	110	
Zr	90	2	72	48.239	ppb	6.241	847	50	96.5	90	110	
Nb	93	2	72	92.193	ppb	1.156	325099	100	92.2	90	110	
Mo	95	2	115	46.695	ppb	3.144	47153	50	93.4	90	110	
Pd	105	2	115	48.154	ppb	1.215	75611	50	96.3	90	110	
Ag	107	2	115	46.631	ppb	1.493	159040	50	93.3	90	110	
Cd	111	2	115	46.825	ppb	3.761	20182	50	93.6	90	110	
Sn	120	2	115	49.323	ppb	2.090	55672	50	98.6	90	110	
Sb	121	2	115	49.899	ppb	3.043	51601	50	99.8	90	110	
Ba	137	2	115	48.603	ppb	4.632	17278	50	97.2	90	110	
W	182	2	165	47.710	ppb	0.405	232567	50	95.4	90	110	
Pt	195	2	165	46.920	ppb	1.468	189462	50	93.8	90	110	
Tl	205	2	165	50.039	ppb	0.243	438866	50	100.1	90	110	
Pb	208	2	165	49.970	ppb	0.625	587491	50	99.9	90	110	
Th	232	2	165	46.465	ppb	0.545	688899	50	92.9	90	110	
U	238	2	165	46.949	ppb	0.616	751875	50	93.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1560479	1.43	1841092	84.76	60	120	
Sc (IS)	45	1	HMI H2	29233288	0.75	34041789	85.87	60	120	
Sc (IS)	45	2	HMI He	908893	1.00	989699	91.84	60	120	
Sc (IS)	45	3	No Gas	48769036	0.97	58466742	83.41	60	120	
Ge Internal Standard	72	1	HMI H2	12045919	0.82	14056514	85.70	60	120	
Ge Internal Standard	72	2	HMI He	1067855	0.96	1155188	92.44	60	120	
In Internal Standard	115	2	HMI He	3727529	2.33	3786036	98.45	60	120	
Ho-165	165	2	HMI He	18713099	0.77	18554642	100.85	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	135_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:13:12-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	4.089	ppb	136.1	5904557	10	
Be	9	1	6	-0.017	ppb	-234.7	10	0.5	
B	11	1	6	2.045	ppb	5.0	1380	0.5	>RL
Na	23	1	45	-9.438	ppb	-10.7	229066	25	
Na	23	2	45	-21.808	ppb	-10.5	14965	25	
Mg	24	2	45	2.632	ppb	44.0	573	25	
Al	27	2	45	1.055	ppb	85.1	117	15	
K	39	1	45	32.044	ppb	70.7	10538224	50	
K	39	2	45	-32.647	ppb	-35.3	17902	50	
Ca	40	1	45	4.492	ppb	3.4	77766	50	
Ca	44	2	45	3.406	ppb	310.6	37	25	
Ti	47	2	45	-0.118	ppb	0.0	0	0.5	
V	51	2	72	-0.546	ppb	-86.3	3234	1	
Cr	52	2	72	0.000	ppb	-9381.3	280	1	
Mn	55	2	72	0.035	ppb	132.2	103	0.5	
Fe	57	2	72	3.851	ppb	42.2	300	25	
Co	59	2	72	0.007	ppb	86.1	33	0.5	
Ni	60	2	72	-0.019	ppb	-217.5	163	1	
Cu	63	2	72	0.103	ppb	45.4	1440	1	
Zn	66	2	72	0.149	ppb	202.0	367	5	
As	75	2	72	0.048	ppb	13.3	23	1	
Se	78	1	72	0.053	ppb	77.8	31	1	
Sr	88	2	72	0.067	ppb	41.5	47	0.5	
Zr	90	2	72	1.392	ppb	176.1	113	1	>RL
Nb	93	2	72	2.140	ppb	7.2	8269	2	>RL
Mo	95	2	115	0.010	ppb	390.5	60	0.5	
Pd	105	2	115	0.026	ppb	15.3	77	1	
Ag	107	2	115	0.018	ppb	52.9	103	1	
Cd	111	2	115	-0.008	ppb	0.0	0	0.5	
Sn	120	2	115	0.025	ppb	160.1	277	1	
Sb	121	2	115	0.330	ppb	37.8	393	0.6	
Ba	137	2	115	-0.037	ppb	-76.0	10	0.5	
W	182	2	165	0.035	ppb	70.3	1907	1	
Pt	195	2	165	0.006	ppb	44.6	47	1	
Tl	205	2	165	0.023	ppb	42.4	310	0.1	
Pb	208	2	165	0.011	ppb	124.7	1050	0.5	
Th	232	2	165	0.026	ppb	19.4	630	1	
U	238	2	165	0.016	ppb	52.1	397	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1609095	1.43	1841092	87.40	60	120	
Sc (IS)	45	1	HMI H2	29520682	0.84	34041789	86.72	60	120	
Sc (IS)	45	2	HMI He	901677	0.91	989699	91.11	60	120	
Sc (IS)	45	3	No Gas	48783523	1.02	58466742	83.44	60	120	
Ge Internal Standard	72	1	HMI H2	12126880	0.17	14056514	86.27	60	120	
Ge Internal Standard	72	2	HMI He	1058198	0.70	1155188	91.60	60	120	
In Internal Standard	115	2	HMI He	3742765	1.80	3786036	98.86	60	120	
Ho-165	165	2	HMI He	18831571	0.39	18554642	101.49	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	136LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:17:00-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	17.533	ppb	11.669	6111369	50	35.1	70	130	>+/-30%
Be	9	1	6	1.277	ppb	1.027	560	1	127.7	70	130	
Na	23	2	45	22.475	ppb	7.637	25065	50	45.0	70	130	>+/-30%
Mg	24	2	45	51.158	ppb	0.947	5608	50	102.3	70	130	
Al	27	2	45	34.479	ppb	15.279	937	30	114.9	70	130	
K	39	2	45	82.476	ppb	27.273	23897	100	82.5	70	130	
Ca	44	2	45	65.508	ppb	13.727	210	50	131.0	70	130	>+/-30%
V	51	2	72	4.335	ppb	2.718	8450	5	86.7	70	130	
Cr	52	2	72	1.973	ppb	13.025	3050	2	98.7	70	130	
Mn	55	2	72	0.993	ppb	12.441	600	1	99.3	70	130	
Fe	57	2	72	47.453	ppb	10.854	1417	50	94.9	70	130	
Co	59	2	72	1.041	ppb	5.027	2544	1	104.1	70	130	
Ni	60	2	72	1.987	ppb	12.126	1553	2	99.4	70	130	
Cu	63	2	72	1.862	ppb	4.159	4874	2	93.1	70	130	
Zn	66	2	72	10.587	ppb	16.966	2950	10	105.9	70	130	
As	75	2	72	4.687	ppb	1.213	841	5	93.7	70	130	
Se	78	1	72	4.768	ppb	2.000	1441	5	95.4	70	130	
Sr	88	2	72	1.139	ppb	5.803	647	1	113.9	70	130	
Zr	90	2	72	5.003	ppb	44.687	170	0.5	1000.6	70	130	>+/-30%
Nb	93	2	72	4.435	ppb	3.547	16327	2	221.8	70	130	>+/-30%
Mo	95	2	115	1.867	ppb	10.957	1944	2	93.3	70	130	
Pd	105	2	115	-0.004	ppb	-656.113	30	1	-0.4	70	130	>+/-30%
Ag	107	2	115	4.750	ppb	2.563	16300	5	95.0	70	130	
Cd	111	2	115	0.955	ppb	12.007	417	1	95.5	70	130	
Sn	120	2	115	10.040	ppb	4.379	11572	10	100.4	70	130	
Sb	121	2	115	2.210	ppb	3.929	2344	2	110.5	70	130	
Ba	137	2	115	1.010	ppb	9.817	383	1	101.0	70	130	
W	182	2	165	4.649	ppb	1.977	24393	1	464.9	70	130	>+/-30%
Pt	195	2	165	0.018	ppb	30.365	93	1	1.8	70	130	>+/-30%
Tl	205	2	165	0.990	ppb	1.338	8853	1	99.0	70	130	
Pb	208	2	165	0.996	ppb	1.673	12693	1	99.6	70	130	
Th	232	2	165	1.884	ppb	3.002	28362	2	94.2	70	130	
U	238	2	165	0.945	ppb	4.487	15387	1	94.5	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1593455	0.80	1841092	86.55	60	120	
Sc (IS)	45	1	HMI H2	29394247	0.37	34041789	86.35	60	120	
Sc (IS)	45	2	HMI He	904839	1.51	989699	91.43	60	120	
Sc (IS)	45	3	No Gas	48748543	0.63	58466742	83.38	60	120	
Ge Internal Standard	72	1	HMI H2	12242341	0.82	14056514	87.09	60	120	
Ge Internal Standard	72	2	HMI He	1061721	1.21	1155188	91.91	60	120	
In Internal Standard	115	2	HMI He	3742400	2.82	3786036	98.85	60	120	
Ho-165	165	2	HMI He	18848328	0.92	18554642	101.58	60	120	

Sample Report

Sample Table

Sample Name	280-115787-a-2-b
Data File Name	137SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:20:47-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	204.626	ppb	204.626	2.54	245312	500000	
Li	7	2	45	148.330	ppb	148.330	18.77	12903	500000	
Li	7	3	45	197.097	ppb	197.097	1.63	8620870	50000	
Be	9	1	6	0.011	ppb	0.011	399.89	20	2000	
B	11	1	6	1069.193	ppb	1069.193	0.80	445824	2000	
Na	23	1	45	443990.400	ppb	443990.400	0.66	1429486059	2000	>LDR
Na	23	2	45	420957.906	ppb	420957.906	1.16	91599772	400000	
Mg	24	2	45	507.731	ppb	507.731	1.67	50754	400000	
Al	27	2	45	137.169	ppb	137.169	7.07	3314	400000	
K	39	1	45	-535.747	ppb	-535.747	-3.27	8080963	400000	
K	39	2	45	656.989	ppb	656.989	2.89	51334	400000	
Ca	40	1	45	3809.288	ppb	3809.288	1.01	18658170	400000	
Ca	44	2	45	9426.815	ppb	9426.815	2.93	25196	400000	
Ti	47	2	45	2.984	ppb	2.984	19.59	77	4000	
V	51	2	72	-1.440	ppb	-1.440	-6.27	2190	2000	
Cr	52	2	72	0.360	ppb	0.360	17.53	753	5000	
Mn	55	2	72	12.010	ppb	12.010	5.02	6035	10000	
Fe	57	2	72	44.497	ppb	44.497	12.93	1283	400000	
Co	59	2	72	0.044	ppb	0.044	21.64	117	2000	
Ni	60	2	72	0.167	ppb	0.167	62.38	280	5000	
Cu	63	2	72	0.769	ppb	0.769	21.51	2630	5000	
Zn	66	2	72	4.559	ppb	4.559	23.26	1393	5000	
As	75	2	72	0.313	ppb	0.313	5.20	67	2000	
Se	78	1	72	0.041	ppb	0.041	72.37	25	2000	
Sr	88	2	72	1172.984	ppb	1172.984	0.82	628646	4000	
Zr	90	2	72	27.228	ppb	27.228	30.80	493	1000	
Nb	93	2	72	0.485	ppb	0.485	24.21	2404	200	
Mo	95	2	115	11.129	ppb	11.129	4.91	10758	2000	
Pd	105	2	115	0.015	ppb	0.015	168.96	57	100	
Ag	107	2	115	0.014	ppb	0.014	60.21	87	100	
Cd	111	2	115	0.025	ppb	0.025	151.09	13	2000	
Sn	120	2	115	0.539	ppb	0.539	16.73	813	2000	
Sb	121	2	115	0.081	ppb	0.081	26.07	127	1000	
Ba	137	2	115	14.552	ppb	14.552	4.60	4955	5000	
W	182	2	165	1.143	ppb	1.143	5.66	6945	100	
Pt	195	2	165	0.006	ppb	0.006	173.85	43	100	
Tl	205	2	165	0.013	ppb	0.013	38.03	213	2000	
Pb	208	2	165	0.465	ppb	0.465	8.55	6094	5000	
Th	232	2	165	0.076	ppb	0.076	15.74	1300	2000	
U	238	2	165	28.867	ppb	28.867	1.13	442539	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1448822	0.60	1841092	78.69	60	120	
Sc (IS)	45	1	HMI H2	27706865	1.21	34041789	81.39	60	120	
Sc (IS)	45	2	HMI He	867183	1.60	989699	87.62	60	120	
Sc (IS)	45	3	No Gas	47099238	0.54	58466742	80.56	60	120	
Ge Internal Standard	72	1	HMI H2	11355587	0.94	14056514	80.79	60	120	
Ge Internal Standard	72	2	HMI He	1016311	1.31	1155188	87.98	60	120	
In Internal Standard	115	2	HMI He	3556947	1.39	3786036	93.95	60	120	
Ho-165	165	2	HMI He	17911450	0.78	18554642	96.53	60	120	

Sample Report

Sample Table

Sample Name	280-115787-e-3-b
Data File Name	138SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:24:39-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	313.780	ppb	313.780	2.21	290732	500000	
Li	7	2	45	267.956	ppb	267.956	8.60	15819	500000	
Li	7	3	45	294.368	ppb	294.368	1.58	10381427	50000	
Be	9	1	6	0.003	ppb	0.003	867.89	17	2000	
B	11	1	6	1593.373	ppb	1593.373	2.46	646590	2000	
Na	23	1	45	663559.755	ppb	663559.755	0.81	2132518315	2000	>LDR
Na	23	2	45	607899.962	ppb	607899.962	3.56	133048148	400000	
Mg	24	2	45	889.737	ppb	889.737	2.29	89275	400000	
Al	27	2	45	183.139	ppb	183.139	5.94	4421	400000	
K	39	1	45	1308.756	ppb	1308.756	1.89	13934992	400000	
K	39	2	45	2380.848	ppb	2380.848	3.13	137433	400000	
Ca	40	1	45	6997.233	ppb	6997.233	0.18	34168775	400000	
Ca	44	2	45	21836.398	ppb	21836.398	3.97	58645	400000	
Ti	47	2	45	3.107	ppb	3.107	14.19	80	4000	
V	51	2	72	17.894	ppb	17.894	6.20	21824	2000	
Cr	52	2	72	2.340	ppb	2.340	5.83	3397	5000	
Mn	55	2	72	7.045	ppb	7.045	3.39	3561	10000	
Fe	57	2	72	80.198	ppb	80.198	5.62	2147	400000	
Co	59	2	72	0.031	ppb	0.031	103.93	87	2000	
Ni	60	2	72	0.704	ppb	0.704	10.34	633	5000	
Cu	63	2	72	0.278	ppb	0.278	44.65	1700	5000	
Zn	66	2	72	2.924	ppb	2.924	13.12	1003	5000	
As	75	2	72	1.259	ppb	1.259	2.30	225	2000	
Se	78	1	72	0.322	ppb	0.322	23.23	103	2000	
Sr	88	2	72	3223.305	ppb	3223.305	4.11	1718582	4000	
Zr	90	2	72	42.849	ppb	42.849	15.16	723	1000	
Nb	93	2	72	0.433	ppb	0.433	11.42	2214	200	
Mo	95	2	115	25.641	ppb	25.641	2.04	24499	2000	
Pd	105	2	115	0.049	ppb	0.049	23.97	107	100	
Ag	107	2	115	0.002	ppb	0.002	329.15	47	100	
Cd	111	2	115	0.034	ppb	0.034	112.74	17	2000	
Sn	120	2	115	2.510	ppb	2.510	2.18	2900	2000	
Sb	121	2	115	0.751	ppb	0.751	5.13	780	1000	
Ba	137	2	115	13.189	ppb	13.189	5.06	4454	5000	
W	182	2	165	4.269	ppb	4.269	1.45	21001	100	
Pt	195	2	165	0.004	ppb	0.004	43.39	33	100	
Tl	205	2	165	0.008	ppb	0.008	40.44	170	2000	
Pb	208	2	165	0.382	ppb	0.382	6.47	5064	5000	
Th	232	2	165	0.073	ppb	0.073	7.89	1237	2000	
U	238	2	165	6.575	ppb	6.575	4.42	98873	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1410928	2.23	1841092	76.64	60	120	
Sc (IS)	45	1	HMI H2	27656924	0.43	34041789	81.24	60	120	
Sc (IS)	45	2	HMI He	872831	3.12	989699	88.19	60	120	
Sc (IS)	45	3	No Gas	48451903	1.08	58466742	82.87	60	120	
Ge Internal Standard	72	1	HMI H2	11277924	1.35	14056514	80.23	60	120	
Ge Internal Standard	72	2	HMI He	1011862	2.75	1155188	87.59	60	120	
In Internal Standard	115	2	HMI He	3524237	2.17	3786036	93.09	60	120	
Ho-165	165	2	HMI He	17558816	1.87	18554642	94.63	60	120	

Sample Report

Sample Table

Sample Name	280-115787-e-4-b
Data File Name	139SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:28:30-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	347.646	ppb	347.646	1.13	315250	500000	
Li	7	2	45	290.012	ppb	290.012	11.77	16353	500000	
Li	7	3	45	331.046	ppb	331.046	1.77	10899462	50000	
Be	9	1	6	0.101	ppb	0.101	79.85	53	2000	
B	11	1	6	1402.535	ppb	1402.535	2.70	571556	2000	
Na	23	1	45	668336.131	ppb	668336.131	1.18	2220341727	2000	>LDR
Na	23	2	45	634526.581	ppb	634526.581	0.33	139037221	400000	
Mg	24	2	45	1140.133	ppb	1140.133	1.34	114411	400000	
Al	27	2	45	750.395	ppb	750.395	3.89	17875	400000	
K	39	1	45	-393.189	ppb	-393.189	-2.21	8807768	400000	
K	39	2	45	841.849	ppb	841.849	2.65	60904	400000	
Ca	40	1	45	9863.205	ppb	9863.205	1.11	49767874	400000	
Ca	44	2	45	28852.491	ppb	28852.491	0.25	77577	400000	
Ti	47	2	45	4.969	ppb	4.969	31.51	127	4000	
V	51	2	72	3.886	ppb	3.886	12.21	7622	2000	
Cr	52	2	72	1.165	ppb	1.165	2.43	1834	5000	
Mn	55	2	72	21.168	ppb	21.168	3.80	10561	10000	
Fe	57	2	72	312.619	ppb	312.619	2.71	7836	400000	
Co	59	2	72	0.217	ppb	0.217	27.18	520	2000	
Ni	60	2	72	2.429	ppb	2.429	12.43	1780	5000	
Cu	63	2	72	1.427	ppb	1.427	3.41	3851	5000	
Zn	66	2	72	6.928	ppb	6.928	10.55	1954	5000	
As	75	2	72	0.183	ppb	0.183	60.36	44	2000	
Se	78	1	72	0.134	ppb	0.134	39.19	52	2000	
Sr	88	2	72	4174.879	ppb	4174.879	0.69	2234521	4000	
Zr	90	2	72	53.407	ppb	53.407	20.12	880	1000	
Nb	93	2	72	0.225	ppb	0.225	6.02	1527	200	
Mo	95	2	115	16.045	ppb	16.045	4.91	15319	2000	
Pd	105	2	115	0.096	ppb	0.096	51.97	177	100	
Ag	107	2	115	0.043	ppb	0.043	16.91	180	100	
Cd	111	2	115	-0.008	ppb	-0.008	0.00	0	2000	
Sn	120	2	115	0.118	ppb	0.118	98.24	357	2000	
Sb	121	2	115	0.144	ppb	0.144	18.37	187	1000	
Ba	137	2	115	8.319	ppb	8.319	10.82	2807	5000	
W	182	2	165	0.366	ppb	0.366	14.53	3281	100	
Pt	195	2	165	-0.002	ppb	-0.002	-197.92	10	100	
Tl	205	2	165	0.015	ppb	0.015	47.98	227	2000	
Pb	208	2	165	0.364	ppb	0.364	1.74	4864	5000	
Th	232	2	165	0.412	ppb	0.412	5.45	5955	2000	
U	238	2	165	15.699	ppb	15.699	1.07	236223	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1416917	2.54	1841092	76.96	60	120	
Sc (IS)	45	1	HMI H2	28590055	0.53	34041789	83.99	60	120	
Sc (IS)	45	2	HMI He	873226	1.17	989699	88.23	60	120	
Sc (IS)	45	3	No Gas	48216063	0.23	58466742	82.47	60	120	
Ge Internal Standard	72	1	HMI H2	11558378	0.83	14056514	82.23	60	120	
Ge Internal Standard	72	2	HMI He	1014943	1.26	1155188	87.86	60	120	
In Internal Standard	115	2	HMI He	3515471	1.57	3786036	92.85	60	120	
Ho-165	165	2	HMI He	17575812	1.39	18554642	94.72	60	120	

Sample Report

Sample Table

Sample Name	280-115787-e-5-b
Data File Name	140SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:32:19-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	1.497	ppb	1.497	479.77	159766	500000	
Li	7	2	45	-25.099	ppb	-25.099	-97.79	8720	500000	
Li	7	3	45	-3.174	ppb	-3.174	-150.69	5499425	50000	
Be	9	1	6	-0.014	ppb	-0.014	-194.26	10	2000	
B	11	1	6	1358.614	ppb	1358.614	2.34	540544	2000	
Na	23	1	45	1060297.478	ppb	1060297.478	0.48	3412982242	2000	>LDR
Na	23	2	45	968423.449	ppb	968423.449	1.32	208448250	400000	
Mg	24	2	45	9674.543	ppb	9674.543	1.00	951667	400000	
Al	27	2	45	97.575	ppb	97.575	10.93	2360	400000	
K	39	1	45	-712.809	ppb	-712.809	-1.49	7515880	400000	
K	39	2	45	278.893	ppb	278.893	11.21	32267	400000	
Ca	40	1	45	41002.741	ppb	41002.741	1.11	200311190	400000	
Ca	44	2	45	44641.226	ppb	44641.226	3.09	117912	400000	
Ti	47	2	45	1.241	ppb	1.241	68.01	33	4000	
V	51	2	72	0.348	ppb	0.348	61.12	3884	2000	
Cr	52	2	72	0.618	ppb	0.618	6.48	1063	5000	
Mn	55	2	72	147.351	ppb	147.351	2.01	70726	10000	
Fe	57	2	72	92.634	ppb	92.634	1.83	2380	400000	
Co	59	2	72	0.332	ppb	0.332	6.83	760	2000	
Ni	60	2	72	2.324	ppb	2.324	18.26	1654	5000	
Cu	63	2	72	1.566	ppb	1.566	8.01	3981	5000	
Zn	66	2	72	10.628	ppb	10.628	7.25	2737	5000	
As	75	2	72	1.748	ppb	1.748	9.19	299	2000	
Se	78	1	72	0.119	ppb	0.119	47.42	47	2000	
Sr	88	2	72	1114.631	ppb	1114.631	0.14	577578	4000	
Zr	90	2	72	73.616	ppb	73.616	17.12	1143	1000	
Nb	93	2	72	0.040	ppb	0.040	202.56	880	200	
Mo	95	2	115	15.769	ppb	15.769	1.54	14255	2000	
Pd	105	2	115	0.034	ppb	0.034	42.32	80	100	
Ag	107	2	115	0.059	ppb	0.059	10.32	217	100	
Cd	111	2	115	0.079	ppb	0.079	49.10	33	2000	
Sn	120	2	115	0.242	ppb	0.242	30.79	463	2000	
Sb	121	2	115	1.221	ppb	1.221	5.87	1170	1000	
Ba	137	2	115	38.602	ppb	38.602	2.14	12266	5000	
W	182	2	165	0.032	ppb	0.032	152.65	1680	100	
Pt	195	2	165	0.000	ppb	0.000	-1072.37	17	100	
Tl	205	2	165	0.020	ppb	0.020	31.67	253	2000	
Pb	208	2	165	0.163	ppb	0.163	6.40	2527	5000	
Th	232	2	165	0.061	ppb	0.061	7.40	1017	2000	
U	238	2	165	72.309	ppb	72.309	0.22	1035130	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1383015	1.63	1841092	75.12	60	120	
Sc (IS)	45	1	HMI H2	27703151	1.00	34041789	81.38	60	120	
Sc (IS)	45	2	HMI He	857915	1.51	989699	86.68	60	120	
Sc (IS)	45	3	No Gas	46329936	1.37	58466742	79.24	60	120	
Ge Internal Standard	72	1	HMI H2	11283450	0.95	14056514	80.27	60	120	
Ge Internal Standard	72	2	HMI He	982652	0.74	1155188	85.06	60	120	
In Internal Standard	115	2	HMI He	3329054	1.09	3786036	87.93	60	120	
Ho-165	165	2	HMI He	16728289	0.25	18554642	90.16	60	120	

Sample Report

Sample Table

Sample Name	280-115787-g-6-b
Data File Name	141SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:36:09-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	337.120	ppb	337.120	2.76	298600	500000	
Li	7	2	45	303.146	ppb	303.146	7.23	16537	500000	
Li	7	3	45	310.148	ppb	310.148	2.28	10498240	50000	
Be	9	1	6	0.013	ppb	0.013	209.45	20	2000	
B	11	1	6	954.633	ppb	954.633	0.98	385988	2000	
Na	23	1	45	670573.932	ppb	670573.932	1.15	2141141728	2000	>LDR
Na	23	2	45	625356.575	ppb	625356.575	0.53	135960345	400000	
Mg	24	2	45	910.915	ppb	910.915	2.51	90767	400000	
Al	27	2	45	149.719	ppb	149.719	3.40	3607	400000	
K	39	1	45	-483.532	ppb	-483.532	-2.86	8179927	400000	
K	39	2	45	732.957	ppb	732.957	4.14	55037	400000	
Ca	40	1	45	8911.468	ppb	8911.468	0.60	43222183	400000	
Ca	44	2	45	21463.527	ppb	21463.527	0.25	57263	400000	
Ti	47	2	45	2.456	ppb	2.456	35.04	63	4000	
V	51	2	72	-1.097	ppb	-1.097	-5.40	2497	2000	
Cr	52	2	72	4.953	ppb	4.953	5.13	6812	5000	
Mn	55	2	72	16.517	ppb	16.517	3.81	8129	10000	
Fe	57	2	72	107.211	ppb	107.211	11.82	2770	400000	
Co	59	2	72	0.195	ppb	0.195	8.00	460	2000	
Ni	60	2	72	9.784	ppb	9.784	5.04	6545	5000	
Cu	63	2	72	0.517	ppb	0.517	26.53	2120	5000	
Zn	66	2	72	7.018	ppb	7.018	12.18	1944	5000	
As	75	2	72	0.289	ppb	0.289	30.41	61	2000	
Se	78	1	72	0.072	ppb	0.072	92.41	33	2000	
Sr	88	2	72	2834.015	ppb	2834.015	1.07	1492610	4000	
Zr	90	2	72	25.292	ppb	25.292	20.88	457	1000	
Nb	93	2	72	0.041	ppb	0.041	144.22	897	200	
Mo	95	2	115	6.178	ppb	6.178	3.58	5815	2000	
Pd	105	2	115	0.062	ppb	0.062	16.71	123	100	
Ag	107	2	115	0.012	ppb	0.012	81.99	77	100	
Cd	111	2	115	0.001	ppb	0.001	2593.77	3	2000	
Sn	120	2	115	0.114	ppb	0.114	58.50	347	2000	
Sb	121	2	115	0.259	ppb	0.259	22.39	293	1000	
Ba	137	2	115	6.915	ppb	6.915	5.74	2294	5000	
W	182	2	165	0.112	ppb	0.112	33.61	2080	100	
Pt	195	2	165	-0.002	ppb	-0.002	-206.71	10	100	
Tl	205	2	165	0.006	ppb	0.006	77.90	150	2000	
Pb	208	2	165	0.305	ppb	0.305	5.02	4114	5000	
Th	232	2	165	0.054	ppb	0.054	3.36	950	2000	
U	238	2	165	5.471	ppb	5.471	0.66	80427	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1404822	0.50	1841092	76.30	60	120	
Sc (IS)	45	1	HMI H2	27479065	0.24	34041789	80.72	60	120	
Sc (IS)	45	2	HMI He	866381	0.82	989699	87.54	60	120	
Sc (IS)	45	3	No Gas	47863511	0.46	58466742	81.86	60	120	
Ge Internal Standard	72	1	HMI H2	11176717	0.08	14056514	79.51	60	120	
Ge Internal Standard	72	2	HMI He	998707	1.04	1155188	86.45	60	120	
In Internal Standard	115	2	HMI He	3450281	1.38	3786036	91.13	60	120	
Ho-165	165	2	HMI He	17153785	0.99	18554642	92.45	60	120	

Sample Report

Sample Table

Sample Name	280-115787-g-7-b
Data File Name	142SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:40:01-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	325.087	ppb	325.087	3.76	290302	500000	
Li	7	2	45	264.344	ppb	264.344	13.84	15859	500000	
Li	7	3	45	297.929	ppb	297.929	0.40	10328959	50000	
Be	9	1	6	0.066	ppb	0.066	69.92	40	2000	
B	11	1	6	1189.610	ppb	1189.610	0.43	481041	2000	
Na	23	1	45	638141.189	ppb	638141.189	0.60	2015032450	2000	>LDR
Na	23	2	45	584165.890	ppb	584165.890	0.97	128950818	400000	
Mg	24	2	45	1056.589	ppb	1056.589	1.23	106846	400000	
Al	27	2	45	1564.498	ppb	1564.498	1.37	37432	400000	
K	39	1	45	-82.064	ppb	-82.064	-22.55	9344238	400000	
K	39	2	45	1022.095	ppb	1022.095	2.06	70403	400000	
Ca	40	1	45	8271.839	ppb	8271.839	0.60	39679057	400000	
Ca	44	2	45	15572.382	ppb	15572.382	0.88	42192	400000	
Ti	47	2	45	18.773	ppb	18.773	18.35	473	4000	
V	51	2	72	0.952	ppb	0.952	23.44	4631	2000	
Cr	52	2	72	19.934	ppb	19.934	1.31	27049	5000	
Mn	55	2	72	37.029	ppb	37.029	4.79	18429	10000	
Fe	57	2	72	1071.203	ppb	1071.203	2.42	26395	400000	
Co	59	2	72	1.180	ppb	1.180	4.90	2757	2000	
Ni	60	2	72	54.627	ppb	54.627	0.72	36373	5000	
Cu	63	2	72	2.361	ppb	2.361	1.31	5595	5000	
Zn	66	2	72	130.566	ppb	130.566	3.52	31171	5000	
As	75	2	72	0.395	ppb	0.395	8.78	80	2000	
Se	78	1	72	0.123	ppb	0.123	90.03	47	2000	
Sr	88	2	72	1574.168	ppb	1574.168	1.03	842894	4000	
Zr	90	2	72	133.799	ppb	133.799	10.51	2077	1000	
Nb	93	2	72	0.177	ppb	0.177	27.33	1367	200	
Mo	95	2	115	17.766	ppb	17.766	3.66	16868	2000	
Pd	105	2	115	0.004	ppb	0.004	12.37	40	100	
Ag	107	2	115	0.099	ppb	0.099	17.71	357	100	
Cd	111	2	115	0.025	ppb	0.025	57.35	13	2000	
Sn	120	2	115	0.334	ppb	0.334	9.45	583	2000	
Sb	121	2	115	0.262	ppb	0.262	20.06	300	1000	
Ba	137	2	115	18.579	ppb	18.579	5.28	6215	5000	
W	182	2	165	0.345	ppb	0.345	20.03	3171	100	
Pt	195	2	165	-0.002	ppb	-0.002	-109.98	10	100	
Tl	205	2	165	0.024	ppb	0.024	38.12	293	2000	
Pb	208	2	165	3.038	ppb	3.038	1.15	34199	5000	
Th	232	2	165	0.590	ppb	0.590	7.97	8393	2000	
U	238	2	165	12.328	ppb	12.328	0.71	184738	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1405195	0.30	1841092	76.32	60	120	
Sc (IS)	45	1	HMI H2	27175292	0.88	34041789	79.83	60	120	
Sc (IS)	45	2	HMI He	879692	1.06	989699	88.88	60	120	
Sc (IS)	45	3	No Gas	47949021	0.41	58466742	82.01	60	120	
Ge Internal Standard	72	1	HMI H2	11054173	0.66	14056514	78.64	60	120	
Ge Internal Standard	72	2	HMI He	1015392	0.80	1155188	87.90	60	120	
In Internal Standard	115	2	HMI He	3499623	1.88	3786036	92.44	60	120	
Ho-165	165	2	HMI He	17500322	1.21	18554642	94.32	60	120	

Sample Report

Sample Table

Sample Name	280-115887-e-1-b
Data File Name	143SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:43:53-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	231.821	ppb	231.821	1.16	255718	500000	
Li	7	2	45	202.878	ppb	202.878	5.42	14418	500000	
Li	7	3	45	216.500	ppb	216.500	3.96	9039329	50000	
Be	9	1	6	-0.005	ppb	-0.005	-853.77	13	2000	
B	11	1	6	1138.262	ppb	1138.262	3.35	464616	2000	
Na	23	1	45	470138.526	ppb	470138.526	1.06	1507566591	2000	>LDR
Na	23	2	45	429738.141	ppb	429738.141	1.03	95014379	400000	
Mg	24	2	45	751.202	ppb	751.202	1.32	76162	400000	
Al	27	2	45	1386.818	ppb	1386.818	1.95	33245	400000	
K	39	1	45	-489.495	ppb	-489.495	-1.07	8195607	400000	
K	39	2	45	738.652	ppb	738.652	2.26	56262	400000	
Ca	40	1	45	4536.007	ppb	4536.007	0.12	22118491	400000	
Ca	44	2	45	13328.517	ppb	13328.517	0.85	36176	400000	
Ti	47	2	45	7.748	ppb	7.748	29.70	197	4000	
V	51	2	72	3.531	ppb	3.531	6.26	7315	2000	
Cr	52	2	72	19.072	ppb	19.072	2.53	26084	5000	
Mn	55	2	72	14.212	ppb	14.212	6.21	7175	10000	
Fe	57	2	72	612.672	ppb	612.672	2.56	15295	400000	
Co	59	2	72	0.456	ppb	0.456	15.22	1083	2000	
Ni	60	2	72	13.954	ppb	13.954	2.04	9487	5000	
Cu	63	2	72	2.697	ppb	2.697	5.20	6268	5000	
Zn	66	2	72	9.286	ppb	9.286	7.68	2530	5000	
As	75	2	72	0.249	ppb	0.249	11.84	56	2000	
Se	78	1	72	0.125	ppb	0.125	30.60	48	2000	
Sr	88	2	72	1790.345	ppb	1790.345	0.69	965804	4000	
Zr	90	2	72	74.610	ppb	74.610	20.48	1207	1000	
Nb	93	2	72	0.085	ppb	0.085	42.20	1070	200	
Mo	95	2	115	10.075	ppb	10.075	2.63	9697	2000	
Pd	105	2	115	0.026	ppb	0.026	92.22	73	100	
Ag	107	2	115	1.863	ppb	1.863	3.67	6078	100	
Cd	111	2	115	0.009	ppb	0.009	162.27	7	2000	
Sn	120	2	115	0.236	ppb	0.236	47.73	487	2000	
Sb	121	2	115	0.058	ppb	0.058	72.98	103	1000	
Ba	137	2	115	25.155	ppb	25.155	5.14	8503	5000	
W	182	2	165	0.566	ppb	0.566	13.43	4178	100	
Pt	195	2	165	-0.001	ppb	-0.001	-685.85	17	100	
Tl	205	2	165	0.015	ppb	0.015	44.52	227	2000	
Pb	208	2	165	0.513	ppb	0.513	6.09	6484	5000	
Th	232	2	165	0.313	ppb	0.313	8.76	4561	2000	
U	238	2	165	23.130	ppb	23.130	1.37	346736	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1419038	2.19	1841092	77.08	60	120	
Sc (IS)	45	1	HMI H2	27595175	0.23	34041789	81.06	60	120	
Sc (IS)	45	2	HMI He	881119	1.46	989699	89.03	60	120	
Sc (IS)	45	3	No Gas	47761936	0.49	58466742	81.69	60	120	
Ge Internal Standard	72	1	HMI H2	11216293	0.74	14056514	79.79	60	120	
Ge Internal Standard	72	2	HMI He	1022978	0.89	1155188	88.56	60	120	
In Internal Standard	115	2	HMI He	3540214	2.08	3786036	93.51	60	120	
Ho-165	165	2	HMI He	17513011	0.48	18554642	94.39	60	120	

Sample Report

Sample Table

Sample Name	280-115887-g-2-b
Data File Name	144SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:47:46-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434761 6020A DOD5
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	298.888	ppb	298.888	1.13	284137	500000	
Li	7	2	45	234.764	ppb	234.764	6.43	14988	500000	
Li	7	3	45	273.149	ppb	273.149	2.00	9812499	50000	
Be	9	1	6	-0.023	ppb	-0.023	-138.82	7	2000	
B	11	1	6	1209.617	ppb	1209.617	1.12	485306	2000	
Na	23	1	45	608869.490	ppb	608869.490	0.27	1954475971	2000	>LDR
Na	23	2	45	557660.960	ppb	557660.960	0.28	121743588	400000	
Mg	24	2	45	838.409	ppb	838.409	1.41	83891	400000	
Al	27	2	45	432.216	ppb	432.216	2.28	10291	400000	
K	39	1	45	-495.927	ppb	-495.927	-5.36	8183870	400000	
K	39	2	45	704.022	ppb	704.022	4.38	53833	400000	
Ca	40	1	45	7266.084	ppb	7266.084	1.38	35437903	400000	
Ca	44	2	45	11230.516	ppb	11230.516	1.65	30095	400000	
Ti	47	2	45	5.383	ppb	5.383	37.04	137	4000	
V	51	2	72	9.602	ppb	9.602	7.59	13237	2000	
Cr	52	2	72	0.689	ppb	0.689	13.84	1177	5000	
Mn	55	2	72	46.768	ppb	46.768	2.74	22879	10000	
Fe	57	2	72	314.619	ppb	314.619	1.88	7766	400000	
Co	59	2	72	0.163	ppb	0.163	18.68	387	2000	
Ni	60	2	72	0.511	ppb	0.511	11.83	500	5000	
Cu	63	2	72	0.991	ppb	0.991	9.54	2990	5000	
Zn	66	2	72	27.505	ppb	27.505	5.38	6709	5000	
As	75	2	72	0.226	ppb	0.226	20.57	51	2000	
Se	78	1	72	0.052	ppb	0.052	28.07	28	2000	
Sr	88	2	72	896.767	ppb	896.767	0.75	472596	4000	
Zr	90	2	72	34.668	ppb	34.668	5.03	593	1000	
Nb	93	2	72	-0.018	ppb	-0.018	-164.74	707	200	
Mo	95	2	115	8.582	ppb	8.582	2.41	8129	2000	
Pd	105	2	115	-0.016	ppb	-0.016	-74.94	10	100	
Ag	107	2	115	0.020	ppb	0.020	87.65	103	100	
Cd	111	2	115	-0.008	ppb	-0.008	0.00	0	2000	
Sn	120	2	115	0.512	ppb	0.512	27.39	770	2000	
Sb	121	2	115	0.779	ppb	0.779	8.87	797	1000	
Ba	137	2	115	17.254	ppb	17.254	5.53	5745	5000	
W	182	2	165	0.167	ppb	0.167	31.51	2327	100	
Pt	195	2	165	-0.002	ppb	-0.002	-116.96	10	100	
Tl	205	2	165	0.004	ppb	0.004	74.87	133	2000	
Pb	208	2	165	0.296	ppb	0.296	1.45	4040	5000	
Th	232	2	165	0.130	ppb	0.130	4.52	1994	2000	
U	238	2	165	8.710	ppb	8.710	2.33	128445	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1394323	1.19	1841092	75.73	60	120	
Sc (IS)	45	1	HMI H2	27624777	0.20	34041789	81.15	60	120	
Sc (IS)	45	2	HMI He	869960	1.69	989699	87.90	60	120	
Sc (IS)	45	3	No Gas	47301274	0.97	58466742	80.90	60	120	
Ge Internal Standard	72	1	HMI H2	11176962	1.32	14056514	79.51	60	120	
Ge Internal Standard	72	2	HMI He	999355	1.77	1155188	86.51	60	120	
In Internal Standard	115	2	HMI He	3479013	2.22	3786036	91.89	60	120	
Ho-165	165	2	HMI He	17217448	1.13	18554642	92.79	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	145_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:51:36-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	509.562	ppb	0.962	394683	500	101.9	90	110	
Li	7	2	45	453.273	ppb	4.203	20648	500	90.7	90	110	
Li	7	3	45	490.613	ppb	0.449	13461677	500	98.1	90	110	
Be	9	1	6	50.559	ppb	2.646	20719	50	101.1	90	110	
B	11	1	6	72.427	ppb	2.287	32383	50	144.9	90	110	>+\-10%
Na	23	1	45	6853.174	ppb	1.627	23561852	5000	137.1	90	110	>+\-10%
Na	23	2	45	6425.419	ppb	2.192	1456251	5000	128.5	90	110	>+\-10%
Mg	24	2	45	4888.415	ppb	0.662	499693	5000	97.8	90	110	
Al	27	2	45	5335.427	ppb	0.578	129117	5000	106.7	90	110	
K	39	1	45	5523.605	ppb	0.968	28934211	5000	110.5	90	110	>+\-10%
K	39	2	45	5155.997	ppb	0.780	281495	5000	103.1	90	110	
Ca	40	1	45	5323.380	ppb	0.435	27520094	5000	106.5	90	110	
Ca	44	2	45	5241.116	ppb	3.276	14404	5000	104.8	90	110	
Ti	47	2	45	54.720	ppb	13.002	1390	50	109.4	90	110	
V	51	2	72	47.824	ppb	1.643	53700	50	95.6	90	110	
Cr	52	2	72	47.678	ppb	1.296	65843	50	95.4	90	110	
Mn	55	2	72	51.788	ppb	1.355	26345	50	103.6	90	110	
Fe	57	2	72	4895.973	ppb	2.548	122796	5000	97.9	90	110	
Co	59	2	72	47.827	ppb	2.132	113754	50	95.7	90	110	
Ni	60	2	72	46.844	ppb	1.703	31953	50	93.7	90	110	
Cu	63	2	72	46.438	ppb	0.591	89875	50	92.9	90	110	
Zn	66	2	72	50.893	ppb	2.556	12636	50	101.8	90	110	
As	75	2	72	48.666	ppb	1.098	8418	50	97.3	90	110	
Se	78	1	72	48.674	ppb	3.122	14337	50	97.3	90	110	
Sr	88	2	72	53.018	ppb	1.460	29067	50	106.0	90	110	
Zr	90	2	72	32.877	ppb	9.325	590	50	65.8	90	110	>+\-10%
Nb	93	2	72	90.807	ppb	1.151	311672	100	90.8	90	110	
Mo	95	2	115	45.334	ppb	1.042	44705	50	90.7	90	110	
Pd	105	2	115	47.206	ppb	2.348	72377	50	94.4	90	110	
Ag	107	2	115	44.945	ppb	1.514	149695	50	89.9	90	110	>+\-10%
Cd	111	2	115	46.508	ppb	2.722	19578	50	93.0	90	110	
Sn	120	2	115	48.666	ppb	0.424	53651	50	97.3	90	110	
Sb	121	2	115	49.452	ppb	1.420	49947	50	98.9	90	110	
Ba	137	2	115	48.974	ppb	3.496	17005	50	97.9	90	110	
W	182	2	165	46.854	ppb	1.098	218744	50	93.7	90	110	
Pt	195	2	165	45.767	ppb	1.238	176981	50	91.5	90	110	
Tl	205	2	165	49.213	ppb	0.364	413333	50	98.4	90	110	
Pb	208	2	165	49.187	ppb	0.981	553811	50	98.4	90	110	
Th	232	2	165	46.076	ppb	1.118	654210	50	92.2	90	110	
U	238	2	165	45.975	ppb	0.413	705107	50	92.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1535385	1.51	1841092	83.40	60	120	
Sc (IS)	45	1	HMI H2	29265837	0.05	34041789	85.97	60	120	
Sc (IS)	45	2	HMI He	891181	0.65	989699	90.05	60	120	
Sc (IS)	45	3	No Gas	48545604	0.40	58466742	83.03	60	120	
Ge Internal Standard	72	1	HMI H2	12044379	0.42	14056514	85.69	60	120	
Ge Internal Standard	72	2	HMI He	1039335	0.50	1155188	89.97	60	120	
In Internal Standard	115	2	HMI He	3639449	1.00	3786036	96.13	60	120	
Ho-165	165	2	HMI He	17920446	0.58	18554642	96.58	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	146_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:55:24-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-2.849	ppb	-111.6	5804575	10	
Be	9	1	6	0.007	ppb	352.1	20	0.5	
B	11	1	6	13.462	ppb	1.9	6558	0.5	>RL
Na	23	1	45	900.030	ppb	0.6	3249292	25	>RL
Na	23	2	45	782.358	ppb	1.2	196771	25	>RL
Mg	24	2	45	2.281	ppb	26.3	537	25	
Al	27	2	45	0.520	ppb	366.1	103	15	
K	39	1	45	174.796	ppb	16.2	10696507	50	>RL
K	39	2	45	-27.976	ppb	-20.1	18135	50	
Ca	40	1	45	3.469	ppb	10.5	70289	50	
Ca	44	2	45	2.138	ppb	388.0	33	25	
Ti	47	2	45	0.012	ppb	1850.0	3	0.5	
V	51	2	72	-1.257	ppb	-3.3	2460	1	
Cr	52	2	72	0.020	ppb	246.1	307	1	
Mn	55	2	72	0.023	ppb	403.7	97	0.5	
Fe	57	2	72	3.684	ppb	114.3	293	25	
Co	59	2	72	0.006	ppb	68.6	30	0.5	
Ni	60	2	72	-0.028	ppb	-115.6	157	1	
Cu	63	2	72	0.176	ppb	24.3	1574	1	
Zn	66	2	72	-0.304	ppb	-5.2	253	5	
As	75	2	72	0.109	ppb	65.8	33	1	
Se	78	1	72	0.042	ppb	219.8	27	1	
Sr	88	2	72	0.116	ppb	40.3	73	0.5	
Zr	90	2	72	1.006	ppb	165.9	107	1	>RL
Nb	93	2	72	2.073	ppb	7.3	7989	2	>RL
Mo	95	2	115	0.023	ppb	204.5	73	0.5	
Pd	105	2	115	0.011	ppb	242.8	53	1	
Ag	107	2	115	0.017	ppb	33.0	100	1	
Cd	111	2	115	0.000	ppb	8217.5	3	0.5	
Sn	120	2	115	-0.024	ppb	-207.2	220	1	
Sb	121	2	115	0.271	ppb	4.6	330	0.6	
Ba	137	2	115	-0.027	ppb	-249.0	13	0.5	
W	182	2	165	0.040	ppb	60.3	1864	1	
Pt	195	2	165	0.015	ppb	77.0	80	1	
Tl	205	2	165	0.017	ppb	31.3	253	0.1	
Pb	208	2	165	0.010	ppb	94.1	997	0.5	
Th	232	2	165	0.029	ppb	6.7	643	1	
U	238	2	165	0.018	ppb	28.2	427	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1583938	1.97	1841092	86.03	60	120	
Sc (IS)	45	1	HMI H2	28646625	0.57	34041789	84.15	60	120	
Sc (IS)	45	2	HMI He	901231	1.58	989699	91.06	60	120	
Sc (IS)	45	3	No Gas	48851226	0.76	58466742	83.55	60	120	
Ge Internal Standard	72	1	HMI H2	11799045	0.53	14056514	83.94	60	120	
Ge Internal Standard	72	2	HMI He	1051963	0.94	1155188	91.06	60	120	
In Internal Standard	115	2	HMI He	3737517	1.88	3786036	98.72	60	120	
Ho-165	165	2	HMI He	18196203	1.11	18554642	98.07	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	147LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T00:59:13-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	14.164	ppb	27.574	6013368	50	28.3	70	130	>+/-30%
Be	9	1	6	1.058	ppb	28.205	463	1	105.8	70	130	
Na	23	2	45	647.773	ppb	1.312	167061	50	1295.5	70	130	>+/-30%
Mg	24	2	45	50.787	ppb	2.901	5571	50	101.6	70	130	
Al	27	2	45	36.324	ppb	8.189	983	30	121.1	70	130	
K	39	2	45	70.772	ppb	21.029	23306	100	70.8	70	130	
Ca	44	2	45	74.955	ppb	29.653	237	50	149.9	70	130	>+/-30%
V	51	2	72	3.511	ppb	16.137	7546	5	70.2	70	130	
Cr	52	2	72	1.891	ppb	4.042	2927	2	94.6	70	130	
Mn	55	2	72	1.075	ppb	19.040	640	1	107.5	70	130	
Fe	57	2	72	53.377	ppb	24.175	1560	50	106.8	70	130	
Co	59	2	72	0.830	ppb	7.751	2024	1	83.0	70	130	
Ni	60	2	72	1.576	ppb	10.793	1263	2	78.8	70	130	
Cu	63	2	72	2.011	ppb	3.036	5148	2	100.6	70	130	
Zn	66	2	72	10.907	ppb	6.423	3014	10	109.1	70	130	
As	75	2	72	4.493	ppb	2.953	804	5	89.9	70	130	
Se	78	1	72	4.727	ppb	6.738	1385	5	94.5	70	130	
Sr	88	2	72	1.460	ppb	6.037	823	1	146.0	70	130	>+/-30%
Zr	90	2	72	8.300	ppb	22.363	220	0.5	1660.0	70	130	>+/-30%
Nb	93	2	72	4.569	ppb	2.873	16727	2	228.4	70	130	>+/-30%
Mo	95	2	115	1.792	ppb	1.929	1867	2	89.6	70	130	
Pd	105	2	115	-0.015	ppb	-99.139	13	1	-1.5	70	130	>+/-30%
Ag	107	2	115	4.567	ppb	1.003	15693	5	91.3	70	130	
Cd	111	2	115	0.993	ppb	19.986	433	1	99.3	70	130	
Sn	120	2	115	9.507	ppb	4.852	10988	10	95.1	70	130	
Sb	121	2	115	2.007	ppb	2.958	2134	2	100.4	70	130	
Ba	137	2	115	0.934	ppb	16.580	357	1	93.4	70	130	
W	182	2	165	4.519	ppb	1.691	23118	1	451.9	70	130	>+/-30%
Pt	195	2	165	0.026	ppb	37.208	123	1	2.6	70	130	>+/-30%
Tl	205	2	165	0.959	ppb	6.079	8340	1	95.9	70	130	
Pb	208	2	165	0.935	ppb	2.141	11646	1	93.5	70	130	
Th	232	2	165	1.845	ppb	3.427	27022	2	92.2	70	130	
U	238	2	165	0.924	ppb	0.747	14646	1	92.4	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1580751	0.35	1841092	85.86	60	120	
Sc (IS)	45	1	HMI H2	28803574	0.93	34041789	84.61	60	120	
Sc (IS)	45	2	HMI He	905091	1.01	989699	91.45	60	120	
Sc (IS)	45	3	No Gas	48385634	0.70	58466742	82.76	60	120	
Ge Internal Standard	72	1	HMI H2	11866304	0.71	14056514	84.42	60	120	
Ge Internal Standard	72	2	HMI He	1057618	0.97	1155188	91.55	60	120	
In Internal Standard	115	2	HMI He	3745443	1.01	3786036	98.93	60	120	
Ho-165	165	2	HMI He	18341865	1.80	18554642	98.85	60	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA-5405008
Data File Name	148ICSA_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T01:03:03-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-13.077	ppb	-37.0	5373758	1	
Be	9	1	6	-0.007	ppb	-849.0	13	1	
B	11	1	6	10.908	ppb	8.9	5064	1	>RL or LOD
Na	23	1	45	100825.159	ppb	0.7	324176169	100000	>RL or LOD
K	39	1	45	103687.190	ppb	1.3	339569302	100000	>RL or LOD
Ca	40	1	45	99273.798	ppb	1.3	484000886	100000	
Ti	47	2	45	1894.838	ppb	2.4	46405	1	>RL or LOD
V	51	2	72	-1.170	ppb	-11.0	2400	1	
Cr	52	2	72	0.159	ppb	16.2	470	1	
Mn	55	2	72	0.642	ppb	16.2	390	1	
Co	59	2	72	0.017	ppb	74.1	53	1	
Ni	60	2	72	0.177	ppb	112.8	280	1	
Cu	63	2	72	0.422	ppb	33.3	1927	1	
Zn	66	2	72	0.297	ppb	78.0	377	1	
As	75	2	72	0.157	ppb	27.1	39	1	
Se	78	1	72	0.111	ppb	103.1	44	1	
Sr	88	2	72	1.077	ppb	30.1	570	1	>RL or LOD
Zr	90	2	72	5.344	ppb	57.0	163	1	>RL or LOD
Nb	93	2	72	0.536	ppb	6.7	2504	1	
Mo	95	2	115	1902.459	ppb	1.2	1778571	2000	
Pd	105	2	115	-0.005	ppb	-171.2	27	1	
Ag	107	2	115	0.014	ppb	91.8	83	1	
Cd	111	2	115	0.318	ppb	35.9	130	1	
Sn	120	2	115	0.087	ppb	81.6	320	1	
Sb	121	2	115	0.123	ppb	47.3	163	1	
Ba	137	2	115	0.057	ppb	92.0	40	1	
W	182	2	165	0.173	ppb	24.9	2424	1	
Pt	195	2	165	0.002	ppb	202.4	27	1	
Tl	205	2	165	0.006	ppb	165.9	153	1	
Pb	208	2	165	0.072	ppb	16.9	1663	1	
Th	232	2	165	0.016	ppb	29.4	447	1	
U	238	2	165	0.007	ppb	54.9	237	1	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1486347	1.44	1841092	80.73	60	120	
Sc (IS)	45	1	HMI H2	27653313	0.84	34041789	81.23	60	120	
Sc (IS)	45	2	HMI He	860698	1.61	989699	86.97	60	120	
Sc (IS)	45	3	No Gas	46518303	1.93	58466742	79.56	60	120	
Ge Internal Standard	72	1	HMI H2	11148601	0.56	14056514	79.31	60	120	
Ge Internal Standard	72	2	HMI He	989357	0.65	1155188	85.64	60	120	
In Internal Standard	115	2	HMI He	3453871	0.46	3786036	91.23	60	120	
Ho-165	165	2	HMI He	17713968	0.22	18554642	95.47	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB-5405009
Data File Name	149ICSB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T01:06:52-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	232.630	ppb	1.823	257353	100	232.6	80	120	>+\-20%
Li	7	2	45	179.541	ppb	15.377	13590	100	179.5	80	120	>+\-20%
Li	7	3	45	214.281	ppb	3.709	8770034	100	214.3	80	120	>+\-20%
Be	9	1	6	96.272	ppb	2.893	37394	100	96.3	80	120	
B	11	1	6	26.396	ppb	2.317	11442	100	26.4	80	120	>+\-20%
Na	23	1	45	105048.966	ppb	1.292	338736302	100	105049.0	80	120	>+\-20%
K	39	1	45	108583.389	ppb	1.668	356181315	100	108583.4	80	120	>+\-20%
Ca	40	1	45	104676.435	ppb	1.421	511846366	100	104676.4	80	120	>+\-20%
V	51	2	72	91.444	ppb	1.438	94952	100	91.4	80	120	
Cr	52	2	72	90.097	ppb	1.754	118767	100	90.1	80	120	
Mn	55	2	72	98.083	ppb	1.965	47666	100	98.1	80	120	
Co	59	2	72	91.365	ppb	0.949	207857	100	91.4	80	120	
Ni	60	2	72	90.808	ppb	1.012	59088	100	90.8	80	120	
Cu	63	2	72	87.687	ppb	1.725	161276	100	87.7	80	120	
Zn	66	2	72	92.423	ppb	2.263	21697	100	92.4	80	120	
As	75	2	72	89.506	ppb	2.313	14796	100	89.5	80	120	
Se	78	1	72	90.860	ppb	1.293	24855	100	90.9	80	120	
Sr	88	2	72	27.352	ppb	0.511	14348	100	27.4	80	120	>+\-20%
Zr	90	2	72	16.397	ppb	70.621	323	100	16.4	80	120	>+\-20%
Nb	93	2	72	164.210	ppb	0.580	538532	100	164.2	80	120	
Mo	95	2	115	1937.976	ppb	0.365	1824413	100	1938.0	80	120	>+\-20%
Pd	105	2	115	85.416	ppb	1.416	125115	100	85.4	80	120	
Ag	107	2	115	79.876	ppb	0.309	254217	100	79.9	80	120	>+\-20%
Cd	111	2	115	87.897	ppb	2.905	35366	100	87.9	80	120	
Sn	120	2	115	92.122	ppb	1.208	96849	100	92.1	80	120	
Sb	121	2	115	97.146	ppb	1.196	93731	100	97.1	80	120	
Ba	137	2	115	95.269	ppb	2.795	31601	100	95.3	80	120	
W	182	2	165	87.576	ppb	0.115	402610	100	87.6	80	120	
Pt	195	2	165	82.403	ppb	1.064	314859	100	82.4	80	120	
Tl	205	2	165	89.433	ppb	1.045	742143	100	89.4	80	120	
Pb	208	2	165	89.713	ppb	0.599	997419	100	89.7	80	120	
Th	232	2	165	87.321	ppb	0.585	1224965	100	87.3	80	120	
U	238	2	165	94.549	ppb	1.023	1432791	100	94.5	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1455771	0.86	1841092	79.07	60	120	
Sc (IS)	45	1	HMI H2	27736206	1.22	34041789	81.48	60	120	
Sc (IS)	45	2	HMI He	864161	0.93	989699	87.32	60	120	
Sc (IS)	45	3	No Gas	46513961	0.36	58466742	79.56	60	120	
Ge Internal Standard	72	1	HMI H2	11189620	1.09	14056514	79.60	60	120	
Ge Internal Standard	72	2	HMI He	994236	1.77	1155188	86.07	60	120	
In Internal Standard	115	2	HMI He	3477997	0.50	3786036	91.86	60	120	
Ho-165	165	2	HMI He	17708171	0.75	18554642	95.44	60	120	

Sample Report

Sample Table

Sample Name	rinse
Data File Name	150SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T01:10:40-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	049CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-2.403	ppb	-2.403	-68.52	164171	500000	
Be	9	1	6	0.091	ppb	0.091	57.56	53	2000	
B	11	1	6	6.864	ppb	6.864	6.86	3417	2000	
Na	23	1	45	460.242	ppb	460.242	2.46	1792608	2000	
K	39	1	45	319.677	ppb	319.677	3.42	11218063	400000	
Ca	40	1	45	64.426	ppb	64.426	9.95	379683	400000	
Se	78	1	72	0.123	ppb	0.123	62.87	51	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1522354	1.17	1841092	82.69	60	120	
Sc (IS)	45	1	HMI H2	28759052	0.31	34041789	84.48	60	120	
Ge Internal Standard	72	1	HMI H2	11910403	0.51	14056514	84.73	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	151WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T01:59:35-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.033	ppb	-42.32592922	3	0.5
Na	23	2	45	219.375	ppb	3.44950083	71261	25
Mg	24	2	45	-0.074	ppb	-606.4023621	300	25
Al	27	2	45	-0.925	ppb	-76.80576118	70	15
K	39	2	45	-2.001	ppb	-364.6039423	19968	50
Ca	44	2	45	18.292	ppb	84.09971618	80	25
V	51	2	72	-1.178	ppb	-26.55989306	2874	1
Cr	52	2	72	-0.053	ppb	-77.23417306	230	1
Mn	55	2	72	0.050	ppb	158.0429744	123	0.5
Fe	57	2	72	1.545	ppb	38.93708401	273	25
Co	59	2	72	0.006	ppb	190.7070758	37	0.5
Ni	60	2	72	-0.070	ppb	-94.39645333	143	1
Cu	63	2	72	0.177	ppb	78.10815704	1794	1
Zn	66	2	72	-0.236	ppb	-32.85071106	307	5
As	75	2	72	0.060	ppb	112.4357387	29	1
Se	78	1	72	0.031	ppb	125.2899882	27	1
Nb	93	2	72	0.030	ppb	49.41202587	1030	2
Mo	95	2	115	-0.016	ppb	-50.81319061	40	0.5
Pd	105	2	115	-0.009	ppb	-150.6216856	27	1
Ag	107	2	115	0.005	ppb	103.3075264	73	1
Cd	111	2	115	-0.008	ppb	0	0	0.5
Sn	120	2	115	0.043	ppb	208.0977226	353	1
Sb	121	2	115	-0.004	ppb	-621.0973992	53	0.6
Ba	137	2	115	-0.041	ppb	-99.25788656	10	0.5
W	182	2	165	-0.041	ppb	-67.70926263	1734	1
Pt	195	2	165	0.005	ppb	22.43061661	47	1
Tl	205	2	165	-0.001	ppb	-229.1992832	113	0.1
Pb	208	2	165	0.020	ppb	59.87995879	1300	0.5
Th	232	2	165	0.001	ppb	331.1752807	293	1
U	238	2	165	-0.004	ppb	-47.40495412	90	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1573707	0.54	1841092	85.48	60	120	
Sc (IS)	45	1	HMI H2	32358995	0.65	34041789	95.06	60	120	
Sc (IS)	45	2	HMI He	924258	0.63	989699	93.39	60	120	
Sc (IS)	45	3	No Gas	59407536	0.76	58466742	101.61	60	120	
Ge Internal Standard	72	1	HMI H2	13507926	1.35	14056514	96.10	60	120	
Ge Internal Standard	72	2	HMI He	1196079	7.80	1155188	103.54	60	120	
In Internal Standard	115	2	HMI He	4458213	0.77	3786036	117.75	60	120	
Ho-165	165	2	HMI He	21278352	1.10	18554642	114.68	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	152_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:03:22-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	399.792	ppb	2.279	378723	500	80.0	90	110	>+\-10%
Li	7	2	45	406.815	ppb	4.708	20124	500	81.4	90	110	>+\-10%
Li	7	3	45	378.574	ppb	1.089	13567898	500	75.7	90	110	>+\-10%
Be	9	1	6	49.557	ppb	4.642	20925	50	99.1	90	110	
B	11	1	6	50.572	ppb	5.516	23426	50	101.1	90	110	
Na	23	1	45	5389.815	ppb	0.502	20352178	5000	107.8	90	110	
Na	23	2	45	5609.604	ppb	0.295	1313530	5000	112.2	90	110	>+\-10%
Mg	24	2	45	4848.703	ppb	1.927	510946	5000	97.0	90	110	
Al	27	2	45	5400.011	ppb	2.041	134723	5000	108.0	90	110	
K	39	1	45	5717.208	ppb	1.428	32395240	5000	114.3	90	110	>+\-10%
K	39	2	45	5229.061	ppb	0.316	294049	5000	104.6	90	110	
Ca	40	1	45	5277.299	ppb	1.464	29871855	5000	105.5	90	110	
Ca	44	2	45	5559.574	ppb	1.663	15749	5000	111.2	90	110	>+\-10%
Ti	47	2	45	46.062	ppb	10.826	1207	50	92.1	90	110	
V	51	2	72	48.596	ppb	0.633	56082	50	97.2	90	110	
Cr	52	2	72	48.160	ppb	2.192	68415	50	96.3	90	110	
Mn	55	2	72	52.087	ppb	2.400	27267	50	104.2	90	110	
Fe	57	2	72	5022.563	ppb	1.667	129583	5000	100.5	90	110	
Co	59	2	72	48.701	ppb	1.500	119169	50	97.4	90	110	
Ni	60	2	72	48.550	ppb	2.707	34058	50	97.1	90	110	
Cu	63	2	72	46.751	ppb	0.767	93079	50	93.5	90	110	
Zn	66	2	72	46.702	ppb	6.547	11959	50	93.4	90	110	
As	75	2	72	49.293	ppb	0.250	8772	50	98.6	90	110	
Se	78	1	72	43.088	ppb	2.066	14103	50	86.2	90	110	>+\-10%
Sr	88	2	72	54.572	ppb	2.469	30784	50	109.1	90	110	
Zr	90	2	72	31.751	ppb	18.365	590	50	63.5	90	110	>+\-10%
Nb	93	2	72	96.920	ppb	0.499	342199	100	96.9	90	110	
Mo	95	2	115	41.439	ppb	1.648	48176	50	82.9	90	110	>+\-10%
Pd	105	2	115	41.822	ppb	1.381	75586	50	83.6	90	110	>+\-10%
Ag	107	2	115	39.787	ppb	1.384	156220	50	79.6	90	110	>+\-10%
Cd	111	2	115	40.999	ppb	3.220	20346	50	82.0	90	110	>+\-10%
Sn	120	2	115	45.006	ppb	0.441	58510	50	90.0	90	110	
Sb	121	2	115	43.723	ppb	1.345	52065	50	87.4	90	110	>+\-10%
Ba	137	2	115	44.368	ppb	2.285	18166	50	88.7	90	110	>+\-10%
W	182	2	165	40.244	ppb	1.221	220921	50	80.5	90	110	>+\-10%
Pt	195	2	165	38.264	ppb	0.645	173773	50	76.5	90	110	>+\-10%
Tl	205	2	165	41.936	ppb	0.830	413631	50	83.9	90	110	>+\-10%
Pb	208	2	165	42.013	ppb	1.593	555621	50	84.0	90	110	>+\-10%
Th	232	2	165	39.477	ppb	0.757	658239	50	79.0	90	110	>+\-10%
U	238	2	165	39.167	ppb	0.500	705418	50	78.3	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1581632	0.56	1841092	85.91	60	120	
Sc (IS)	45	1	HMI H2	32046041	0.77	34041789	94.14	60	120	
Sc (IS)	45	2	HMI He	918834	1.35	989699	92.84	60	120	
Sc (IS)	45	3	No Gas	56223861	0.94	58466742	96.16	60	120	
Ge Internal Standard	72	1	HMI H2	13382026	1.14	14056514	95.20	60	120	
Ge Internal Standard	72	2	HMI He	1069325	1.22	1155188	92.57	60	120	
In Internal Standard	115	2	HMI He	4290097	0.65	3786036	113.31	60	120	
Ho-165	165	2	HMI He	21043850	0.81	18554642	113.42	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	153_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:07:08-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-47.087	ppb	-11.0	5868338	10	
Be	9	1	6	0.037	ppb	36.3	33	0.5	
B	11	1	6	3.547	ppb	10.4	2067	0.5	>RL
Na	23	1	45	164.594	ppb	0.9	888277	25	>RL
Na	23	2	45	156.998	ppb	2.0	56438	25	>RL
Mg	24	2	45	1.115	ppb	29.0	423	25	
Al	27	2	45	0.695	ppb	306.3	110	15	
K	39	1	45	237.881	ppb	8.0	12084589	50	>RL
K	39	2	45	-16.055	ppb	-30.9	19103	50	
Ca	40	1	45	1.311	ppb	36.4	65846	50	
Ca	44	2	45	4.277	ppb	143.0	40	25	
Ti	47	2	45	0.011	ppb	1946.9	3	0.5	
V	51	2	72	-0.430	ppb	-23.5	3367	1	
Cr	52	2	72	0.013	ppb	148.1	300	1	
Mn	55	2	72	0.014	ppb	836.4	93	0.5	
Fe	57	2	72	1.220	ppb	151.1	233	25	
Co	59	2	72	0.006	ppb	67.4	30	0.5	
Ni	60	2	72	-0.005	ppb	-2768.5	173	1	
Cu	63	2	72	0.293	ppb	20.3	1817	1	
Zn	66	2	72	-0.218	ppb	-138.5	277	5	
As	75	2	72	0.074	ppb	91.1	27	1	
Se	78	1	72	0.048	ppb	88.8	32	1	
Sr	88	2	72	0.019	ppb	161.8	20	0.5	
Zr	90	2	72	-0.124	ppb	-3284.6	90	1	
Nb	93	2	72	2.393	ppb	15.5	9190	2	>RL
Mo	95	2	115	0.023	ppb	98.8	83	0.5	
Pd	105	2	115	0.008	ppb	107.0	57	1	
Ag	107	2	115	0.005	ppb	84.1	70	1	
Cd	111	2	115	0.013	ppb	162.1	10	0.5	
Sn	120	2	115	0.021	ppb	45.2	313	1	
Sb	121	2	115	0.192	ppb	40.1	287	0.6	
Ba	137	2	115	-0.024	ppb	-58.5	17	0.5	
W	182	2	165	-0.003	ppb	-1341.3	1884	1	
Pt	195	2	165	0.014	ppb	38.1	87	1	
Tl	205	2	165	0.013	ppb	96.8	243	0.1	
Pb	208	2	165	0.011	ppb	131.2	1147	0.5	
Th	232	2	165	0.034	ppb	26.4	807	1	
U	238	2	165	0.012	ppb	36.6	367	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1602306	1.07	1841092	87.03	60	120	
Sc (IS)	45	1	HMI H2	31747435	1.11	34041789	93.26	60	120	
Sc (IS)	45	2	HMI He	918250	1.27	989699	92.78	60	120	
Sc (IS)	45	3	No Gas	56104557	1.90	58466742	95.96	60	120	
Ge Internal Standard	72	1	HMI H2	13257430	0.12	14056514	94.32	60	120	
Ge Internal Standard	72	2	HMI He	1062113	0.96	1155188	91.94	60	120	
In Internal Standard	115	2	HMI He	4314187	1.29	3786036	113.95	60	120	
Ho-165	165	2	HMI He	20622802	0.81	18554642	111.15	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	154WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:10:56-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.003	ppb	-1200.473175	17	0.5
Na	23	2	45	150.814	ppb	0.750876034	55043	25
Mg	24	2	45	-0.059	ppb	-903.307891	300	25
Al	27	2	45	1.097	ppb	98.21174287	120	15
K	39	2	45	-4.458	ppb	-76.33771679	19721	50
Ca	44	2	45	14.896	ppb	48.12972939	70	25
V	51	2	72	-0.453	ppb	-36.37130636	3317	1
Cr	52	2	72	-0.059	ppb	-41.42386325	197	1
Mn	55	2	72	-0.003	ppb	-4312.534938	83	0.5
Fe	57	2	72	2.074	ppb	146.9474546	253	25
Co	59	2	72	0.012	ppb	89.1051745	43	0.5
Ni	60	2	72	-0.048	ppb	-183.1336184	143	1
Cu	63	2	72	0.071	ppb	132.7507935	1373	1
Zn	66	2	72	-0.320	ppb	-26.73222293	250	5
As	75	2	72	0.060	ppb	29.59180817	25	1
Se	78	1	72	-0.030	ppb	-64.00810663	7	1
Nb	93	2	72	1.093	ppb	12.54759951	4604	2
Mo	95	2	115	-0.029	ppb	-61.90127955	23	0.5
Pd	105	2	115	0.004	ppb	323.5920066	50	1
Ag	107	2	115	0.004	ppb	259.1082763	67	1
Cd	111	2	115	-0.008	ppb	0	0	0.5
Sn	120	2	115	-0.022	ppb	-324.8346949	257	1
Sb	121	2	115	0.047	ppb	36.38981451	113	0.6
Ba	137	2	115	0.065	ppb	77.27863987	53	0.5
W	182	2	165	-0.023	ppb	-158.0855746	1780	1
Pt	195	2	165	0.008	ppb	106.2136568	60	1
Tl	205	2	165	0.003	ppb	148.2564495	147	0.1
Pb	208	2	165	0.013	ppb	100.3330836	1177	0.5
Th	232	2	165	0.012	ppb	14.69009366	463	1
U	238	2	165	-0.001	ppb	-381.3106776	140	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1622793	3.55	1841092	88.14	60	120	
Sc (IS)	45	1	HMI H2	31564249	0.46	34041789	92.72	60	120	
Sc (IS)	45	2	HMI He	918839	0.57	989699	92.84	60	120	
Sc (IS)	45	3	No Gas	54943399	0.16	58466742	93.97	60	120	
Ge Internal Standard	72	1	HMI H2	13212235	0.90	14056514	93.99	60	120	
Ge Internal Standard	72	2	HMI He	1054465	0.75	1155188	91.28	60	120	
In Internal Standard	115	2	HMI He	4307847	0.48	3786036	113.78	60	120	
Ho-165	165	2	HMI He	20680256	0.63	18554642	111.46	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	155WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:14:43-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.033	ppb	-41.09124162	3	0.5
Na	23	2	45	131.967	ppb	1.137899469	50179	25
Mg	24	2	45	0.709	ppb	106.0193718	377	25
Al	27	2	45	1.149	ppb	216.0151907	120	15
K	39	2	45	-2.820	ppb	-349.7807452	19607	50
Ca	44	2	45	17.418	ppb	101.6471603	77	25
V	51	2	72	-0.536	ppb	-52.07989969	3231	1
Cr	52	2	72	-0.028	ppb	-155.0643767	240	1
Mn	55	2	72	0.022	ppb	305.0305086	97	0.5
Fe	57	2	72	2.333	ppb	80.97964837	260	25
Co	59	2	72	-0.001	ppb	-724.1515408	13	0.5
Ni	60	2	72	-0.077	ppb	-209.046218	123	1
Cu	63	2	72	0.011	ppb	692.4414153	1257	1
Zn	66	2	72	0.168	ppb	230.2056306	370	5
As	75	2	72	0.072	ppb	132.2279364	27	1
Se	78	1	72	-0.009	ppb	-73.14106882	13	1
Nb	93	2	72	0.729	ppb	13.07679802	3341	2
Mo	95	2	115	0.017	ppb	143.8179999	77	0.5
Pd	105	2	115	-0.017	ppb	-31.92873714	10	1
Ag	107	2	115	0.001	ppb	354.3806504	53	1
Cd	111	2	115	-0.008	ppb	0	0	0.5
Sn	120	2	115	0.012	ppb	259.0172578	300	1
Sb	121	2	115	0.020	ppb	42.5842389	80	0.6
Ba	137	2	115	-0.024	ppb	-158.9378685	17	0.5
W	182	2	165	-0.031	ppb	-61.30967771	1727	1
Pt	195	2	165	0.003	ppb	159.3206014	37	1
Tl	205	2	165	0.001	ppb	108.3882132	123	0.1
Pb	208	2	165	0.005	ppb	149.1656744	1067	0.5
Th	232	2	165	0.005	ppb	129.6220897	340	1
U	238	2	165	0.000	ppb	4674.407904	160	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1613797	1.34	1841092	87.65	60	120	
Sc (IS)	45	1	HMI H2	31791544	0.22	34041789	93.39	60	120	
Sc (IS)	45	2	HMI He	909453	0.87	989699	91.89	60	120	
Sc (IS)	45	3	No Gas	55013824	0.14	58466742	94.09	60	120	
Ge Internal Standard	72	1	HMI H2	13213199	0.81	14056514	94.00	60	120	
Ge Internal Standard	72	2	HMI He	1054661	0.83	1155188	91.30	60	120	
In Internal Standard	115	2	HMI He	4284297	0.67	3786036	113.16	60	120	
Ho-165	165	2	HMI He	20535178	0.36	18554642	110.67	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	156WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:18:31-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.017	ppb	-1.202301003	10	0.5
Na	23	2	45	118.178	ppb	4.387727604	46962	25
Mg	24	2	45	-0.056	ppb	-690.3515164	297	25
Al	27	2	45	0.336	ppb	431.9847373	100	15
K	39	2	45	-4.572	ppb	-174.2469069	19484	50
Ca	44	2	45	14.015	ppb	54.48485139	67	25
V	51	2	72	-0.692	ppb	-16.5248854	3034	1
Cr	52	2	72	0.002	ppb	1534.349034	280	1
Mn	55	2	72	0.096	ppb	23.08508106	133	0.5
Fe	57	2	72	1.508	ppb	108.4197541	237	25
Co	59	2	72	0.002	ppb	546.9952215	20	0.5
Ni	60	2	72	-0.026	ppb	-279.8563716	157	1
Cu	63	2	72	0.077	ppb	102.7035853	1370	1
Zn	66	2	72	-0.296	ppb	-33.75351872	253	5
As	75	2	72	0.073	ppb	72.13542087	27	1
Se	78	1	72	0.008	ppb	411.8566421	19	1
Nb	93	2	72	0.487	ppb	28.97353569	2470	2
Mo	95	2	115	0.003	ppb	700.1939214	60	0.5
Pd	105	2	115	-0.008	ppb	-192.4897433	27	1
Ag	107	2	115	-0.006	ppb	-73.13394456	27	1
Cd	111	2	115	0.006	ppb	400.5095034	7	0.5
Sn	120	2	115	0.006	ppb	1248.230138	287	1
Sb	121	2	115	0.001	ppb	2306.279969	57	0.6
Ba	137	2	115	-0.015	ppb	-431.5302963	20	0.5
W	182	2	165	-0.029	ppb	-21.87944035	1730	1
Pt	195	2	165	0.007	ppb	92.17343407	53	1
Tl	205	2	165	-0.006	ppb	-64.80993796	63	0.1
Pb	208	2	165	0.003	ppb	253.113498	1037	0.5
Th	232	2	165	0.002	ppb	384.3866843	293	1
U	238	2	165	-0.002	ppb	-179.2970112	130	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1606194	0.89	1841092	87.24	60	120	
Sc (IS)	45	1	HMI H2	31847283	0.90	34041789	93.55	60	120	
Sc (IS)	45	2	HMI He	908086	0.75	989699	91.75	60	120	
Sc (IS)	45	3	No Gas	54224471	0.41	58466742	92.74	60	120	
Ge Internal Standard	72	1	HMI H2	13127054	0.14	14056514	93.39	60	120	
Ge Internal Standard	72	2	HMI He	1043419	0.40	1155188	90.32	60	120	
In Internal Standard	115	2	HMI He	4231728	1.98	3786036	111.77	60	120	
Ho-165	165	2	HMI He	20429403	0.33	18554642	110.10	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	157WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:22:18-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	049CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.018	ppb	-127.4353298	10	0.5
Na	23	2	45	99.048	ppb	8.891250328	42271	25
Mg	24	2	45	0.066	ppb	939.9002536	307	25
Al	27	2	45	0.085	ppb	1882.825102	93	15
K	39	2	45	-6.438	ppb	-101.5731721	19247	50
Ca	44	2	45	-0.278	ppb	-1979.61568	27	25
V	51	2	72	-0.516	ppb	-33.07811188	3184	1
Cr	52	2	72	0.005	ppb	1417.907887	280	1
Mn	55	2	72	0.033	ppb	157.4933624	100	0.5
Fe	57	2	72	0.535	ppb	167.8227296	210	25
Co	59	2	72	0.004	ppb	72.74693385	23	0.5
Ni	60	2	72	-0.097	ppb	-40.77867446	107	1
Cu	63	2	72	0.110	ppb	23.55359579	1420	1
Zn	66	2	72	-0.062	ppb	-512.4331838	307	5
As	75	2	72	0.066	ppb	58.22222099	25	1
Se	78	1	72	-0.013	ppb	-159.7899955	12	1
Nb	93	2	72	0.302	ppb	33.41121029	1820	2
Mo	95	2	115	-0.026	ppb	-102.6090273	27	0.5
Pd	105	2	115	-0.017	ppb	-32.06367808	10	1
Ag	107	2	115	-0.005	ppb	-192.5137259	30	1
Cd	111	2	115	0.006	ppb	401.4458687	7	0.5
Sn	120	2	115	-0.057	ppb	-21.2016658	207	1
Sb	121	2	115	0.029	ppb	144.9273486	90	0.6
Ba	137	2	115	-0.023	ppb	-218.9985434	17	0.5
W	182	2	165	-0.013	ppb	-388.7302371	1800	1
Pt	195	2	165	0.003	ppb	40.99327816	37	1
Tl	205	2	165	0.002	ppb	181.3591945	133	0.1
Pb	208	2	165	0.000	ppb	2854.633983	990	0.5
Th	232	2	165	0.004	ppb	30.54366189	317	1
U	238	2	165	-0.003	ppb	-65.75237432	103	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1649677	0.18	1841092	89.60	60	120	
Sc (IS)	45	1	HMI H2	31686324	0.51	34041789	93.08	60	120	
Sc (IS)	45	2	HMI He	901295	1.78	989699	91.07	60	120	
Sc (IS)	45	3	No Gas	54180566	0.48	58466742	92.67	60	120	
Ge Internal Standard	72	1	HMI H2	13239696	0.28	14056514	94.19	60	120	
Ge Internal Standard	72	2	HMI He	1033111	1.55	1155188	89.43	60	120	
In Internal Standard	115	2	HMI He	4226548	1.24	3786036	111.64	60	120	
Ho-165	165	2	HMI He	20258965	1.32	18554642	109.19	60	120	

Calibration Blank Report

Sample Table

Sample Name	ICIS-5408711
Data File Name	158CALB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:26:05-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	164683	0.00
Li	7	2	HMI He	8796	0.03
Li	7	3	No Gas	5867720	0.00
Be	9	1	HMI H2	10	1000.00
B	11	1	HMI H2	1413	0.60
Na	23	1	HMI H2	615928	0.00
Na	23	2	HMI He	39668	0.00
Mg	24	2	HMI He	400	5.96
Al	27	2	HMI He	40	225.35
K	39	2	HMI He	19120	0.02
Ca	44	2	HMI He	53	146.37
Ti	47	2	HMI He	0	#VALUE!
V	51	2	HMI He	3211	0.28
Cr	52	2	HMI He	303	16.85
Mn	55	2	HMI He	53	20.30
Fe	57	2	HMI He	153	20.10
Co	59	2	HMI He	7	2598.08
Ni	60	2	HMI He	163	9.43
Cu	63	2	HMI He	1293	0.54
Zn	66	2	HMI He	287	4.92
As	75	2	HMI He	35	111.21
Se	78	1	HMI H2	15	387.09
Sr	88	2	HMI He	47	70.14
Zr	90	2	HMI He	80	0.00
Nb	93	2	HMI He	1227	0.17
Mo	95	2	HMI He	43	153.73
Pd	105	2	HMI He	33	137.48
Ag	107	2	HMI He	70	35.36
Cd	111	2	HMI He	0	#VALUE!
Sn	120	2	HMI He	167	20.47
Sb	121	2	HMI He	57	64.83
Ba	137	2	HMI He	3	5196.15
W	182	2	HMI He	1584	0.46
Pt	195	2	HMI He	40	62.50
Tl	205	2	HMI He	120	6.94
Pb	208	2	HMI He	867	1.63
Th	232	2	HMI He	303	6.99
U	238	2	HMI He	130	32.95

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li-6 Internal Standard	6	1	HMI H2	1639580	1.51
Sc (IS)	45	1	HMI H2	31715490	0.55
Sc (IS)	45	2	HMI He	891522	0.49
Sc (IS)	45	3	No Gas	54087154	1.33
Ge Internal Standard	72	1	HMI H2	13102322	0.45
Ge Internal Standard	72	2	HMI He	1026205	0.67
In Internal Standard	115	2	HMI He	4195206	0.29
Ho-165	165	2	HMI He	20206547	0.95

Calibration Standard Report

Sample Table

Sample Name	IC-5408712
Data File Name	159CALS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:29:51-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	594929	0.00
Li	7	2	HMI He	30559	0.02
Li	7	3	No Gas	20823598	0.00
Be	9	1	HMI H2	40141	0.01
B	11	1	HMI H2	45042	0.00
Na	23	1	HMI H2	37521249	0.00
Na	23	2	HMI He	2375218	0.00
Mg	24	2	HMI He	1108088	0.00
Al	27	2	HMI He	253189	0.00
K	39	1	HMI H2	49680786	0.00
K	39	2	HMI He	533228	0.00
Ca	40	1	HMI H2	56368594	0.00
Ca	44	2	HMI He	29233	0.01
Ti	47	2	HMI He	2350	0.39
V	51	2	HMI He	104010	0.00
Cr	52	2	HMI He	129788	0.00
Mn	55	2	HMI He	51499	0.00
Fe	57	2	HMI He	242883	0.00
Co	59	2	HMI He	222389	0.00
Ni	60	2	HMI He	63178	0.00
Cu	63	2	HMI He	174030	0.00
Zn	66	2	HMI He	23440	0.02
As	75	2	HMI He	16978	0.00
Se	78	1	HMI H2	27352	0.00
Sr	88	2	HMI He	57303	0.00
Zr	90	2	HMI He	857	0.75
Nb	93	2	HMI He	692868	0.00
Mo	95	2	HMI He	90194	0.00
Pd	105	2	HMI He	137354	0.00
Ag	107	2	HMI He	294002	0.00
Cd	111	2	HMI He	38083	0.01
Sn	120	2	HMI He	106429	0.00
Sb	121	2	HMI He	97504	0.00
Ba	137	2	HMI He	33649	0.01
Nd	146	2	HMI He	120204	0.00
Sm	147	2	HMI He	103704	0.00
Sm	150	2	HMI He	100733	0.00
Gd	156	1	HMI H2	608556	0.00
Gd	157	1	HMI H2	466610	0.00
W	182	2	HMI He	426984	0.00
Pt	195	2	HMI He	342204	0.00
Tl	205	2	HMI He	791700	0.00
Pb	208	2	HMI He	1056137	0.00
Th	232	2	HMI He	1637306	0.00
U	238	2	HMI He	1722378	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1578413	2.14	1639580	96.27	60	120	
Sc (IS)	45	1	HMI H2	31114225	0.25	31715490	98.10	60	120	
Sc (IS)	45	2	HMI He	884793	0.85	891522	99.25	60	120	
Sc (IS)	45	3	No Gas	52024684	0.69	54087154	96.19	60	120	
Ge Internal Standard	72	1	HMI H2	12827905	0.46	13102322	97.91	60	120	
Ge Internal Standard	72	2	HMI He	1013985	0.71	1026205	98.81	60	120	
In Internal Standard	115	2	HMI He	4055304	1.34	4195206	96.67	60	120	
Ho-165	165	2	HMI He	20014586	0.84	20206547	99.05	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	160_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:33:37-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	521.762	ppb	0.820	381939	500	104.4	90	110	
Li	7	2	45	528.323	ppb	7.015	20311	500	105.7	90	110	
Li	7	3	45	515.109	ppb	0.696	13551261	500	103.0	90	110	
Be	9	1	6	51.094	ppb	1.325	20448	50	102.2	90	110	
B	11	1	6	49.018	ppb	2.830	22708	50	98.0	90	110	
Na	23	1	45	5241.916	ppb	1.021	19660278	5000	104.8	90	110	
Na	23	2	45	5238.040	ppb	1.162	1266117	5000	104.8	90	110	
Mg	24	2	45	4503.432	ppb	0.929	500469	5000	90.1	90	110	
Al	27	2	45	5148.613	ppb	1.012	130725	5000	103.0	90	110	
K	39	1	45	5304.087	ppb	1.016	31345595	5000	106.1	90	110	
K	39	2	45	5158.934	ppb	0.674	284991	5000	103.2	90	110	
Ca	40	1	45	5242.136	ppb	0.557	29137493	5000	104.8	90	110	
Ca	44	2	45	5250.908	ppb	3.869	15412	5000	105.0	90	110	
Ti	47	2	45	51.496	ppb	6.503	1213	50	103.0	90	110	
V	51	2	72	51.319	ppb	0.812	55085	50	102.6	90	110	
Cr	52	2	72	51.304	ppb	2.090	66918	50	102.6	90	110	
Mn	55	2	72	49.986	ppb	2.866	25841	50	100.0	90	110	
Fe	57	2	72	5160.757	ppb	3.066	125753	5000	103.2	90	110	
Co	59	2	72	51.234	ppb	1.121	114277	50	102.5	90	110	
Ni	60	2	72	50.545	ppb	0.609	32110	50	101.1	90	110	
Cu	63	2	72	51.269	ppb	1.334	90109	50	102.5	90	110	
Zn	66	2	72	50.072	ppb	2.561	11915	50	100.1	90	110	
As	75	2	72	49.494	ppb	0.104	8446	50	99.0	90	110	
Se	78	1	72	51.485	ppb	2.677	13918	50	103.0	90	110	
Sr	88	2	72	51.927	ppb	0.919	29869	50	103.9	90	110	
Zr	90	2	72	46.775	ppb	25.293	443	50	93.5	90	110	
Nb	93	2	72	100.811	ppb	0.607	350870	100	100.8	90	110	
Mo	95	2	115	50.765	ppb	3.167	45655	50	101.5	90	110	
Pd	105	2	115	53.622	ppb	1.083	73452	50	107.2	90	110	
Ag	107	2	115	51.724	ppb	0.657	151625	50	103.4	90	110	
Cd	111	2	115	52.568	ppb	1.109	19952	50	105.1	90	110	
Sn	120	2	115	50.725	ppb	1.012	53896	50	101.5	90	110	
Sb	121	2	115	51.631	ppb	1.433	50218	50	103.3	90	110	
Ba	137	2	115	48.694	ppb	3.234	16337	50	97.4	90	110	
W	182	2	165	50.961	ppb	1.036	217586	50	101.9	90	110	
Pt	195	2	165	51.333	ppb	1.160	175069	50	102.7	90	110	
Tl	205	2	165	51.061	ppb	1.851	402845	50	102.1	90	110	
Pb	208	2	165	51.011	ppb	0.740	537229	50	102.0	90	110	
Th	232	2	165	39.143	ppb	1.119	638807	50	78.3	90	110	>+\-10%
U	238	2	165	39.905	ppb	1.257	684910	50	79.8	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1573269	1.00	1639580	95.96	60	120	
Sc (IS)	45	1	HMI H2	30653600	0.27	31715490	96.65	60	120	
Sc (IS)	45	2	HMI He	887027	0.80	891522	99.50	60	120	
Sc (IS)	45	3	No Gas	52360879	0.27	54087154	96.81	60	120	
Ge Internal Standard	72	1	HMI H2	12671469	0.25	13102322	96.71	60	120	
Ge Internal Standard	72	2	HMI He	1017021	1.49	1026205	99.11	60	120	
In Internal Standard	115	2	HMI He	4042475	1.61	4195206	96.36	60	120	
Ho-165	165	2	HMI He	19943853	1.37	20206547	98.70	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	161_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:37:23-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	8.340	ppb	27.0	5973635	10	
Be	9	1	6	0.032	ppb	113.4	23	0.5	
B	11	1	6	0.496	ppb	62.6	1657	0.5	
Na	23	1	45	-28.829	ppb	-9.9	520185	25	
Na	23	2	45	-21.333	ppb	-12.7	34354	25	
Mg	24	2	45	-0.240	ppb	-84.2	370	25	
Al	27	2	45	4.622	ppb	19.8	157	15	
K	39	1	45	-82.518	ppb	-74.9	11832843	50	
K	39	2	45	0.646	ppb	1472.7	18993	50	
Ca	40	1	45	1.502	ppb	31.2	65557	50	
Ca	44	2	45	-5.542	ppb	-37.0	37	25	
Ti	47	2	45	0.290	ppb	173.2	7	0.5	
V	51	2	72	0.551	ppb	8.8	3751	1	
Cr	52	2	72	-0.069	ppb	-76.4	210	1	
Mn	55	2	72	0.066	ppb	125.4	87	0.5	
Fe	57	2	72	2.064	ppb	144.2	203	25	
Co	59	2	72	0.018	ppb	54.0	47	0.5	
Ni	60	2	72	-0.040	ppb	-232.6	137	1	
Cu	63	2	72	0.091	ppb	84.2	1443	1	
Zn	66	2	72	-0.106	ppb	-200.0	260	5	
As	75	2	72	-0.045	ppb	-34.5	27	1	
Se	78	1	72	0.092	ppb	46.1	41	1	
Sr	88	2	72	-0.040	ppb	-24.3	23	0.5	
Zr	90	2	72	0.453	ppb	876.7	83	1	
Nb	93	2	72	2.703	ppb	8.8	10635	2	>RL
Mo	95	2	115	0.047	ppb	83.0	87	0.5	
Pd	105	2	115	0.048	ppb	73.5	100	1	
Ag	107	2	115	0.026	ppb	116.3	147	1	
Cd	111	2	115	0.034	ppb	86.7	13	0.5	
Sn	120	2	115	0.133	ppb	89.7	310	1	
Sb	121	2	115	0.291	ppb	33.7	347	0.6	
Ba	137	2	115	0.058	ppb	103.8	23	0.5	
W	182	2	165	0.077	ppb	30.8	1904	1	
Pt	195	2	165	0.016	ppb	111.9	93	1	
Tl	205	2	165	0.033	ppb	12.0	383	0.1	
Pb	208	2	165	0.015	ppb	122.3	1023	0.5	
Th	232	2	165	0.028	ppb	33.3	753	1	
U	238	2	165	0.021	ppb	48.3	500	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1657573	1.72	1639580	101.10	60	120	
Sc (IS)	45	1	HMI H2	32520100	2.00	31715490	102.54	60	120	
Sc (IS)	45	2	HMI He	884090	1.79	891522	99.17	60	120	
Sc (IS)	45	3	No Gas	53844321	0.79	54087154	99.55	60	120	
Ge Internal Standard	72	1	HMI H2	13420348	2.35	13102322	102.43	60	120	
Ge Internal Standard	72	2	HMI He	1020446	1.63	1026205	99.44	60	120	
In Internal Standard	115	2	HMI He	4137158	2.16	4195206	98.62	60	120	
Ho-165	165	2	HMI He	20098051	1.70	20206547	99.46	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	162LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:41:11-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	17.767	ppb	44.271	6096151	50	35.5	70	130	>+/-30%
Be	9	1	6	1.067	ppb	21.019	453	1	106.7	70	130	
Na	23	2	45	22.452	ppb	8.259	44113	50	44.9	70	130	>+/-30%
Mg	24	2	45	46.221	ppb	7.827	5451	50	92.4	70	130	
Al	27	2	45	40.224	ppb	9.638	1047	30	134.1	70	130	>+/-30%
K	39	2	45	103.710	ppb	10.168	24034	100	103.7	70	130	
Ca	44	2	45	46.649	ppb	48.528	187	50	93.3	70	130	
V	51	2	72	5.141	ppb	7.824	8253	5	102.8	70	130	
Cr	52	2	72	2.051	ppb	13.784	2920	2	102.6	70	130	
Mn	55	2	72	1.100	ppb	30.103	610	1	110.0	70	130	
Fe	57	2	72	58.757	ppb	20.225	1557	50	117.5	70	130	
Co	59	2	72	1.143	ppb	9.914	2517	1	114.3	70	130	
Ni	60	2	72	2.096	ppb	8.047	1463	2	104.8	70	130	
Cu	63	2	72	2.122	ppb	14.130	4881	2	106.1	70	130	
Zn	66	2	72	9.682	ppb	11.738	2494	10	96.8	70	130	
As	75	2	72	4.599	ppb	2.804	803	5	92.0	70	130	
Se	78	1	72	5.373	ppb	7.196	1499	5	107.5	70	130	
Sr	88	2	72	0.993	ppb	7.567	607	1	99.3	70	130	
Zr	90	2	72	5.883	ppb	146.491	123	0.5	1176.6	70	130	>+/-30%
Nb	93	2	72	6.480	ppb	7.876	23323	2	324.0	70	130	>+/-30%
Mo	95	2	115	2.137	ppb	4.693	1964	2	106.8	70	130	
Pd	105	2	115	0.042	ppb	62.610	90	1	4.2	70	130	>+/-30%
Ag	107	2	115	5.339	ppb	1.235	15719	5	106.8	70	130	
Cd	111	2	115	0.897	ppb	21.491	340	1	89.7	70	130	
Sn	120	2	115	10.431	ppb	5.571	11212	10	104.3	70	130	
Sb	121	2	115	2.210	ppb	12.309	2204	2	110.5	70	130	
Ba	137	2	115	0.846	ppb	38.297	287	1	84.6	70	130	
W	182	2	165	5.186	ppb	5.823	23218	1	518.6	70	130	>+/-30%
Pt	195	2	165	0.015	ppb	39.666	90	1	1.5	70	130	>+/-30%
Tl	205	2	165	1.000	ppb	5.436	7893	1	100.0	70	130	
Pb	208	2	165	0.996	ppb	6.451	11169	1	99.6	70	130	
Th	232	2	165	1.677	ppb	4.490	27276	2	83.9	70	130	
U	238	2	165	0.859	ppb	4.296	14656	1	85.9	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1634568	0.08	1639580	99.69	60	120	
Sc (IS)	45	1	HMI H2	30977081	0.51	31715490	97.67	60	120	
Sc (IS)	45	2	HMI He	874991	1.92	891522	98.15	60	120	
Sc (IS)	45	3	No Gas	53625328	0.92	54087154	99.15	60	120	
Ge Internal Standard	72	1	HMI H2	12960789	0.33	13102322	98.92	60	120	
Ge Internal Standard	72	2	HMI He	1001550	0.82	1026205	97.60	60	120	
In Internal Standard	115	2	HMI He	4044713	1.32	4195206	96.41	60	120	
Ho-165	165	2	HMI He	19675559	1.85	20206547	97.37	60	120	

Blank Report

Sample Table

Sample Name	mb 280-434890/1-a
Data File Name	163_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:44:59-06:00
Sample Type	Blank
Dilution	1
Comment	434890 6020
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	3.170	ppb	456.2325897	165288	0.5
Li	7	2	45	0.974	ppb	1159.043964	8740	0.5
Li	7	3	45	-0.419	ppb	-363.3650504	5795265	10
Be	9	1	6	0.010	ppb	399.6596213	13	0.5
B	11	1	6	-0.185	ppb	-310.4598055	1293	0.5
Na	23	1	45	-39.122	ppb	-23.3446802	465734	25
Na	23	2	45	-26.758	ppb	-20.17387693	33075	25
Mg	24	2	45	2.019	ppb	23.38897604	620	25
Al	27	2	45	11.494	ppb	18.36428308	330	15
K	39	1	45	-1406.333	ppb	-7.51334256	6371206	50
K	39	2	45	-7.951	ppb	-66.35272618	18539	50
Ca	40	1	45	18.846	ppb	17.6984081	162131	50
Ca	44	2	45	3.562	ppb	304.073141	63	25
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5
V	51	2	72	-0.923	ppb	-11.21834148	2244	1
Cr	52	2	72	0.080	ppb	68.87323746	403	1
Mn	55	2	72	0.292	ppb	42.21370313	203	0.5
Fe	57	2	72	15.982	ppb	25.14609769	540	25
Co	59	2	72	0.020	ppb	70.01803175	50	0.5
Ni	60	2	72	0.029	ppb	144.7832585	180	1
Cu	63	2	72	0.056	ppb	98.26528828	1377	1
Zn	66	2	72	1.996	ppb	10.07515003	747	5
As	75	2	72	-0.025	ppb	-266.132687	30	1
Se	78	1	72	-0.010	ppb	-265.5054436	12	1
Sr	88	2	72	0.053	ppb	66.33640278	77	0.5
Zr	90	2	72	-1.993	ppb	-307.2315084	63	1
Nb	93	2	72	0.399	ppb	7.567526772	2597	2
Mo	95	2	115	-0.017	ppb	-198.9373459	27	0.5
Pd	105	2	115	-0.007	ppb	-168.6109348	23	1
Ag	107	2	115	-0.002	ppb	-499.6088531	63	1
Cd	111	2	115	0.026	ppb	173.2050808	10	0.5
Sn	120	2	115	0.157	ppb	20.58929254	333	1
Sb	121	2	115	0.062	ppb	6.966067026	117	0.6
Ba	137	2	115	0.157	ppb	29.70689151	57	0.5
W	182	2	165	0.017	ppb	89.41337496	1634	1
Pt	195	2	165	-0.001	ppb	-905.1220714	37	1
Tl	205	2	165	0.001	ppb	581.2997232	127	0.1
Pb	208	2	165	0.063	ppb	20.52680147	1520	0.5
Th	232	2	165	0.010	ppb	80.68054862	470	1
U	238	2	165	0.002	ppb	143.3167518	167	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1600944	3.25	1639580	97.64	60	120	
Sc (IS)	45	1	HMI H2	31622915	7.26	31715490	99.71	60	120	
Sc (IS)	45	2	HMI He	883458	0.89	891522	99.10	60	120	
Sc (IS)	45	3	No Gas	53468468	0.72	54087154	98.86	60	120	
Ge Internal Standard	72	1	HMI H2	13002490	5.27	13102322	99.24	60	120	
Ge Internal Standard	72	2	HMI He	1015418	0.98	1026205	98.95	60	120	
In Internal Standard	115	2	HMI He	4119574	1.34	4195206	98.20	60	120	
Ho-165	165	2	HMI He	19957692	0.70	20206547	98.77	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-434890/2-a
Data File Name	164_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:48:47-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	434890 6020
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	82.669	82.669	ppb	5.891	196971	400	20.7	80	120	>+/-20%
Li	7	2	45	91.234	91.234	ppb	20.940	10864	400	22.8	80	120	>+/-20%
Li	7	3	45	87.123	87.123	ppb	2.115	7061969	400	21.8	80	120	>+/-20%
Be	9	1	6	41.180	41.180	ppb	1.976	16700	40	102.9	80	120	
Na	23	2	45	-34.574	-34.574	ppb	-11.571	31725	40	-86.4	80	120	>+/-20%
Mg	24	2	45	1.697	1.697	ppb	34.728	593	40	4.2	80	120	>+/-20%
Al	27	2	45	416.550	416.550	ppb	1.299	10731	40	1041.4	80	120	>+/-20%
K	39	2	45	-8.248	-8.248	ppb	-49.140	18803	40	-20.6	80	120	>+/-20%
Ca	44	2	45	261.659	261.659	ppb	27.644	827	40	654.1	80	120	>+/-20%
V	51	2	72	39.697	39.697	ppb	1.830	43513	40	99.2	80	120	
Cr	52	2	72	41.638	41.638	ppb	3.021	54603	40	104.1	80	120	
Mn	55	2	72	40.368	40.368	ppb	3.579	20966	40	100.9	80	120	
Fe	57	2	72	434.605	434.605	ppb	5.510	10775	40	1086.5	80	120	>+/-20%
Co	59	2	72	41.554	41.554	ppb	1.053	93071	40	103.9	80	120	
Ni	60	2	72	41.093	41.093	ppb	1.202	26242	40	102.7	80	120	
Cu	63	2	72	42.015	42.015	ppb	1.305	74381	40	105.0	80	120	
Zn	66	2	72	41.919	41.919	ppb	3.494	10064	40	104.8	80	120	
As	75	2	72	38.362	38.362	ppb	1.392	6581	40	95.9	80	120	
Se	78	1	72	39.254	39.254	ppb	1.896	10716	40	98.1	80	120	
Nb	93	2	72	0.315	0.315	ppb	31.697	2320	40	0.8	80	120	>+/-20%
Mo	95	2	115	38.244	38.244	ppb	0.958	34841	40	95.6	80	120	
Pd	105	2	115	-0.011	-0.011	ppb	-37.106	17	40	0.0	80	120	>+/-20%
Ag	107	2	115	42.389	42.389	ppb	1.916	125800	40	106.0	80	120	
Cd	111	2	115	40.205	40.205	ppb	5.414	15446	40	100.5	80	120	
Sn	120	2	115	40.969	40.969	ppb	1.937	44104	40	102.4	80	120	
Sb	121	2	115	39.668	39.668	ppb	2.587	39079	40	99.2	80	120	
Ba	137	2	115	40.491	40.491	ppb	2.075	13751	40	101.2	80	120	
W	182	2	165	12.822	12.822	ppb	1.356	56259	40	32.1	80	120	>+/-20%
Pt	195	2	165	-0.008	-0.008	ppb	-22.097	13	40	0.0	80	120	>+/-20%
Tl	205	2	165	41.086	41.086	ppb	1.564	326177	40	102.7	80	120	
Pb	208	2	165	41.327	41.327	ppb	1.359	438078	40	103.3	80	120	
Th	232	2	165	30.869	30.869	ppb	1.556	506943	40	77.2	80	120	>+/-20%
U	238	2	165	32.019	32.019	ppb	1.613	552976	40	80.0	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1593993	0.45	1639580	97.22	60	120	
Sc (IS)	45	1	HMI H2	31049445	0.89	31715490	97.90	60	120	
Sc (IS)	45	2	HMI He	896844	1.69	891522	100.60	60	120	
Sc (IS)	45	3	No Gas	52728891	0.50	54087154	97.49	60	120	
Ge Internal Standard	72	1	HMI H2	12793791	1.39	13102322	97.65	60	120	
Ge Internal Standard	72	2	HMI He	1021174	0.74	1026205	99.51	60	120	
In Internal Standard	115	2	HMI He	4092399	0.80	4195206	97.55	60	120	
Ho-165	165	2	HMI He	20065518	0.34	20206547	99.30	60	120	

Sample Report

Sample Table

Sample Name	280-115971-c-1-b
Data File Name	165SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:52:35-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	32.639	ppb	32.639	12.66	171590	500000	
Li	7	2	45	8.247	ppb	8.247	157.92	8783	500000	
Li	7	3	45	28.087	ppb	28.087	4.61	6101576	50000	
Be	9	1	6	0.536	ppb	0.536	33.09	217	2000	
B	11	1	6	38.779	ppb	38.779	1.82	17688	2000	
Na	23	1	45	66196.832	ppb	66196.832	0.73	239254063	2000	>LDR
Na	23	2	45	64823.515	ppb	64823.515	1.09	14965127	400000	
Mg	24	2	45	2644.215	ppb	2644.215	1.25	289092	400000	
Al	27	2	45	9574.104	ppb	9574.104	0.69	238968	400000	
K	39	1	45	1619.102	ppb	1619.102	2.00	17381506	400000	
K	39	2	45	3020.895	ppb	3020.895	0.51	171849	400000	
Ca	40	1	45	47932.500	ppb	47932.500	0.66	263680089	400000	
Ca	44	2	45	47301.076	ppb	47301.076	0.61	136114	400000	
Ti	47	2	45	143.719	ppb	143.719	5.95	3329	4000	
V	51	2	72	5.274	ppb	5.274	4.85	8343	2000	
Cr	52	2	72	9.273	ppb	9.273	3.28	12089	5000	
Mn	55	2	72	115.297	ppb	115.297	1.74	58334	10000	
Fe	57	2	72	3885.463	ppb	3885.463	1.99	92795	400000	
Co	59	2	72	1.933	ppb	1.933	0.84	4231	2000	
Ni	60	2	72	2.205	ppb	2.205	3.54	1523	5000	
Cu	63	2	72	5.732	ppb	5.732	3.26	10985	5000	
Zn	66	2	72	16.757	ppb	16.757	11.66	4089	5000	
As	75	2	72	0.493	ppb	0.493	23.93	116	2000	
Se	78	1	72	1.170	ppb	1.170	7.62	328	2000	
Sr	88	2	72	666.683	ppb	666.683	0.08	375076	4000	
Zr	90	2	72	575.884	ppb	575.884	8.33	4478	1000	
Nb	93	2	72	0.730	ppb	0.730	17.86	3674	200	
Mo	95	2	115	16.632	ppb	16.632	2.59	14905	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-213.42	27	100	
Ag	107	2	115	0.052	ppb	0.052	32.60	220	100	
Cd	111	2	115	0.079	ppb	0.079	87.87	30	2000	
Sn	120	2	115	0.314	ppb	0.314	3.25	490	2000	
Sb	121	2	115	0.485	ppb	0.485	16.46	523	1000	
Ba	137	2	115	142.168	ppb	142.168	1.27	47413	5000	
W	182	2	165	58.467	ppb	58.467	0.28	247688	100	
Pt	195	2	165	-0.008	ppb	-0.008	-22.18	13	100	
Tl	205	2	165	0.089	ppb	0.089	13.90	817	2000	
Pb	208	2	165	6.028	ppb	6.028	1.94	63797	5000	
Th	232	2	165	2.236	ppb	2.236	1.74	36519	2000	
U	238	2	165	30.184	ppb	30.184	0.66	514548	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1525260	1.03	1639580	93.03	60	120	
Sc (IS)	45	1	HMI H2	30387069	0.71	31715490	95.81	60	120	
Sc (IS)	45	2	HMI He	872182	0.68	891522	97.83	60	120	
Sc (IS)	45	3	No Gas	52282923	0.65	54087154	96.66	60	120	
Ge Internal Standard	72	1	HMI H2	12588295	0.44	13102322	96.08	60	120	
Ge Internal Standard	72	2	HMI He	996226	0.93	1026205	97.08	60	120	
In Internal Standard	115	2	HMI He	4019813	0.90	4195206	95.82	60	120	
Ho-165	165	2	HMI He	19805433	0.45	20206547	98.01	60	120	

Sample Report

Sample Table

Sample Name	280-115971-c-1-bSD@5
Data File Name	166SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T02:56:21-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	8.990	ppb	8.990	34.50	164333	500000	
Li	7	2	45	-6.663	ppb	-6.663	-317.89	8389	500000	
Li	7	3	45	7.432	ppb	7.432	45.61	5851287	50000	
Be	9	1	6	0.066	ppb	0.066	76.27	37	2000	
B	11	1	6	7.250	ppb	7.250	13.56	4601	2000	
Na	23	1	45	13436.579	ppb	13436.579	0.87	49869719	2000	>LDR
Na	23	2	45	13734.292	ppb	13734.292	0.83	3173635	400000	
Mg	24	2	45	589.594	ppb	589.594	1.16	64204	400000	
Al	27	2	45	2354.703	ppb	2354.703	3.48	58287	400000	
K	39	1	45	308.446	ppb	308.446	7.42	12725317	400000	
K	39	2	45	688.419	ppb	688.419	2.52	53140	400000	
Ca	40	1	45	9693.124	ppb	9693.124	1.51	54271023	400000	
Ca	44	2	45	9828.933	ppb	9828.933	1.30	28078	400000	
Ti	47	2	45	50.805	ppb	50.805	14.22	1167	4000	
V	51	2	72	1.329	ppb	1.329	28.60	4454	2000	
Cr	52	2	72	1.952	ppb	1.952	8.58	2790	5000	
Mn	55	2	72	24.106	ppb	24.106	4.61	12289	10000	
Fe	57	2	72	835.592	ppb	835.592	0.72	20166	400000	
Co	59	2	72	0.410	ppb	0.410	14.05	907	2000	
Ni	60	2	72	0.522	ppb	0.522	29.10	483	5000	
Cu	63	2	72	1.268	ppb	1.268	15.15	3421	5000	
Zn	66	2	72	3.795	ppb	3.795	19.43	1147	5000	
As	75	2	72	0.049	ppb	0.049	79.60	42	2000	
Se	78	1	72	0.316	ppb	0.316	36.55	100	2000	
Sr	88	2	72	134.834	ppb	134.834	0.92	76239	4000	
Zr	90	2	72	103.990	ppb	103.990	31.89	877	1000	
Nb	93	2	72	0.295	ppb	0.295	57.22	2202	200	
Mo	95	2	115	3.507	ppb	3.507	11.69	3181	2000	
Pd	105	2	115	-0.004	ppb	-0.004	-288.57	27	100	
Ag	107	2	115	0.003	ppb	0.003	490.21	77	100	
Cd	111	2	115	0.053	ppb	0.053	50.63	20	2000	
Sn	120	2	115	0.136	ppb	0.136	35.65	303	2000	
Sb	121	2	115	0.168	ppb	0.168	27.56	217	1000	
Ba	137	2	115	30.097	ppb	30.097	7.25	10054	5000	
W	182	2	165	12.151	ppb	12.151	0.84	52705	100	
Pt	195	2	165	-0.003	ppb	-0.003	-217.04	30	100	
Tl	205	2	165	0.028	ppb	0.028	36.81	340	2000	
Pb	208	2	165	1.304	ppb	1.304	5.23	14464	5000	
Th	232	2	165	0.446	ppb	0.446	6.36	7523	2000	
U	238	2	165	6.151	ppb	6.151	0.89	104960	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1602745	0.88	1639580	97.75	60	120	
Sc (IS)	45	1	HMI H2	30903874	0.39	31715490	97.44	60	120	
Sc (IS)	45	2	HMI He	864611	0.54	891522	96.98	60	120	
Sc (IS)	45	3	No Gas	52870749	0.66	54087154	97.75	60	120	
Ge Internal Standard	72	1	HMI H2	12741411	0.18	13102322	97.25	60	120	
Ge Internal Standard	72	2	HMI He	1000702	0.88	1026205	97.51	60	120	
In Internal Standard	115	2	HMI He	4023842	0.85	4195206	95.92	60	120	
Ho-165	165	2	HMI He	19805340	0.60	20206547	98.01	60	120	

Sample Report

Sample Table

Sample Name	280-115971-c-1-c ms
Data File Name	167SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:00:08-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	106.283	ppb	106.283	4.35	201699	500000	
Li	7	2	45	117.662	ppb	117.662	22.61	10981	500000	
Li	7	3	45	105.949	ppb	105.949	6.72	7222971	50000	
Be	9	1	6	41.680	ppb	41.680	2.80	16106	2000	
B	11	1	6	64.550	ppb	64.550	3.43	28448	2000	
Na	23	1	45	65048.266	ppb	65048.266	0.61	233884970	2000	>LDR
Na	23	2	45	63901.004	ppb	63901.004	0.58	14548888	400000	
Mg	24	2	45	2673.650	ppb	2673.650	0.47	288268	400000	
Al	27	2	45	10403.409	ppb	10403.409	0.63	256077	400000	
K	39	1	45	1528.726	ppb	1528.726	1.40	16956813	400000	
K	39	2	45	2978.274	ppb	2978.274	0.70	167327	400000	
Ca	40	1	45	46737.561	ppb	46737.561	0.99	255758123	400000	
Ca	44	2	45	46594.832	ppb	46594.832	1.40	132212	400000	
Ti	47	2	45	140.871	ppb	140.871	9.18	3217	4000	
V	51	2	72	45.139	ppb	45.139	1.57	47465	2000	
Cr	52	2	72	48.848	ppb	48.848	1.26	61949	5000	
Mn	55	2	72	158.398	ppb	158.398	0.57	79501	10000	
Fe	57	2	72	4175.746	ppb	4175.746	0.60	98953	400000	
Co	59	2	72	42.007	ppb	42.007	0.83	91075	2000	
Ni	60	2	72	41.475	ppb	41.475	1.48	25637	5000	
Cu	63	2	72	44.616	ppb	44.616	1.36	76382	5000	
Zn	66	2	72	56.777	ppb	56.777	3.37	13097	5000	
As	75	2	72	38.832	ppb	38.832	1.31	6447	2000	
Se	78	1	72	39.563	ppb	39.563	1.18	10489	2000	
Sr	88	2	72	693.765	ppb	693.765	0.29	387293	4000	
Zr	90	2	72	7073.854	ppb	7073.854	1.09	53729	1000	>LDR
Nb	93	2	72	0.501	ppb	0.501	13.42	2870	200	
Mo	95	2	115	53.393	ppb	53.393	0.95	47293	2000	
Pd	105	2	115	0.011	ppb	0.011	141.04	47	100	
Ag	107	2	115	40.793	ppb	40.793	2.21	117746	100	
Cd	111	2	115	40.892	ppb	40.892	2.31	15282	2000	
Sn	120	2	115	17.567	ppb	17.567	5.23	18480	2000	
Sb	121	2	115	27.719	ppb	27.719	2.96	26573	1000	
Ba	137	2	115	183.693	ppb	183.693	2.00	60662	5000	
W	182	2	165	69.162	ppb	69.162	1.71	293210	100	
Pt	195	2	165	0.005	ppb	0.005	230.86	57	100	
Tl	205	2	165	39.638	ppb	39.638	0.60	311188	2000	
Pb	208	2	165	44.931	ppb	44.931	1.02	470922	5000	
Th	232	2	165	33.086	ppb	33.086	0.36	537291	2000	
U	238	2	165	61.345	ppb	61.345	0.65	1047511	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1518757	0.27	1639580	92.63	60	120	
Sc (IS)	45	1	HMI H2	30227952	0.54	31715490	95.31	60	120	
Sc (IS)	45	2	HMI He	860096	1.05	891522	96.48	60	120	
Sc (IS)	45	3	No Gas	51814364	1.51	54087154	95.80	60	120	
Ge Internal Standard	72	1	HMI H2	12424272	0.49	13102322	94.82	60	120	
Ge Internal Standard	72	2	HMI He	988508	0.90	1026205	96.33	60	120	
In Internal Standard	115	2	HMI He	3979993	1.01	4195206	94.87	60	120	
Ho-165	165	2	HMI He	19842140	1.31	20206547	98.20	60	120	

Sample Report

Sample Table

Sample Name	280-115971-c-1-d msd
Data File Name	168SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:03:56-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	103.267	ppb	103.267	2.64	199863	500000	
Li	7	2	45	106.296	ppb	106.296	20.50	10728	500000	
Li	7	3	45	107.113	ppb	107.113	5.97	7202169	50000	
Be	9	1	6	40.995	ppb	40.995	1.09	15849	2000	
B	11	1	6	65.539	ppb	65.539	2.34	28876	2000	
Na	23	1	45	64844.925	ppb	64844.925	1.16	232483730	2000	>LDR
Na	23	2	45	64462.104	ppb	64462.104	0.46	14660803	400000	
Mg	24	2	45	2527.352	ppb	2527.352	0.98	272216	400000	
Al	27	2	45	9135.992	ppb	9135.992	2.11	224633	400000	
K	39	1	45	1463.033	ppb	1463.033	1.35	16666515	400000	
K	39	2	45	2850.045	ppb	2850.045	0.42	160753	400000	
Ca	40	1	45	46756.814	ppb	46756.814	1.13	255124876	400000	
Ca	44	2	45	48016.376	ppb	48016.376	1.06	136109	400000	
Ti	47	2	45	153.370	ppb	153.370	8.18	3501	4000	
V	51	2	72	45.223	ppb	45.223	1.75	47351	2000	
Cr	52	2	72	48.696	ppb	48.696	0.22	61504	5000	
Mn	55	2	72	151.724	ppb	151.724	0.63	75835	10000	
Fe	57	2	72	3981.538	ppb	3981.538	1.41	93956	400000	
Co	59	2	72	41.339	ppb	41.339	0.36	89258	2000	
Ni	60	2	72	39.954	ppb	39.954	3.64	24602	5000	
Cu	63	2	72	44.783	ppb	44.783	1.48	76342	5000	
Zn	66	2	72	50.948	ppb	50.948	2.80	11732	5000	
As	75	2	72	37.981	ppb	37.981	1.55	6281	2000	
Se	78	1	72	38.480	ppb	38.480	0.46	10228	2000	
Sr	88	2	72	694.382	ppb	694.382	0.45	386011	4000	
Zr	90	2	72	7359.793	ppb	7359.793	1.41	55663	1000	>LDR
Nb	93	2	72	0.497	ppb	0.497	5.92	2847	200	
Mo	95	2	115	53.608	ppb	53.608	1.17	47384	2000	
Pd	105	2	115	0.001	ppb	0.001	654.44	33	100	
Ag	107	2	115	39.029	ppb	39.029	1.11	112436	100	
Cd	111	2	115	39.478	ppb	39.478	2.37	14728	2000	
Sn	120	2	115	15.858	ppb	15.858	0.78	16667	2000	
Sb	121	2	115	28.368	ppb	28.368	0.66	27141	1000	
Ba	137	2	115	180.039	ppb	180.039	1.42	59332	5000	
W	182	2	165	69.454	ppb	69.454	1.17	293074	100	
Pt	195	2	165	-0.009	ppb	-0.009	-34.20	10	100	
Tl	205	2	165	38.770	ppb	38.770	1.46	302921	2000	
Pb	208	2	165	44.098	ppb	44.098	0.98	459982	5000	
Th	232	2	165	32.764	ppb	32.764	0.99	529514	2000	
U	238	2	165	61.249	ppb	61.249	1.05	1040887	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1519718	1.87	1639580	92.69	60	120	
Sc (IS)	45	1	HMI H2	30141463	0.45	31715490	95.04	60	120	
Sc (IS)	45	2	HMI He	859215	1.37	891522	96.38	60	120	
Sc (IS)	45	3	No Gas	51536558	1.01	54087154	95.28	60	120	
Ge Internal Standard	72	1	HMI H2	12455361	0.35	13102322	95.06	60	120	
Ge Internal Standard	72	2	HMI He	984364	0.75	1026205	95.92	60	120	
In Internal Standard	115	2	HMI He	3972422	1.78	4195206	94.69	60	120	
Ho-165	165	2	HMI He	19746838	0.54	20206547	97.72	60	120	

Sample Report

Sample Table

Sample Name	280-115971-c-1-b PDS
Data File Name	169SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:07:44-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	25.462	ppb	25.462	22.70	167681	500000	
Li	7	2	45	16.182	ppb	16.182	81.96	8793	500000	
Li	7	3	45	23.770	ppb	23.770	10.43	5910084	50000	
Be	9	1	6	205.824	ppb	205.824	0.45	79002	2000	
B	11	1	6	37.372	ppb	37.372	5.46	16914	2000	
Na	23	1	45	64486.428	ppb	64486.428	2.20	231863830	2000	>LDR
Na	23	2	45	63342.692	ppb	63342.692	0.27	14363842	400000	
Mg	24	2	45	2668.743	ppb	2668.743	1.62	286571	400000	
Al	27	2	45	12030.323	ppb	12030.323	0.62	294931	400000	
K	39	1	45	1597.457	ppb	1597.457	2.87	17211186	400000	
K	39	2	45	3038.007	ppb	3038.007	0.45	169637	400000	
Ca	40	1	45	46233.980	ppb	46233.980	1.22	253005816	400000	
Ca	44	2	45	47135.908	ppb	47135.908	1.30	133231	400000	
Ti	47	2	45	181.451	ppb	181.451	6.81	4129	4000	
V	51	2	72	211.749	ppb	211.749	1.16	210610	2000	
Cr	52	2	72	214.492	ppb	214.492	0.38	270234	5000	
Mn	55	2	72	318.622	ppb	318.622	1.20	159374	10000	
Fe	57	2	72	5792.463	ppb	5792.463	1.29	136788	400000	
Co	59	2	72	208.000	ppb	208.000	0.78	449587	2000	
Ni	60	2	72	202.597	ppb	202.597	0.89	124235	5000	
Cu	63	2	72	211.157	ppb	211.157	0.86	355788	5000	
Zn	66	2	72	227.709	ppb	227.709	0.57	51536	5000	
As	75	2	72	194.830	ppb	194.830	0.81	32121	2000	
Se	78	1	72	199.167	ppb	199.167	1.73	52948	2000	
Sr	88	2	72	653.162	ppb	653.162	1.11	363501	4000	
Zr	90	2	72	42527.244	ppb	42527.244	0.33	321638	1000	>LDR
Nb	93	2	72	4.296	ppb	4.296	4.66	15623	200	
Mo	95	2	115	223.466	ppb	223.466	0.66	196876	2000	
Pd	105	2	115	0.036	ppb	0.036	95.98	80	100	
Ag	107	2	115	45.916	ppb	45.916	1.54	131901	100	
Cd	111	2	115	208.368	ppb	208.368	1.96	77522	2000	
Sn	120	2	115	212.276	ppb	212.276	0.76	220543	2000	
Sb	121	2	115	203.410	ppb	203.410	0.92	193751	1000	
Ba	137	2	115	346.889	ppb	346.889	2.00	113992	5000	
W	182	2	165	288.256	ppb	288.256	11.45	1204566	100	
Pt	195	2	165	0.061	ppb	0.061	20.90	243	100	
Tl	205	2	165	262.435	ppb	262.435	2.02	2036942	2000	
Pb	208	2	165	241.208	ppb	241.208	1.18	2496648	5000	
Th	232	2	165	15.347	ppb	15.347	0.20	246670	2000	
U	238	2	165	242.778	ppb	242.778	1.06	4100077	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1509344	0.66	1639580	92.06	60	120	
Sc (IS)	45	1	HMI H2	30229911	0.90	31715490	95.32	60	120	
Sc (IS)	45	2	HMI He	856629	1.00	891522	96.09	60	120	
Sc (IS)	45	3	No Gas	51195569	0.58	54087154	94.65	60	120	
Ge Internal Standard	72	1	HMI H2	12472654	0.90	13102322	95.19	60	120	
Ge Internal Standard	72	2	HMI He	985557	1.31	1026205	96.04	60	120	
In Internal Standard	115	2	HMI He	3961789	1.89	4195206	94.44	60	120	
Ho-165	165	2	HMI He	19626118	1.27	20206547	97.13	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	170_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:11:31-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	527.181	ppb	1.439	378926	500	105.4	90	110	
Li	7	2	45	554.063	ppb	0.925	20104	500	110.8	90	110	>+\-10%
Li	7	3	45	519.071	ppb	1.544	13301419	500	103.8	90	110	
Be	9	1	6	49.531	ppb	3.527	19907	50	99.1	90	110	
B	11	1	6	45.383	ppb	2.512	21212	50	90.8	90	110	
Na	23	1	45	5239.870	ppb	0.879	19380080	5000	104.8	90	110	
Na	23	2	45	5364.513	ppb	1.885	1247564	5000	107.3	90	110	
Mg	24	2	45	4550.764	ppb	0.776	486962	5000	91.0	90	110	
Al	27	2	45	5137.955	ppb	1.435	125598	5000	102.8	90	110	
K	39	1	45	5145.162	ppb	0.579	30323434	5000	102.9	90	110	
K	39	2	45	5120.498	ppb	1.524	272493	5000	102.4	90	110	
Ca	40	1	45	5223.636	ppb	0.736	28631735	5000	104.5	90	110	
Ca	44	2	45	4988.774	ppb	3.232	14107	5000	99.8	90	110	
Ti	47	2	45	58.885	ppb	14.912	1337	50	117.8	90	110	>+\-10%
V	51	2	72	50.274	ppb	0.822	52536	50	100.5	90	110	
Cr	52	2	72	50.375	ppb	2.116	63898	50	100.8	90	110	
Mn	55	2	72	48.671	ppb	4.164	24472	50	97.3	90	110	
Fe	57	2	72	5123.047	ppb	0.911	121418	5000	102.5	90	110	
Co	59	2	72	51.062	ppb	1.301	110740	50	102.1	90	110	
Ni	60	2	72	49.418	ppb	2.433	30523	50	98.8	90	110	
Cu	63	2	72	50.803	ppb	1.314	86827	50	101.6	90	110	
Zn	66	2	72	49.435	ppb	2.976	11442	50	98.9	90	110	
As	75	2	72	48.944	ppb	0.863	8121	50	97.9	90	110	
Se	78	1	72	51.016	ppb	1.107	13689	50	102.0	90	110	
Sr	88	2	72	51.204	ppb	1.744	28633	50	102.4	90	110	
Zr	90	2	72	109.088	ppb	25.966	903	50	218.2	90	110	>+\-10%
Nb	93	2	72	87.229	ppb	0.562	295359	100	87.2	90	110	>+\-10%
Mo	95	2	115	49.755	ppb	2.380	43872	50	99.5	90	110	
Pd	105	2	115	52.274	ppb	0.269	70169	50	104.5	90	110	
Ag	107	2	115	50.686	ppb	0.832	145610	50	101.4	90	110	
Cd	111	2	115	50.033	ppb	1.472	18610	50	100.1	90	110	
Sn	120	2	115	50.488	ppb	2.433	52560	50	101.0	90	110	
Sb	121	2	115	51.624	ppb	3.522	49198	50	103.2	90	110	
Ba	137	2	115	50.985	ppb	3.674	16757	50	102.0	90	110	
W	182	2	165	50.579	ppb	1.013	212543	50	101.2	90	110	
Pt	195	2	165	50.259	ppb	0.545	168677	50	100.5	90	110	
Tl	205	2	165	50.942	ppb	0.634	395535	50	101.9	90	110	
Pb	208	2	165	51.072	ppb	1.054	529357	50	102.1	90	110	
Th	232	2	165	38.701	ppb	0.547	621578	50	77.4	90	110	>+\-10%
U	238	2	165	40.106	ppb	0.539	677463	50	80.2	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1580166	1.23	1639580	96.38	60	120	
Sc (IS)	45	1	HMI H2	30228188	0.34	31715490	95.31	60	120	
Sc (IS)	45	2	HMI He	854136	1.20	891522	95.81	60	120	
Sc (IS)	45	3	No Gas	51167994	0.55	54087154	94.60	60	120	
Ge Internal Standard	72	1	HMI H2	12578069	0.66	13102322	96.00	60	120	
Ge Internal Standard	72	2	HMI He	988852	1.15	1026205	96.36	60	120	
In Internal Standard	115	2	HMI He	3961527	1.49	4195206	94.43	60	120	
Ho-165	165	2	HMI He	19625813	0.63	20206547	97.13	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	171_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:15:18-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	7.592	ppb	91.3	5739234	10	
Be	9	1	6	0.017	ppb	221.7	17	0.5	
B	11	1	6	-0.197	ppb	-47.1	1300	0.5	
Na	23	1	45	-36.205	ppb	-6.4	460552	25	
Na	23	2	45	-31.179	ppb	-4.9	31084	25	
Mg	24	2	45	-0.324	ppb	-129.9	350	25	
Al	27	2	45	1.424	ppb	82.2	73	15	
K	39	1	45	-3.904	ppb	-450.4	11376261	50	
K	39	2	45	-4.834	ppb	-367.6	18145	50	
Ca	40	1	45	1.728	ppb	13.7	62661	50	
Ca	44	2	45	-5.143	ppb	-105.9	37	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	0.975	ppb	33.7	4044	1	
Cr	52	2	72	0.012	ppb	488.1	307	1	
Mn	55	2	72	0.058	ppb	194.7	80	0.5	
Fe	57	2	72	0.819	ppb	160.4	167	25	
Co	59	2	72	0.009	ppb	58.1	27	0.5	
Ni	60	2	72	-0.038	ppb	-110.0	133	1	
Cu	63	2	72	-0.006	ppb	-1632.0	1233	1	
Zn	66	2	72	-0.381	ppb	-71.8	190	5	
As	75	2	72	-0.031	ppb	-76.6	28	1	
Se	78	1	72	0.071	ppb	72.7	33	1	
Sr	88	2	72	0.021	ppb	45.9	57	0.5	
Zr	90	2	72	0.384	ppb	1214.7	80	1	
Nb	93	2	72	3.022	ppb	7.6	11348	2	>RL
Mo	95	2	115	0.025	ppb	172.6	63	0.5	
Pd	105	2	115	0.053	ppb	17.5	103	1	
Ag	107	2	115	-0.003	ppb	-213.6	57	1	
Cd	111	2	115	0.017	ppb	173.2	7	0.5	
Sn	120	2	115	0.238	ppb	14.4	410	1	
Sb	121	2	115	0.493	ppb	2.8	530	0.6	
Ba	137	2	115	-0.010	ppb	0.0	0	0.5	
W	182	2	165	0.085	ppb	41.0	1900	1	
Pt	195	2	165	0.010	ppb	87.7	73	1	
Tl	205	2	165	0.014	ppb	46.9	227	0.1	
Pb	208	2	165	0.003	ppb	541.2	873	0.5	
Th	232	2	165	0.024	ppb	16.3	680	1	
U	238	2	165	0.018	ppb	15.8	437	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1609566	1.58	1639580	98.17	60	120	
Sc (IS)	45	1	HMI H2	30451968	0.53	31715490	96.02	60	120	
Sc (IS)	45	2	HMI He	857217	0.37	891522	96.15	60	120	
Sc (IS)	45	3	No Gas	51842856	1.34	54087154	95.85	60	120	
Ge Internal Standard	72	1	HMI H2	12660500	0.55	13102322	96.63	60	120	
Ge Internal Standard	72	2	HMI He	986453	0.83	1026205	96.13	60	120	
In Internal Standard	115	2	HMI He	4013361	1.30	4195206	95.67	60	120	
Ho-165	165	2	HMI He	19694016	0.79	20206547	97.46	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-1-b
Data File Name	172SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:19:06-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	182.253	ppb	182.253	0.66	219692	500000	
Li	7	2	45	158.420	ppb	158.420	10.35	11355	500000	
Li	7	3	45	174.191	ppb	174.191	5.66	7903751	50000	
Be	9	1	6	0.014	ppb	0.014	316.01	13	2000	
B	11	1	6	1473.165	ppb	1473.165	0.58	571509	2000	
Na	23	1	45	205272.753	ppb	205272.753	0.88	692642336	2000	>LDR
Na	23	2	45	200257.145	ppb	200257.145	1.01	43611356	400000	
Mg	24	2	45	168938.965	ppb	168938.965	0.09	17432509	400000	
Al	27	2	45	9.029	ppb	9.029	25.71	250	400000	
K	39	1	45	11238.540	ppb	11238.540	0.64	49677543	400000	
K	39	2	45	12678.000	ppb	12678.000	1.98	624973	400000	
Ca	40	1	45	264939.941	ppb	264939.941	1.13	1362637633	400000	
Ca	44	2	45	262229.823	ppb	262229.823	0.76	712840	400000	
Ti	47	2	45	0.459	ppb	0.459	173.21	10	4000	
V	51	2	72	-1.346	ppb	-1.346	-18.78	1684	2000	
Cr	52	2	72	0.066	ppb	0.066	44.68	357	5000	
Mn	55	2	72	745.229	ppb	745.229	0.55	355850	10000	
Fe	57	2	72	1363.599	ppb	1363.599	1.65	30854	400000	
Co	59	2	72	5.169	ppb	5.169	1.43	10674	2000	
Ni	60	2	72	5.069	ppb	5.069	4.02	3114	5000	
Cu	63	2	72	0.194	ppb	0.194	49.75	1497	5000	
Zn	66	2	72	5.515	ppb	5.515	19.71	1447	5000	
As	75	2	72	3.958	ppb	3.958	5.28	654	2000	
Se	78	1	72	0.151	ppb	0.151	53.33	51	2000	
Sr	88	2	72	3302.066	ppb	3302.066	0.38	1754411	4000	
Zr	90	2	72	94.736	ppb	94.736	14.98	757	1000	
Nb	93	2	72	2.310	ppb	2.310	6.14	8540	200	
Mo	95	2	115	9.406	ppb	9.406	1.73	7976	2000	
Pd	105	2	115	0.059	ppb	0.059	32.01	107	100	
Ag	107	2	115	0.000	ppb	0.000	17001.09	63	100	
Cd	111	2	115	0.028	ppb	0.028	99.74	10	2000	
Sn	120	2	115	0.113	ppb	0.113	10.19	263	2000	
Sb	121	2	115	0.200	ppb	0.200	10.71	233	1000	
Ba	137	2	115	13.297	ppb	13.297	7.85	4188	5000	
W	182	2	165	0.050	ppb	0.050	65.37	1680	100	
Pt	195	2	165	-0.002	ppb	-0.002	-408.58	30	100	
Tl	205	2	165	0.011	ppb	0.011	57.99	193	2000	
Pb	208	2	165	0.081	ppb	0.081	6.78	1617	5000	
Th	232	2	165	0.044	ppb	0.044	9.31	967	2000	
U	238	2	165	0.428	ppb	0.428	3.39	7092	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1398473	1.11	1639580	85.29	60	120	
Sc (IS)	45	1	HMI H2	28417161	0.99	31715490	89.60	60	120	
Sc (IS)	45	2	HMI He	824242	1.52	891522	92.45	60	120	
Sc (IS)	45	3	No Gas	49610551	0.86	54087154	91.72	60	120	
Ge Internal Standard	72	1	HMI H2	11648575	0.38	13102322	88.90	60	120	
Ge Internal Standard	72	2	HMI He	940925	1.04	1026205	91.69	60	120	
In Internal Standard	115	2	HMI He	3795042	1.13	4195206	90.46	60	120	
Ho-165	165	2	HMI He	18906193	1.00	20206547	93.56	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-2-b
Data File Name	173SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:22:59-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	49.617	ppb	49.617	13.62	173781	500000	
Li	7	2	45	30.803	ppb	30.803	107.66	8913	500000	
Li	7	3	45	46.748	ppb	46.748	12.14	6225082	50000	
Be	9	1	6	0.012	ppb	0.012	339.77	13	2000	
B	11	1	6	486.850	ppb	486.850	3.45	196268	2000	
Na	23	1	45	46993.750	ppb	46993.750	1.05	165269944	2000	>LDR
Na	23	2	45	46424.514	ppb	46424.514	0.34	10320648	400000	
Mg	24	2	45	214098.175	ppb	214098.175	0.43	22486766	400000	
Al	27	2	45	12.193	ppb	12.193	15.65	330	400000	
K	39	1	45	4548.639	ppb	4548.639	1.38	27477029	400000	
K	39	2	45	6026.648	ppb	6026.648	1.63	311893	400000	
Ca	40	1	45	321854.528	ppb	321854.528	0.34	1720787974	400000	
Ca	44	2	45	311495.174	ppb	311495.174	0.35	861957	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-1.868	ppb	-1.868	-15.28	1227	2000	
Cr	52	2	72	0.083	ppb	0.083	116.68	387	5000	
Mn	55	2	72	2787.114	ppb	2787.114	1.34	1363023	10000	
Fe	57	2	72	395.866	ppb	395.866	5.81	9277	400000	
Co	59	2	72	3.864	ppb	3.864	6.37	8173	2000	
Ni	60	2	72	5.512	ppb	5.512	8.26	3457	5000	
Cu	63	2	72	0.071	ppb	0.071	184.12	1330	5000	
Zn	66	2	72	3.769	ppb	3.769	13.22	1100	5000	
As	75	2	72	0.257	ppb	0.257	11.99	74	2000	
Se	78	1	72	0.143	ppb	0.143	60.99	51	2000	
Sr	88	2	72	1478.199	ppb	1478.199	0.49	804585	4000	
Zr	90	2	72	89.459	ppb	89.459	3.33	737	1000	
Nb	93	2	72	0.950	ppb	0.950	22.72	4283	200	
Mo	95	2	115	2.052	ppb	2.052	2.41	1790	2000	
Pd	105	2	115	0.043	ppb	0.043	26.72	87	100	
Ag	107	2	115	0.009	ppb	0.009	156.04	90	100	
Cd	111	2	115	0.037	ppb	0.037	114.76	13	2000	
Sn	120	2	115	0.184	ppb	0.184	33.39	337	2000	
Sb	121	2	115	0.164	ppb	0.164	38.76	203	1000	
Ba	137	2	115	12.729	ppb	12.729	5.49	4054	5000	
W	182	2	165	0.069	ppb	0.069	25.36	1780	100	
Pt	195	2	165	-0.005	ppb	-0.005	-112.46	20	100	
Tl	205	2	165	0.018	ppb	0.018	61.09	247	2000	
Pb	208	2	165	0.017	ppb	0.017	42.77	993	5000	
Th	232	2	165	0.015	ppb	0.015	20.34	530	2000	
U	238	2	165	0.216	ppb	0.216	6.19	3677	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1447666	2.07	1639580	88.29	60	120	
Sc (IS)	45	1	HMI H2	29538509	0.52	31715490	93.14	60	120	
Sc (IS)	45	2	HMI He	838966	0.73	891522	94.10	60	120	
Sc (IS)	45	3	No Gas	50965649	0.60	54087154	94.23	60	120	
Ge Internal Standard	72	1	HMI H2	12125767	0.48	13102322	92.55	60	120	
Ge Internal Standard	72	2	HMI He	963863	1.38	1026205	93.93	60	120	
In Internal Standard	115	2	HMI He	3836604	1.35	4195206	91.45	60	120	
Ho-165	165	2	HMI He	19142870	0.99	20206547	94.74	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-3-b
Data File Name	174SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:26:49-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	74.577	ppb	74.577	7.30	184303	500000	
Li	7	2	45	78.958	ppb	78.958	24.12	9844	500000	
Li	7	3	45	72.288	ppb	72.288	3.35	6575112	50000	
Be	9	1	6	0.041	ppb	0.041	103.35	23	2000	
B	11	1	6	759.763	ppb	759.763	1.22	299367	2000	
Na	23	1	45	58016.320	ppb	58016.320	0.17	204179464	2000	>LDR
Na	23	2	45	57645.638	ppb	57645.638	1.33	12718779	400000	
Mg	24	2	45	290240.836	ppb	290240.836	0.86	30278532	400000	
Al	27	2	45	7.089	ppb	7.089	57.37	207	400000	
K	39	1	45	10741.845	ppb	10741.845	0.89	49910736	400000	
K	39	2	45	12256.597	ppb	12256.597	1.09	611582	400000	
Ca	40	1	45	344570.950	ppb	344570.950	0.77	1844684559	400000	
Ca	44	2	45	337106.796	ppb	337106.796	0.32	926561	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-1.953	ppb	-1.953	-5.06	1133	2000	
Cr	52	2	72	3.538	ppb	3.538	4.21	4601	5000	
Mn	55	2	72	2938.520	ppb	2938.520	0.53	1425721	10000	
Fe	57	2	72	3320.963	ppb	3320.963	1.34	76146	400000	
Co	59	2	72	4.363	ppb	4.363	0.21	9157	2000	
Ni	60	2	72	6.384	ppb	6.384	5.64	3944	5000	
Cu	63	2	72	-0.114	ppb	-0.114	-31.05	1020	5000	
Zn	66	2	72	1.579	ppb	1.579	40.96	613	5000	
As	75	2	72	3.220	ppb	3.220	6.73	546	2000	
Se	78	1	72	0.091	ppb	0.091	53.20	37	2000	
Sr	88	2	72	3067.912	ppb	3067.912	0.60	1656335	4000	
Zr	90	2	72	119.080	ppb	119.080	25.64	950	1000	
Nb	93	2	72	0.525	ppb	0.525	22.14	2857	200	
Mo	95	2	115	2.048	ppb	2.048	6.10	1754	2000	
Pd	105	2	115	0.055	ppb	0.055	84.91	100	100	
Ag	107	2	115	-0.006	ppb	-0.006	-98.31	47	100	
Cd	111	2	115	0.028	ppb	0.028	1.34	10	2000	
Sn	120	2	115	0.099	ppb	0.099	42.36	247	2000	
Sb	121	2	115	0.143	ppb	0.143	29.26	180	1000	
Ba	137	2	115	15.705	ppb	15.705	4.33	4908	5000	
W	182	2	165	0.001	ppb	0.001	4110.32	1497	100	
Pt	195	2	165	-0.004	ppb	-0.004	-104.40	23	100	
Tl	205	2	165	0.005	ppb	0.005	105.59	153	2000	
Pb	208	2	165	0.062	ppb	0.062	34.44	1437	5000	
Th	232	2	165	0.017	ppb	0.017	44.54	547	2000	
U	238	2	165	5.320	ppb	5.320	1.72	87291	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1417529	0.65	1639580	86.46	60	120	
Sc (IS)	45	1	HMI H2	29577981	0.67	31715490	93.26	60	120	
Sc (IS)	45	2	HMI He	833357	1.47	891522	93.48	60	120	
Sc (IS)	45	3	No Gas	50733841	0.31	54087154	93.80	60	120	
Ge Internal Standard	72	1	HMI H2	12166161	0.68	13102322	92.86	60	120	
Ge Internal Standard	72	2	HMI He	956150	1.36	1026205	93.17	60	120	
In Internal Standard	115	2	HMI He	3764149	1.35	4195206	89.73	60	120	
Ho-165	165	2	HMI He	19037007	0.87	20206547	94.21	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-4-b
Data File Name	175SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:30:38-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	57.578	ppb	57.578	5.09	176488	500000	
Li	7	2	45	35.743	ppb	35.743	27.22	9110	500000	
Li	7	3	45	55.469	ppb	55.469	8.45	6218398	50000	
Be	9	1	6	-0.005	ppb	-0.005	-307.97	7	2000	
B	11	1	6	641.885	ppb	641.885	1.35	253317	2000	
Na	23	1	45	56103.149	ppb	56103.149	0.26	196561184	2000	>LDR
Na	23	2	45	54665.641	ppb	54665.641	0.96	12264825	400000	
Mg	24	2	45	223760.260	ppb	223760.260	1.09	23731570	400000	
Al	27	2	45	14.968	ppb	14.968	14.84	400	400000	
K	39	1	45	6759.094	ppb	6759.094	0.62	35345719	400000	
K	39	2	45	8099.272	ppb	8099.272	0.53	417053	400000	
Ca	40	1	45	431169.901	ppb	431169.901	0.79	2297694686	400000	
Ca	44	2	45	472879.645	ppb	472879.645	0.92	1321590	400000	
Ti	47	2	45	0.599	ppb	0.599	86.61	13	4000	
V	51	2	72	-1.958	ppb	-1.958	-6.47	1150	2000	
Cr	52	2	72	0.341	ppb	0.341	18.18	710	5000	
Mn	55	2	72	3233.442	ppb	3233.442	1.28	1595058	10000	
Fe	57	2	72	2640.529	ppb	2640.529	1.93	61584	400000	
Co	59	2	72	5.197	ppb	5.197	0.89	11088	2000	
Ni	60	2	72	8.820	ppb	8.820	6.20	5481	5000	
Cu	63	2	72	-0.048	ppb	-0.048	-181.66	1147	5000	
Zn	66	2	72	4.764	ppb	4.764	3.97	1330	5000	
As	75	2	72	1.211	ppb	1.211	7.32	229	2000	
Se	78	1	72	0.040	ppb	0.040	39.31	24	2000	
Sr	88	2	72	2720.496	ppb	2720.496	0.78	1493517	4000	
Zr	90	2	72	140.862	ppb	140.862	9.94	1127	1000	
Nb	93	2	72	0.317	ppb	0.317	18.43	2217	200	
Mo	95	2	115	1.825	ppb	1.825	17.53	1610	2000	
Pd	105	2	115	0.061	ppb	0.061	33.16	110	100	
Ag	107	2	115	0.000	ppb	0.000	-982.19	63	100	
Cd	111	2	115	0.018	ppb	0.018	86.61	7	2000	
Sn	120	2	115	0.171	ppb	0.171	11.73	327	2000	
Sb	121	2	115	0.091	ppb	0.091	56.31	137	1000	
Ba	137	2	115	19.203	ppb	19.203	2.85	6162	5000	
W	182	2	165	0.046	ppb	0.046	34.46	1700	100	
Pt	195	2	165	0.000	ppb	0.000	-1295.99	37	100	
Tl	205	2	165	0.011	ppb	0.011	54.90	200	2000	
Pb	208	2	165	0.020	ppb	0.020	30.94	1037	5000	
Th	232	2	165	0.011	ppb	0.011	22.54	457	2000	
U	238	2	165	2.831	ppb	2.831	1.01	47127	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1418774	0.76	1639580	86.53	60	120	
Sc (IS)	45	1	HMI H2	29442860	0.72	31715490	92.83	60	120	
Sc (IS)	45	2	HMI He	847269	2.09	891522	95.04	60	120	
Sc (IS)	45	3	No Gas	49870066	0.12	54087154	92.20	60	120	
Ge Internal Standard	72	1	HMI H2	12210160	0.24	13102322	93.19	60	120	
Ge Internal Standard	72	2	HMI He	972309	2.21	1026205	94.75	60	120	
In Internal Standard	115	2	HMI He	3865339	1.71	4195206	92.14	60	120	
Ho-165	165	2	HMI He	19296505	1.69	20206547	95.50	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-5-b
Data File Name	176SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:34:27-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	157.113	ppb	157.113	1.64	219061	500000	
Li	7	2	45	139.427	ppb	139.427	14.87	11525	500000	
Li	7	3	45	163.007	ppb	163.007	1.20	7671297	50000	
Be	9	1	6	-0.005	ppb	-0.005	-739.62	7	2000	
B	11	1	6	3038.083	ppb	3038.083	0.68	1156260	2000	
Na	23	1	45	232733.808	ppb	232733.808	0.40	820144921	2000	>LDR
Na	23	2	45	224944.916	ppb	224944.916	0.98	51481173	400000	
Mg	24	2	45	185672.570	ppb	185672.570	0.91	20134298	400000	
Al	27	2	45	14.715	ppb	14.715	4.39	403	400000	
K	39	1	45	13754.674	ppb	13754.674	0.64	61017042	400000	
K	39	2	45	15101.998	ppb	15101.998	0.47	778967	400000	
Ca	40	1	45	288087.630	ppb	288087.630	0.51	1547636190	400000	
Ca	44	2	45	291567.687	ppb	291567.687	0.41	833023	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-1.926	ppb	-1.926	-17.18	1203	2000	
Cr	52	2	72	0.200	ppb	0.200	10.31	547	5000	
Mn	55	2	72	1740.609	ppb	1740.609	0.66	877636	10000	
Fe	57	2	72	1197.243	ppb	1197.243	1.37	28623	400000	
Co	59	2	72	2.111	ppb	2.111	4.54	4608	2000	
Ni	60	2	72	3.555	ppb	3.555	3.06	2354	5000	
Cu	63	2	72	0.115	ppb	0.115	86.73	1447	5000	
Zn	66	2	72	2.583	ppb	2.583	27.69	863	5000	
As	75	2	72	0.660	ppb	0.660	13.74	143	2000	
Se	78	1	72	0.096	ppb	0.096	55.58	39	2000	
Sr	88	2	72	5090.255	ppb	5090.255	0.52	2856009	4000	
Zr	90	2	72	42.724	ppb	42.724	17.25	403	1000	
Nb	93	2	72	0.165	ppb	0.165	35.28	1747	200	
Mo	95	2	115	0.468	ppb	0.468	25.58	457	2000	
Pd	105	2	115	0.087	ppb	0.087	23.09	150	100	
Ag	107	2	115	-0.006	ppb	-0.006	-61.78	50	100	
Cd	111	2	115	0.026	ppb	0.026	173.21	10	2000	
Sn	120	2	115	0.129	ppb	0.129	33.07	293	2000	
Sb	121	2	115	0.065	ppb	0.065	85.32	117	1000	
Ba	137	2	115	12.805	ppb	12.805	4.51	4254	5000	
W	182	2	165	0.010	ppb	0.010	432.75	1590	100	
Pt	195	2	165	-0.009	ppb	-0.009	-34.32	10	100	
Tl	205	2	165	0.004	ppb	0.004	108.37	147	2000	
Pb	208	2	165	0.021	ppb	0.021	36.34	1063	5000	
Th	232	2	165	0.010	ppb	0.010	55.34	453	2000	
U	238	2	165	0.416	ppb	0.416	3.44	7189	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1373340	1.32	1639580	83.76	60	120	
Sc (IS)	45	1	HMI H2	29679547	0.39	31715490	93.58	60	120	
Sc (IS)	45	2	HMI He	866241	1.29	891522	97.16	60	120	
Sc (IS)	45	3	No Gas	49153386	0.10	54087154	90.88	60	120	
Ge Internal Standard	72	1	HMI H2	12191189	0.86	13102322	93.05	60	120	
Ge Internal Standard	72	2	HMI He	993609	1.12	1026205	96.82	60	120	
In Internal Standard	115	2	HMI He	4001004	1.50	4195206	95.37	60	120	
Ho-165	165	2	HMI He	19736558	0.99	20206547	97.67	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-6-b
Data File Name	177SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:38:17-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	70.404	ppb	70.404	0.43	183491	500000	
Li	7	2	45	65.824	ppb	65.824	15.35	9954	500000	
Li	7	3	45	66.041	ppb	66.041	0.92	6287794	50000	
Be	9	1	6	-0.014	ppb	-0.014	-117.42	3	2000	
B	11	1	6	1213.663	ppb	1213.663	1.42	463126	2000	
Na	23	1	45	81034.412	ppb	81034.412	1.10	286361776	2000	>LDR
Na	23	2	45	78827.039	ppb	78827.039	0.15	18062516	400000	
Mg	24	2	45	185048.950	ppb	185048.950	0.22	20063595	400000	
Al	27	2	45	4.615	ppb	4.615	35.08	153	400000	
K	39	1	45	9575.387	ppb	9575.387	1.06	45918284	400000	
K	39	2	45	10983.893	ppb	10983.893	1.02	571463	400000	
Ca	40	1	45	425887.947	ppb	425887.947	0.85	2291266953	400000	
Ca	44	2	45	477147.985	ppb	477147.985	0.94	1362847	400000	
Ti	47	2	45	0.581	ppb	0.581	44.12	13	4000	
V	51	2	72	-1.987	ppb	-1.987	-8.70	1157	2000	
Cr	52	2	72	0.078	ppb	0.078	66.35	397	5000	
Mn	55	2	72	2338.289	ppb	2338.289	10.65	1191409	10000	
Fe	57	2	72	142.793	ppb	142.793	10.93	3584	400000	
Co	59	2	72	5.770	ppb	5.770	3.05	12710	2000	
Ni	60	2	72	11.983	ppb	11.983	7.66	7632	5000	
Cu	63	2	72	0.089	ppb	0.089	50.63	1417	5000	
Zn	66	2	72	2.163	ppb	2.163	10.80	777	5000	
As	75	2	72	0.188	ppb	0.188	22.93	65	2000	
Se	78	1	72	0.035	ppb	0.035	25.76	23	2000	
Sr	88	2	72	3796.474	ppb	3796.474	0.24	2151623	4000	
Zr	90	2	72	24.792	ppb	24.792	47.59	270	1000	
Nb	93	2	72	0.103	ppb	0.103	35.25	1553	200	
Mo	95	2	115	1.121	ppb	1.121	8.63	1043	2000	
Pd	105	2	115	0.116	ppb	0.116	26.60	190	100	
Ag	107	2	115	-0.012	ppb	-0.012	-18.12	33	100	
Cd	111	2	115	0.009	ppb	0.009	173.21	3	2000	
Sn	120	2	115	0.118	ppb	0.118	70.29	283	2000	
Sb	121	2	115	0.072	ppb	0.072	73.11	123	1000	
Ba	137	2	115	11.616	ppb	11.616	9.79	3871	5000	
W	182	2	165	0.043	ppb	0.043	84.31	1737	100	
Pt	195	2	165	-0.007	ppb	-0.007	-50.91	17	100	
Tl	205	2	165	0.010	ppb	0.010	52.50	200	2000	
Pb	208	2	165	0.007	ppb	0.007	192.65	920	5000	
Th	232	2	165	0.006	ppb	0.006	33.12	393	2000	
U	238	2	165	1.031	ppb	1.031	4.76	17733	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1375099	1.57	1639580	83.87	60	120	
Sc (IS)	45	1	HMI H2	29724550	0.58	31715490	93.72	60	120	
Sc (IS)	45	2	HMI He	866045	0.99	891522	97.14	60	120	
Sc (IS)	45	3	No Gas	49208971	0.62	54087154	90.98	60	120	
Ge Internal Standard	72	1	HMI H2	12171085	0.07	13102322	92.89	60	120	
Ge Internal Standard	72	2	HMI He	1003678	1.41	1026205	97.80	60	120	
In Internal Standard	115	2	HMI He	4017217	1.68	4195206	95.76	60	120	
Ho-165	165	2	HMI He	19840645	0.37	20206547	98.19	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-7-b
Data File Name	178SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:42:06-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	14.315	ppb	14.315	35.60	169616	500000	
Li	7	2	45	4.535	ppb	4.535	299.43	8910	500000	
Li	7	3	45	14.709	ppb	14.709	17.80	5541647	50000	
Be	9	1	6	0.003	ppb	0.003	814.13	10	2000	
B	11	1	6	1721.870	ppb	1721.870	7.20	697513	2000	
Na	23	1	45	160096.162	ppb	160096.162	5.87	597543284	2000	>LDR
Na	23	2	45	165158.543	ppb	165158.543	0.80	38977680	400000	
Mg	24	2	45	86039.182	ppb	86039.182	0.59	9618870	400000	
Al	27	2	45	7.414	ppb	7.414	46.31	230	400000	
K	39	1	45	3778.484	ppb	3778.484	7.75	26280702	400000	
K	39	2	45	5546.832	ppb	5546.832	2.04	307055	400000	
Ca	40	1	45	94817.609	ppb	94817.609	7.54	539105032	400000	
Ca	44	2	45	101602.728	ppb	101602.728	1.45	299300	400000	
Ti	47	2	45	0.285	ppb	0.285	173.21	7	4000	
V	51	2	72	-1.758	ppb	-1.758	-4.41	1440	2000	
Cr	52	2	72	0.947	ppb	0.947	5.38	1570	5000	
Mn	55	2	72	875.463	ppb	875.463	0.34	463605	10000	
Fe	57	2	72	295.734	ppb	295.734	2.70	7542	400000	
Co	59	2	72	1.193	ppb	1.193	8.28	2737	2000	
Ni	60	2	72	3.198	ppb	3.198	7.41	2240	5000	
Cu	63	2	72	0.161	ppb	0.161	72.19	1600	5000	
Zn	66	2	72	2.972	ppb	2.972	16.48	1000	5000	
As	75	2	72	1.035	ppb	1.035	10.32	216	2000	
Se	78	1	72	0.016	ppb	0.016	440.13	19	2000	
Sr	88	2	72	1103.123	ppb	1103.123	1.56	650089	4000	
Zr	90	2	72	41.876	ppb	41.876	6.91	417	1000	
Nb	93	2	72	-0.036	ppb	-0.036	-65.37	1120	200	
Mo	95	2	115	4.544	ppb	4.544	1.46	4271	2000	
Pd	105	2	115	0.028	ppb	0.028	105.89	73	100	
Ag	107	2	115	-0.015	ppb	-0.015	-49.69	23	100	
Cd	111	2	115	0.025	ppb	0.025	99.50	10	2000	
Sn	120	2	115	0.192	ppb	0.192	32.67	377	2000	
Sb	121	2	115	0.056	ppb	0.056	51.44	113	1000	
Ba	137	2	115	55.307	ppb	55.307	1.58	19201	5000	
W	182	2	165	0.097	ppb	0.097	32.55	1997	100	
Pt	195	2	165	-0.007	ppb	-0.007	-24.94	17	100	
Tl	205	2	165	-0.001	ppb	-0.001	-236.55	113	2000	
Pb	208	2	165	0.013	ppb	0.013	195.02	1003	5000	
Th	232	2	165	0.003	ppb	0.003	152.24	357	2000	
U	238	2	165	0.640	ppb	0.640	2.73	11239	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1463608	4.30	1639580	89.27	60	120	
Sc (IS)	45	1	HMI H2	31466993	3.64	31715490	99.22	60	120	
Sc (IS)	45	2	HMI He	893017	1.10	891522	100.17	60	120	
Sc (IS)	45	3	No Gas	49127994	0.47	54087154	90.83	60	120	
Ge Internal Standard	72	1	HMI H2	13082253	3.53	13102322	99.85	60	120	
Ge Internal Standard	72	2	HMI He	1043529	0.49	1026205	101.69	60	120	
In Internal Standard	115	2	HMI He	4184526	1.42	4195206	99.75	60	120	
Ho-165	165	2	HMI He	20163971	0.36	20206547	99.79	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-8-b
Data File Name	179SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:45:54-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	30.530	ppb	30.530	35.26	166461	500000	
Li	7	2	45	17.062	ppb	17.062	83.25	8986	500000	
Li	7	3	45	24.056	ppb	24.056	5.03	5513872	50000	
Be	9	1	6	-0.005	ppb	-0.005	-678.08	7	2000	
B	11	1	6	902.952	ppb	902.952	1.25	349360	2000	
Na	23	1	45	60824.155	ppb	60824.155	0.63	214429997	2000	>LDR
Na	23	2	45	58401.006	ppb	58401.006	0.07	13505605	400000	
Mg	24	2	45	133193.269	ppb	133193.269	0.05	14563680	400000	
Al	27	2	45	6.837	ppb	6.837	14.87	210	400000	
K	39	1	45	4508.691	ppb	4508.691	0.45	27420296	400000	
K	39	2	45	5845.612	ppb	5845.612	0.29	315475	400000	
Ca	40	1	45	193784.246	ppb	193784.246	0.86	1039407131	400000	
Ca	44	2	45	188637.497	ppb	188637.497	0.71	543430	400000	
Ti	47	2	45	0.433	ppb	0.433	100.48	10	4000	
V	51	2	72	-1.770	ppb	-1.770	-3.57	1397	2000	
Cr	52	2	72	0.145	ppb	0.145	38.14	490	5000	
Mn	55	2	72	1176.841	ppb	1176.841	0.63	609959	10000	
Fe	57	2	72	66.875	ppb	66.875	19.26	1790	400000	
Co	59	2	72	2.779	ppb	2.779	10.82	6228	2000	
Ni	60	2	72	4.683	ppb	4.683	4.24	3134	5000	
Cu	63	2	72	0.113	ppb	0.113	24.92	1483	5000	
Zn	66	2	72	2.539	ppb	2.539	24.25	877	5000	
As	75	2	72	0.526	ppb	0.526	18.20	124	2000	
Se	78	1	72	0.028	ppb	0.028	403.29	21	2000	
Sr	88	2	72	1339.516	ppb	1339.516	0.67	772560	4000	
Zr	90	2	72	40.037	ppb	40.037	14.98	393	1000	
Nb	93	2	72	-0.104	ppb	-0.104	-26.36	860	200	
Mo	95	2	115	7.217	ppb	7.217	1.04	6605	2000	
Pd	105	2	115	0.010	ppb	0.010	217.07	47	100	
Ag	107	2	115	-0.011	ppb	-0.011	-18.67	37	100	
Cd	111	2	115	0.009	ppb	0.009	173.21	3	2000	
Sn	120	2	115	0.190	ppb	0.190	43.61	367	2000	
Sb	121	2	115	0.052	ppb	0.052	124.15	107	1000	
Ba	137	2	115	19.362	ppb	19.362	7.40	6575	5000	
W	182	2	165	0.047	ppb	0.047	47.28	1787	100	
Pt	195	2	165	-0.009	ppb	-0.009	-33.20	10	100	
Tl	205	2	165	0.001	ppb	0.001	183.09	130	2000	
Pb	208	2	165	0.004	ppb	0.004	59.64	913	5000	
Th	232	2	165	0.000	ppb	0.000	361.43	307	2000	
U	238	2	165	0.667	ppb	0.667	1.93	11739	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1392783	0.43	1639580	84.95	60	120	
Sc (IS)	45	1	HMI H2	29633076	0.40	31715490	93.43	60	120	
Sc (IS)	45	2	HMI He	873390	0.80	891522	97.97	60	120	
Sc (IS)	45	3	No Gas	47727913	0.42	54087154	88.24	60	120	
Ge Internal Standard	72	1	HMI H2	12352813	0.40	13102322	94.28	60	120	
Ge Internal Standard	72	2	HMI He	1021385	1.22	1026205	99.53	60	120	
In Internal Standard	115	2	HMI He	4090096	0.86	4195206	97.49	60	120	
Ho-165	165	2	HMI He	20240930	0.45	20206547	100.17	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-9-b
Data File Name	180SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:49:44-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	56.876	ppb	56.876	12.06	177895	500000	
Li	7	2	45	42.986	ppb	42.986	39.83	9664	500000	
Li	7	3	45	62.433	ppb	62.433	10.53	6012887	50000	
Be	9	1	6	0.014	ppb	0.014	234.00	13	2000	
B	11	1	6	831.731	ppb	831.731	2.77	321734	2000	
Na	23	1	45	84786.984	ppb	84786.984	1.00	299617622	2000	>LDR
Na	23	2	45	80735.941	ppb	80735.941	2.79	18891498	400000	
Mg	24	2	45	46493.494	ppb	46493.494	2.89	5148273	400000	
Al	27	2	45	15.898	ppb	15.898	32.15	440	400000	
K	39	1	45	9875.451	ppb	9875.451	0.48	47012319	400000	
K	39	2	45	11167.315	ppb	11167.315	1.68	593126	400000	
Ca	40	1	45	114881.627	ppb	114881.627	1.00	618141711	400000	
Ca	44	2	45	114611.222	ppb	114611.222	2.39	334380	400000	
Ti	47	2	45	0.291	ppb	0.291	173.21	7	4000	
V	51	2	72	-1.993	ppb	-1.993	-11.53	1313	2000	
Cr	52	2	72	0.050	ppb	0.050	111.87	410	5000	
Mn	55	2	72	199.786	ppb	199.786	9.28	116404	10000	
Fe	57	2	72	298.696	ppb	298.696	5.25	8400	400000	
Co	59	2	72	0.238	ppb	0.238	18.72	603	2000	
Ni	60	2	72	0.451	ppb	0.451	25.75	503	5000	
Cu	63	2	72	-0.222	ppb	-0.222	-57.91	1010	5000	
Zn	66	2	72	1.067	ppb	1.067	26.26	600	5000	
As	75	2	72	0.988	ppb	0.988	17.17	227	2000	
Se	78	1	72	-0.012	ppb	-0.012	-196.28	11	2000	
Sr	88	2	72	1098.057	ppb	1098.057	8.21	712132	4000	
Zr	90	2	72	7.616	ppb	7.616	99.35	153	1000	
Nb	93	2	72	-0.131	ppb	-0.131	-25.08	857	200	
Mo	95	2	115	5.782	ppb	5.782	2.56	5331	2000	
Pd	105	2	115	0.034	ppb	0.034	43.92	80	100	
Ag	107	2	115	-0.015	ppb	-0.015	-12.64	23	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.019	ppb	0.019	150.36	183	2000	
Sb	121	2	115	0.001	ppb	0.001	2516.45	57	1000	
Ba	137	2	115	31.095	ppb	31.095	5.10	10615	5000	
W	182	2	165	0.029	ppb	0.029	68.37	1714	100	
Pt	195	2	165	-0.010	ppb	-0.010	-17.36	7	100	
Tl	205	2	165	0.002	ppb	0.002	363.71	133	2000	
Pb	208	2	165	0.013	ppb	0.013	101.36	1010	5000	
Th	232	2	165	0.001	ppb	0.001	420.72	313	2000	
U	238	2	165	0.503	ppb	0.503	3.97	8904	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1392450	1.39	1639580	84.93	60	120	
Sc (IS)	45	1	HMI H2	29726008	0.34	31715490	93.73	60	120	
Sc (IS)	45	2	HMI He	884806	2.39	891522	99.25	60	120	
Sc (IS)	45	3	No Gas	47455631	1.44	54087154	87.74	60	120	
Ge Internal Standard	72	1	HMI H2	12279957	0.22	13102322	93.72	60	120	
Ge Internal Standard	72	2	HMI He	1154235	9.17	1026205	112.48	60	120	
In Internal Standard	115	2	HMI He	4114150	1.35	4195206	98.07	60	120	
Ho-165	165	2	HMI He	20264778	1.24	20206547	100.29	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	181_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:53:30-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	466.944	ppb	2.327	353288	500	93.4	90	110	
Li	7	2	45	461.971	ppb	11.435	18859	500	92.4	90	110	
Li	7	3	45	475.070	ppb	0.974	11872029	500	95.0	90	110	
Be	9	1	6	51.056	ppb	2.785	18923	50	102.1	90	110	
B	11	1	6	68.788	ppb	2.610	28999	50	137.6	90	110	>+\-10%
Na	23	1	45	5125.986	ppb	1.006	18957242	5000	102.5	90	110	
Na	23	2	45	5189.046	ppb	1.772	1254660	5000	103.8	90	110	
Mg	24	2	45	4399.667	ppb	0.554	488981	5000	88.0	90	110	>+\-10%
Al	27	2	45	5176.105	ppb	0.611	131420	5000	103.5	90	110	
K	39	1	45	5188.134	ppb	1.340	30457962	5000	103.8	90	110	
K	39	2	45	5084.610	ppb	0.530	281176	5000	101.7	90	110	
Ca	40	1	45	5239.238	ppb	1.423	28693644	5000	104.8	90	110	
Ca	44	2	45	5199.202	ppb	2.584	15262	5000	104.0	90	110	
Ti	47	2	45	44.567	ppb	10.833	1050	50	89.1	90	110	>+\-10%
V	51	2	72	48.915	ppb	1.937	53536	50	97.8	90	110	
Cr	52	2	72	49.881	ppb	1.577	66168	50	99.8	90	110	
Mn	55	2	72	48.968	ppb	3.895	25747	50	97.9	90	110	
Fe	57	2	72	5022.965	ppb	1.166	124466	5000	100.5	90	110	
Co	59	2	72	49.734	ppb	1.380	112793	50	99.5	90	110	
Ni	60	2	72	49.372	ppb	5.954	31886	50	98.7	90	110	
Cu	63	2	72	49.419	ppb	1.145	88362	50	98.8	90	110	
Zn	66	2	72	49.354	ppb	6.661	11946	50	98.7	90	110	
As	75	2	72	48.189	ppb	3.310	8362	50	96.4	90	110	
Se	78	1	72	51.227	ppb	0.875	13665	50	102.5	90	110	
Sr	88	2	72	52.367	ppb	2.704	30624	50	104.7	90	110	
Zr	90	2	72	62.506	ppb	18.641	577	50	125.0	90	110	>+\-10%
Nb	93	2	72	88.054	ppb	0.697	311748	100	88.1	90	110	>+\-10%
Mo	95	2	115	48.920	ppb	2.165	45741	50	97.8	90	110	
Pd	105	2	115	51.208	ppb	1.149	72903	50	102.4	90	110	
Ag	107	2	115	49.921	ppb	0.956	152117	50	99.8	90	110	
Cd	111	2	115	50.907	ppb	1.417	20082	50	101.8	90	110	
Sn	120	2	115	51.297	ppb	2.963	56643	50	102.6	90	110	
Sb	121	2	115	50.847	ppb	1.707	51406	50	101.7	90	110	
Ba	137	2	115	48.593	ppb	3.873	16948	50	97.2	90	110	
W	182	2	165	49.365	ppb	1.304	215602	50	98.7	90	110	
Pt	195	2	165	49.720	ppb	1.228	173416	50	99.4	90	110	
Tl	205	2	165	50.549	ppb	0.732	407879	50	101.1	90	110	
Pb	208	2	165	50.654	ppb	0.770	545584	50	101.3	90	110	
Th	232	2	165	38.616	ppb	1.117	644541	50	77.2	90	110	>+\-10%
U	238	2	165	39.511	ppb	0.668	693572	50	79.0	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1457076	1.02	1639580	88.87	60	120	
Sc (IS)	45	1	HMI H2	30205379	0.85	31715490	95.24	60	120	
Sc (IS)	45	2	HMI He	887059	0.61	891522	99.50	60	120	
Sc (IS)	45	3	No Gas	48042154	0.53	54087154	88.82	60	120	
Ge Internal Standard	72	1	HMI H2	12504536	0.54	13102322	95.44	60	120	
Ge Internal Standard	72	2	HMI He	1033953	0.60	1026205	100.76	60	120	
In Internal Standard	115	2	HMI He	4201835	1.24	4195206	100.16	60	120	
Ho-165	165	2	HMI He	20395133	0.31	20206547	100.93	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	182_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T03:57:16-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-15.092	ppb	-32.8	5129176	10	
Be	9	1	6	-0.024	ppb	0.0	0	0.5	
B	11	1	6	14.013	ppb	4.4	7012	0.5	>RL
Na	23	1	45	-47.034	ppb	-3.0	421060	25	
Na	23	2	45	-53.081	ppb	-4.7	27453	25	
Mg	24	2	45	11.227	ppb	4.3	1670	25	
Al	27	2	45	0.630	ppb	90.2	57	15	
K	39	1	45	86.905	ppb	8.8	11703586	50	>RL
K	39	2	45	-16.490	ppb	-72.6	18452	50	
Ca	40	1	45	5.365	ppb	10.2	82622	50	
Ca	44	2	45	-13.677	ppb	-56.3	13	25	
Ti	47	2	45	0.415	ppb	99.9	10	0.5	
V	51	2	72	0.017	ppb	1910.4	3284	1	
Cr	52	2	72	-0.001	ppb	-5087.6	307	1	
Mn	55	2	72	0.048	ppb	76.5	80	0.5	
Fe	57	2	72	2.281	ppb	104.7	213	25	
Co	59	2	72	0.016	ppb	14.9	43	0.5	
Ni	60	2	72	-0.076	ppb	-114.3	117	1	
Cu	63	2	72	-0.110	ppb	-40.9	1120	1	
Zn	66	2	72	-0.065	ppb	-255.1	277	5	
As	75	2	72	-0.056	ppb	-41.2	25	1	
Se	78	1	72	0.002	ppb	2469.9	15	1	
Sr	88	2	72	0.016	ppb	331.8	57	0.5	
Zr	90	2	72	11.891	ppb	27.1	177	1	>RL
Nb	93	2	72	3.120	ppb	8.1	12373	2	>RL
Mo	95	2	115	0.016	ppb	290.6	60	0.5	
Pd	105	2	115	0.034	ppb	30.9	83	1	
Ag	107	2	115	-0.011	ppb	-32.0	37	1	
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5	
Sn	120	2	115	0.076	ppb	74.5	257	1	
Sb	121	2	115	0.331	ppb	19.8	400	0.6	
Ba	137	2	115	0.037	ppb	115.7	17	0.5	
W	182	2	165	0.049	ppb	91.9	1834	1	
Pt	195	2	165	-0.002	ppb	-211.6	33	1	
Tl	205	2	165	0.005	ppb	79.5	167	0.1	
Pb	208	2	165	-0.006	ppb	-123.0	820	0.5	
Th	232	2	165	0.029	ppb	39.8	800	1	
U	238	2	165	0.014	ppb	25.0	377	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1478665	3.13	1639580	90.19	60	120	
Sc (IS)	45	1	HMI H2	30424655	0.85	31715490	95.93	60	120	
Sc (IS)	45	2	HMI He	900850	1.29	891522	101.05	60	120	
Sc (IS)	45	3	No Gas	49270378	0.15	54087154	91.09	60	120	
Ge Internal Standard	72	1	HMI H2	12580917	0.53	13102322	96.02	60	120	
Ge Internal Standard	72	2	HMI He	1044757	0.91	1026205	101.81	60	120	
In Internal Standard	115	2	HMI He	4291858	1.24	4195206	102.30	60	120	
Ho-165	165	2	HMI He	20645131	0.99	20206547	102.17	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-10-b
Data File Name	183SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:01:02-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-0.645	ppb	-0.645	-1118.57	150667	500000	
Li	7	2	45	-33.105	ppb	-33.105	-86.30	7759	500000	
Li	7	3	45	-10.923	ppb	-10.923	-50.57	4991834	50000	
Be	9	1	6	0.005	ppb	0.005	1012.21	10	2000	
B	11	1	6	194.570	ppb	194.570	0.65	76609	2000	
Na	23	1	45	22814.204	ppb	22814.204	0.86	79253449	2000	>LDR
Na	23	2	45	22281.909	ppb	22281.909	0.28	5080950	400000	
Mg	24	2	45	69619.807	ppb	69619.807	0.85	7471494	400000	
Al	27	2	45	7.948	ppb	7.948	7.25	233	400000	
K	39	1	45	1839.415	ppb	1839.415	0.94	17412126	400000	
K	39	2	45	3162.567	ppb	3162.567	2.51	175942	400000	
Ca	40	1	45	157454.190	ppb	157454.190	0.83	828515294	400000	
Ca	44	2	45	151895.051	ppb	151895.051	0.83	429474	400000	
Ti	47	2	45	0.293	ppb	0.293	173.21	7	4000	
V	51	2	72	-1.636	ppb	-1.636	-6.29	1503	2000	
Cr	52	2	72	0.092	ppb	0.092	115.53	413	5000	
Mn	55	2	72	1197.230	ppb	1197.230	0.21	608217	10000	
Fe	57	2	72	102.272	ppb	102.272	7.03	2600	400000	
Co	59	2	72	1.672	ppb	1.672	7.29	3681	2000	
Ni	60	2	72	2.846	ppb	2.846	2.00	1930	5000	
Cu	63	2	72	0.386	ppb	0.386	4.78	1920	5000	
Zn	66	2	72	2.103	ppb	2.103	43.36	760	5000	
As	75	2	72	0.405	ppb	0.405	29.36	101	2000	
Se	78	1	72	0.030	ppb	0.030	164.92	21	2000	
Sr	88	2	72	450.633	ppb	450.633	0.30	254797	4000	
Zr	90	2	72	8.515	ppb	8.515	25.55	143	1000	
Nb	93	2	72	2.018	ppb	2.018	7.67	8089	200	
Mo	95	2	115	1.716	ppb	1.716	7.56	1587	2000	
Pd	105	2	115	-0.011	ppb	-0.011	-98.48	17	100	
Ag	107	2	115	-0.016	ppb	-0.016	-21.05	20	100	
Cd	111	2	115	0.009	ppb	0.009	173.21	3	2000	
Sn	120	2	115	0.071	ppb	0.071	124.80	237	2000	
Sb	121	2	115	0.064	ppb	0.064	37.23	117	1000	
Ba	137	2	115	20.717	ppb	20.717	11.10	6962	5000	
W	182	2	165	0.035	ppb	0.035	284.48	1700	100	
Pt	195	2	165	-0.002	ppb	-0.002	-542.22	33	100	
Tl	205	2	165	0.015	ppb	0.015	4.88	233	2000	
Pb	208	2	165	0.015	ppb	0.015	90.04	1003	5000	
Th	232	2	165	0.037	ppb	0.037	8.60	897	2000	
U	238	2	165	3.222	ppb	3.222	1.24	55088	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1399958	1.71	1639580	85.39	60	120	
Sc (IS)	45	1	HMI H2	29071264	1.09	31715490	91.66	60	120	
Sc (IS)	45	2	HMI He	857211	0.49	891522	96.15	60	120	
Sc (IS)	45	3	No Gas	47402031	1.12	54087154	87.64	60	120	
Ge Internal Standard	72	1	HMI H2	12085033	0.22	13102322	92.24	60	120	
Ge Internal Standard	72	2	HMI He	1001139	1.03	1026205	97.56	60	120	
In Internal Standard	115	2	HMI He	4049070	0.19	4195206	96.52	60	120	
Ho-165	165	2	HMI He	19820997	0.68	20206547	98.09	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-11-b
Data File Name	184SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:04:49-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	13.846	ppb	13.846	59.28	154272	500000	
Li	7	2	45	0.571	ppb	0.571	741.10	8353	500000	
Li	7	3	45	6.544	ppb	6.544	73.92	5201519	50000	
Be	9	1	6	-0.004	ppb	-0.004	-379.50	7	2000	
B	11	1	6	256.436	ppb	256.436	1.14	97311	2000	
Na	23	1	45	18080.282	ppb	18080.282	0.84	62013596	2000	>LDR
Na	23	2	45	17582.734	ppb	17582.734	0.20	3961036	400000	
Mg	24	2	45	103147.012	ppb	103147.012	1.01	10913097	400000	
Al	27	2	45	25.535	ppb	25.535	21.00	657	400000	
K	39	1	45	3976.404	ppb	3976.404	1.95	24644110	400000	
K	39	2	45	5380.529	ppb	5380.529	0.71	282463	400000	
Ca	40	1	45	339480.172	ppb	339480.172	0.68	1760321040	400000	
Ca	44	2	45	327177.088	ppb	327177.088	0.48	912041	400000	
Ti	47	2	45	0.438	ppb	0.438	173.21	10	4000	
V	51	2	72	-1.874	ppb	-1.874	-11.09	1240	2000	
Cr	52	2	72	0.205	ppb	0.205	43.24	547	5000	
Mn	55	2	72	2859.214	ppb	2859.214	0.98	1421592	10000	
Fe	57	2	72	990.687	ppb	990.687	2.01	23383	400000	
Co	59	2	72	7.431	ppb	7.431	0.32	15976	2000	
Ni	60	2	72	13.391	ppb	13.391	2.94	8309	5000	
Cu	63	2	72	0.115	ppb	0.115	31.46	1427	5000	
Zn	66	2	72	7.146	ppb	7.146	2.76	1874	5000	
As	75	2	72	2.170	ppb	2.170	5.70	388	2000	
Se	78	1	72	0.059	ppb	0.059	71.98	28	2000	
Sr	88	2	72	1241.647	ppb	1241.647	1.08	687059	4000	
Zr	90	2	72	23.512	ppb	23.512	22.45	253	1000	
Nb	93	2	72	1.112	ppb	1.112	17.02	4891	200	
Mo	95	2	115	2.565	ppb	2.565	5.01	2334	2000	
Pd	105	2	115	0.021	ppb	0.021	129.43	60	100	
Ag	107	2	115	-0.013	ppb	-0.013	-26.35	30	100	
Cd	111	2	115	0.018	ppb	0.018	173.21	7	2000	
Sn	120	2	115	0.208	ppb	0.208	97.12	380	2000	
Sb	121	2	115	0.034	ppb	0.034	100.37	87	1000	
Ba	137	2	115	17.175	ppb	17.175	7.57	5728	5000	
W	182	2	165	0.062	ppb	0.062	73.76	1800	100	
Pt	195	2	165	0.000	ppb	0.000	900.66	40	100	
Tl	205	2	165	0.025	ppb	0.025	12.68	310	2000	
Pb	208	2	165	0.073	ppb	0.073	14.18	1600	5000	
Th	232	2	165	0.025	ppb	0.025	22.31	693	2000	
U	238	2	165	7.010	ppb	7.010	2.10	118871	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1354404	0.86	1639580	82.61	60	120	
Sc (IS)	45	1	HMI H2	28648790	0.55	31715490	90.33	60	120	
Sc (IS)	45	2	HMI He	845189	1.57	891522	94.80	60	120	
Sc (IS)	45	3	No Gas	47109314	0.34	54087154	87.10	60	120	
Ge Internal Standard	72	1	HMI H2	11780113	0.54	13102322	89.91	60	120	
Ge Internal Standard	72	2	HMI He	979897	0.73	1026205	95.49	60	120	
In Internal Standard	115	2	HMI He	4018200	0.81	4195206	95.78	60	120	
Ho-165	165	2	HMI He	19681297	1.23	20206547	97.40	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-12-b
Data File Name	185SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:08:38-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	75.198	ppb	75.198	4.12	178285	500000	
Li	7	2	45	46.440	ppb	46.440	20.48	9447	500000	
Li	7	3	45	66.245	ppb	66.245	2.22	6009516	50000	
Be	9	1	6	0.046	ppb	0.046	74.73	23	2000	
B	11	1	6	1238.031	ppb	1238.031	0.38	449286	2000	
Na	23	1	45	154472.642	ppb	154472.642	0.81	524230779	2000	>LDR
Na	23	2	45	146694.007	ppb	146694.007	0.86	33255439	400000	
Mg	24	2	45	127942.893	ppb	127942.893	1.09	13737463	400000	
Al	27	2	45	8.892	ppb	8.892	26.61	257	400000	
K	39	1	45	7923.886	ppb	7923.886	1.43	38369245	400000	
K	39	2	45	9162.949	ppb	9162.949	1.05	475164	400000	
Ca	40	1	45	336448.621	ppb	336448.621	1.27	1739937627	400000	
Ca	44	2	45	324304.067	ppb	324304.067	0.69	917388	400000	
Ti	47	2	45	0.147	ppb	0.147	173.21	3	4000	
V	51	2	72	-2.013	ppb	-2.013	-8.46	1107	2000	
Cr	52	2	72	0.146	ppb	0.146	75.77	473	5000	
Mn	55	2	72	1877.220	ppb	1877.220	0.41	936920	10000	
Fe	57	2	72	849.850	ppb	849.850	1.03	20155	400000	
Co	59	2	72	12.074	ppb	12.074	0.30	26054	2000	
Ni	60	2	72	17.154	ppb	17.154	3.27	10641	5000	
Cu	63	2	72	0.110	ppb	0.110	45.70	1423	5000	
Zn	66	2	72	3.214	ppb	3.214	19.95	997	5000	
As	75	2	72	1.273	ppb	1.273	14.57	242	2000	
Se	78	1	72	0.022	ppb	0.022	183.52	19	2000	
Sr	88	2	72	2631.062	ppb	2631.062	0.89	1461267	4000	
Zr	90	2	72	86.091	ppb	86.091	16.22	727	1000	
Nb	93	2	72	0.634	ppb	0.634	15.16	3304	200	
Mo	95	2	115	7.241	ppb	7.241	0.34	6462	2000	
Pd	105	2	115	0.080	ppb	0.080	19.15	140	100	
Ag	107	2	115	-0.008	ppb	-0.008	-194.40	43	100	
Cd	111	2	115	0.018	ppb	0.018	173.21	7	2000	
Sn	120	2	115	0.190	ppb	0.190	19.03	357	2000	
Sb	121	2	115	0.034	ppb	0.034	123.38	87	1000	
Ba	137	2	115	11.540	ppb	11.540	2.83	3821	5000	
W	182	2	165	0.035	ppb	0.035	83.67	1674	100	
Pt	195	2	165	-0.002	ppb	-0.002	-578.26	33	100	
Tl	205	2	165	0.016	ppb	0.016	52.29	243	2000	
Pb	208	2	165	0.039	ppb	0.039	15.19	1243	5000	
Th	232	2	165	0.008	ppb	0.008	47.09	423	2000	
U	238	2	165	0.473	ppb	0.473	5.05	8076	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1307621	0.23	1639580	79.75	60	120	
Sc (IS)	45	1	HMI H2	28572845	0.58	31715490	90.09	60	120	
Sc (IS)	45	2	HMI He	857686	0.59	891522	96.20	60	120	
Sc (IS)	45	3	No Gas	47010729	1.10	54087154	86.92	60	120	
Ge Internal Standard	72	1	HMI H2	11754067	1.00	13102322	89.71	60	120	
Ge Internal Standard	72	2	HMI He	983581	0.72	1026205	95.85	60	120	
In Internal Standard	115	2	HMI He	3988059	0.76	4195206	95.06	60	120	
Ho-165	165	2	HMI He	19520883	0.33	20206547	96.61	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-13-b
Data File Name	186SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:12:27-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	35.570	ppb	35.570	6.79	159902	500000	
Li	7	2	45	15.695	ppb	15.695	140.54	8576	500000	
Li	7	3	45	22.251	ppb	22.251	20.08	5420437	50000	
Be	9	1	6	-0.003	ppb	-0.003	-1007.03	7	2000	
B	11	1	6	1176.171	ppb	1176.171	2.51	433677	2000	
Na	23	1	45	78854.146	ppb	78854.146	0.23	263577263	2000	>LDR
Na	23	2	45	75116.561	ppb	75116.561	0.35	16624939	400000	
Mg	24	2	45	166877.428	ppb	166877.428	0.16	17473327	400000	
Al	27	2	45	8.470	ppb	8.470	10.66	240	400000	
K	39	1	45	4589.402	ppb	4589.402	1.19	26290978	400000	
K	39	2	45	5843.012	ppb	5843.012	1.36	301984	400000	
Ca	40	1	45	370764.875	ppb	370764.875	0.92	1886634052	400000	
Ca	44	2	45	369455.131	ppb	369455.131	6.26	1019617	400000	
Ti	47	2	45	0.303	ppb	0.303	173.21	7	4000	
V	51	2	72	-2.023	ppb	-2.023	-4.51	1080	2000	
Cr	52	2	72	0.130	ppb	0.130	25.28	447	5000	
Mn	55	2	72	3146.572	ppb	3146.572	1.39	1545556	10000	
Fe	57	2	72	822.933	ppb	822.933	1.07	19214	400000	
Co	59	2	72	5.978	ppb	5.978	1.14	12700	2000	
Ni	60	2	72	6.954	ppb	6.954	3.87	4338	5000	
Cu	63	2	72	0.065	ppb	0.065	74.42	1327	5000	
Zn	66	2	72	3.328	ppb	3.328	9.87	1007	5000	
As	75	2	72	1.091	ppb	1.091	5.37	209	2000	
Se	78	1	72	0.023	ppb	0.023	108.30	19	2000	
Sr	88	2	72	1580.530	ppb	1580.530	0.51	864054	4000	
Zr	90	2	72	26.604	ppb	26.604	36.53	273	1000	
Nb	93	2	72	0.437	ppb	0.437	3.93	2600	200	
Mo	95	2	115	4.078	ppb	4.078	4.25	3587	2000	
Pd	105	2	115	0.022	ppb	0.022	105.62	60	100	
Ag	107	2	115	-0.010	ppb	-0.010	-136.01	37	100	
Cd	111	2	115	0.045	ppb	0.045	33.79	17	2000	
Sn	120	2	115	0.272	ppb	0.272	22.91	433	2000	
Sb	121	2	115	0.000	ppb	0.000	3471.96	53	1000	
Ba	137	2	115	14.995	ppb	14.995	5.57	4871	5000	
W	182	2	165	0.024	ppb	0.024	79.22	1604	100	
Pt	195	2	165	-0.007	ppb	-0.007	-62.91	13	100	
Tl	205	2	165	0.010	ppb	0.010	79.45	187	2000	
Pb	208	2	165	0.047	ppb	0.047	12.58	1303	5000	
Th	232	2	165	0.011	ppb	0.011	14.97	453	2000	
U	238	2	165	3.394	ppb	3.394	1.84	56248	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1328898	2.28	1639580	81.05	60	120	
Sc (IS)	45	1	HMI H2	28113312	0.60	31715490	88.64	60	120	
Sc (IS)	45	2	HMI He	836383	1.10	891522	93.82	60	120	
Sc (IS)	45	3	No Gas	47138123	1.45	54087154	87.15	60	120	
Ge Internal Standard	72	1	HMI H2	11598835	0.25	13102322	88.53	60	120	
Ge Internal Standard	72	2	HMI He	968088	0.84	1026205	94.34	60	120	
In Internal Standard	115	2	HMI He	3911323	1.25	4195206	93.23	60	120	
Ho-165	165	2	HMI He	19218006	1.23	20206547	95.11	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-14-b
Data File Name	187SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:16:17-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	64.409	ppb	64.409	6.09	169149	500000	
Li	7	2	45	45.248	ppb	45.248	40.13	8976	500000	
Li	7	3	45	59.222	ppb	59.222	6.43	5623211	50000	
Be	9	1	6	0.007	ppb	0.007	460.84	10	2000	
B	11	1	6	1118.483	ppb	1118.483	1.68	398993	2000	
Na	23	1	45	135780.444	ppb	135780.444	0.17	448060713	2000	>LDR
Na	23	2	45	128944.937	ppb	128944.937	0.29	27852355	400000	
Mg	24	2	45	225697.837	ppb	225697.837	0.61	23087469	400000	
Al	27	2	45	10.541	ppb	10.541	37.08	283	400000	
K	39	1	45	9255.185	ppb	9255.185	0.32	41825504	400000	
K	39	2	45	10511.711	ppb	10511.711	0.46	516739	400000	
Ca	40	1	45	495816.895	ppb	495816.895	0.70	2492823536	400000	
Ca	44	2	45	554744.288	ppb	554744.288	1.38	1495019	400000	
Ti	47	2	45	1.530	ppb	1.530	95.81	33	4000	
V	51	2	72	-1.953	ppb	-1.953	-5.57	1110	2000	
Cr	52	2	72	0.285	ppb	0.285	18.87	617	5000	
Mn	55	2	72	3449.557	ppb	3449.557	0.58	1639063	10000	
Fe	57	2	72	6901.366	ppb	6901.366	0.97	154829	400000	
Co	59	2	72	0.880	ppb	0.880	6.53	1814	2000	
Ni	60	2	72	4.087	ppb	4.087	5.43	2527	5000	
Cu	63	2	72	0.048	ppb	0.048	117.23	1257	5000	
Zn	66	2	72	2.911	ppb	2.911	25.64	883	5000	
As	75	2	72	2.611	ppb	2.611	7.82	440	2000	
Se	78	1	72	0.080	ppb	0.080	74.69	32	2000	
Sr	88	2	72	3912.470	ppb	3912.470	1.39	2068762	4000	
Zr	90	2	72	118.372	ppb	118.372	8.24	923	1000	
Nb	93	2	72	0.282	ppb	0.282	36.54	2020	200	
Mo	95	2	115	2.672	ppb	2.672	2.73	2310	2000	
Pd	105	2	115	0.080	ppb	0.080	29.80	133	100	
Ag	107	2	115	-0.016	ppb	-0.016	-22.73	20	100	
Cd	111	2	115	0.037	ppb	0.037	86.61	13	2000	
Sn	120	2	115	0.095	ppb	0.095	11.57	247	2000	
Sb	121	2	115	0.013	ppb	0.013	214.02	63	1000	
Ba	137	2	115	12.584	ppb	12.584	7.01	3994	5000	
W	182	2	165	0.011	ppb	0.011	440.21	1510	100	
Pt	195	2	165	0.000	ppb	0.000	-5508.26	37	100	
Tl	205	2	165	-0.009	ppb	-0.009	-7.90	43	2000	
Pb	208	2	165	0.003	ppb	0.003	409.44	830	5000	
Th	232	2	165	0.010	ppb	0.010	140.22	437	2000	
U	238	2	165	1.430	ppb	1.430	2.72	23152	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1285234	1.53	1639580	78.39	60	120	
Sc (IS)	45	1	HMI H2	27778600	0.99	31715490	87.59	60	120	
Sc (IS)	45	2	HMI He	817074	0.70	891522	91.65	60	120	
Sc (IS)	45	3	No Gas	44705691	0.54	54087154	82.65	60	120	
Ge Internal Standard	72	1	HMI H2	11315437	0.05	13102322	86.36	60	120	
Ge Internal Standard	72	2	HMI He	936386	0.83	1026205	91.25	60	120	
In Internal Standard	115	2	HMI He	3821738	0.62	4195206	91.10	60	120	
Ho-165	165	2	HMI He	18717170	0.88	20206547	92.63	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-15-b
Data File Name	188SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:20:06-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	67.048	ppb	67.048	6.01	167267	500000	
Li	7	2	45	58.325	ppb	58.325	43.47	9156	500000	
Li	7	3	45	61.728	ppb	61.728	4.47	5593304	50000	
Be	9	1	6	0.028	ppb	0.028	168.97	17	2000	
B	11	1	6	825.997	ppb	825.997	0.96	290189	2000	
Na	23	1	45	87784.694	ppb	87784.694	0.14	284912822	2000	>LDR
Na	23	2	45	83654.907	ppb	83654.907	0.83	17919328	400000	
Mg	24	2	45	246030.370	ppb	246030.370	0.15	24939429	400000	
Al	27	2	45	11.250	ppb	11.250	33.39	297	400000	
K	39	1	45	9133.198	ppb	9133.198	0.76	40702722	400000	
K	39	2	45	10287.701	ppb	10287.701	0.58	501530	400000	
Ca	40	1	45	500497.410	ppb	500497.410	0.30	2473385456	400000	
Ca	44	2	45	551571.238	ppb	551571.238	1.52	1473032	400000	
Ti	47	2	45	0.308	ppb	0.308	173.21	7	4000	
V	51	2	72	-1.956	ppb	-1.956	-2.36	1097	2000	
Cr	52	2	72	0.251	ppb	0.251	37.02	570	5000	
Mn	55	2	72	3184.393	ppb	3184.393	0.34	1497823	10000	
Fe	57	2	72	3467.536	ppb	3467.536	0.83	77082	400000	
Co	59	2	72	2.425	ppb	2.425	4.10	4934	2000	
Ni	60	2	72	7.437	ppb	7.437	7.44	4434	5000	
Cu	63	2	72	0.251	ppb	0.251	53.21	1563	5000	
Zn	66	2	72	2.290	ppb	2.290	30.90	743	5000	
As	75	2	72	1.915	ppb	1.915	12.17	328	2000	
Se	78	1	72	0.038	ppb	0.038	138.22	21	2000	
Sr	88	2	72	3298.452	ppb	3298.452	0.58	1726628	4000	
Zr	90	2	72	123.795	ppb	123.795	14.34	953	1000	
Nb	93	2	72	0.114	ppb	0.114	37.02	1470	200	
Mo	95	2	115	1.573	ppb	1.573	13.60	1360	2000	
Pd	105	2	115	0.078	ppb	0.078	27.40	130	100	
Ag	107	2	115	-0.013	ppb	-0.013	-68.05	27	100	
Cd	111	2	115	0.019	ppb	0.019	86.62	7	2000	
Sn	120	2	115	0.145	ppb	0.145	49.91	293	2000	
Sb	121	2	115	0.047	ppb	0.047	99.90	93	1000	
Ba	137	2	115	15.109	ppb	15.109	2.41	4734	5000	
W	182	2	165	0.035	ppb	0.035	78.23	1600	100	
Pt	195	2	165	-0.008	ppb	-0.008	-36.92	10	100	
Tl	205	2	165	-0.001	ppb	-0.001	-509.28	107	2000	
Pb	208	2	165	0.011	ppb	0.011	82.08	910	5000	
Th	232	2	165	0.004	ppb	0.004	67.73	337	2000	
U	238	2	165	2.533	ppb	2.533	1.08	40732	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1264348	0.61	1639580	77.11	60	120	
Sc (IS)	45	1	HMI H2	27303190	0.17	31715490	86.09	60	120	
Sc (IS)	45	2	HMI He	809696	0.54	891522	90.82	60	120	
Sc (IS)	45	3	No Gas	44210074	0.31	54087154	81.74	60	120	
Ge Internal Standard	72	1	HMI H2	11118940	0.66	13102322	84.86	60	120	
Ge Internal Standard	72	2	HMI He	926977	1.16	1026205	90.33	60	120	
In Internal Standard	115	2	HMI He	3773953	1.37	4195206	89.96	60	120	
Ho-165	165	2	HMI He	18630066	0.84	20206547	92.20	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-16-b
Data File Name	189SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:23:55-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	49.194	ppb	49.194	10.45	162818	500000	
Li	7	2	45	31.094	ppb	31.094	47.87	8603	500000	
Li	7	3	45	47.195	ppb	47.195	7.96	5436993	50000	
Be	9	1	6	-0.024	ppb	-0.024	0.00	0	2000	
B	11	1	6	841.025	ppb	841.025	2.87	304887	2000	
Na	23	1	45	79542.644	ppb	79542.644	0.34	261984856	2000	>LDR
Na	23	2	45	76011.036	ppb	76011.036	1.08	16269324	400000	
Mg	24	2	45	127135.859	ppb	127135.859	0.78	12874918	400000	
Al	27	2	45	8.947	ppb	8.947	9.47	243	400000	
K	39	1	45	7301.346	ppb	7301.346	0.79	35092636	400000	
K	39	2	45	8628.490	ppb	8628.490	0.68	423040	400000	
Ca	40	1	45	229971.509	ppb	229971.509	0.74	1153102009	400000	
Ca	44	2	45	224207.340	ppb	224207.340	0.99	598198	400000	
Ti	47	2	45	0.156	ppb	0.156	173.21	3	4000	
V	51	2	72	-2.020	ppb	-2.020	-6.07	1050	2000	
Cr	52	2	72	0.125	ppb	0.125	59.41	427	5000	
Mn	55	2	72	1820.068	ppb	1820.068	0.64	866640	10000	
Fe	57	2	72	3164.484	ppb	3164.484	1.08	71219	400000	
Co	59	2	72	1.392	ppb	1.392	4.69	2870	2000	
Ni	60	2	72	2.202	ppb	2.202	4.44	1433	5000	
Cu	63	2	72	0.201	ppb	0.201	18.51	1503	5000	
Zn	66	2	72	2.371	ppb	2.371	32.31	770	5000	
As	75	2	72	0.924	ppb	0.924	30.32	176	2000	
Se	78	1	72	0.024	ppb	0.024	169.97	19	2000	
Sr	88	2	72	1598.307	ppb	1598.307	0.21	846926	4000	
Zr	90	2	72	50.482	ppb	50.482	6.14	437	1000	
Nb	93	2	72	0.017	ppb	0.017	103.09	1177	200	
Mo	95	2	115	2.578	ppb	2.578	6.27	2197	2000	
Pd	105	2	115	0.055	ppb	0.055	14.74	100	100	
Ag	107	2	115	-0.013	ppb	-0.013	-42.06	27	100	
Cd	111	2	115	0.038	ppb	0.038	86.60	13	2000	
Sn	120	2	115	0.169	ppb	0.169	28.69	317	2000	
Sb	121	2	115	0.021	ppb	0.021	90.35	70	1000	
Ba	137	2	115	26.290	ppb	26.290	8.44	8213	5000	
W	182	2	165	0.030	ppb	0.030	100.16	1580	100	
Pt	195	2	165	-0.003	ppb	-0.003	-246.65	27	100	
Tl	205	2	165	0.000	ppb	0.000	-2218.61	110	2000	
Pb	208	2	165	0.093	ppb	0.093	11.96	1717	5000	
Th	232	2	165	0.000	ppb	0.000	1272.04	283	2000	
U	238	2	165	2.579	ppb	2.579	1.47	41511	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1305290	2.44	1639580	79.61	60	120	
Sc (IS)	45	1	HMI H2	27702395	0.50	31715490	87.35	60	120	
Sc (IS)	45	2	HMI He	808924	0.53	891522	90.74	60	120	
Sc (IS)	45	3	No Gas	44465454	0.46	54087154	82.21	60	120	
Ge Internal Standard	72	1	HMI H2	11401751	0.89	13102322	87.02	60	120	
Ge Internal Standard	72	2	HMI He	938368	0.67	1026205	91.44	60	120	
In Internal Standard	115	2	HMI He	3764886	0.69	4195206	89.74	60	120	
Ho-165	165	2	HMI He	18651443	0.57	20206547	92.30	60	120	

Sample Report

Sample Table

Sample Name	280-116007-d-17-b
Data File Name	190SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:27:46-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	71.166	ppb	71.166	8.36	162283	500000	
Li	7	2	45	38.914	ppb	38.914	62.55	8646	500000	
Li	7	3	45	54.449	ppb	54.449	5.01	5471077	50000	
Be	9	1	6	-0.024	ppb	-0.024	0.00	0	2000	
B	11	1	6	991.653	ppb	991.653	0.74	342531	2000	
Na	23	1	45	121208.009	ppb	121208.009	0.25	377935234	2000	>LDR
Na	23	2	45	115078.423	ppb	115078.423	0.12	24291376	400000	
Mg	24	2	45	185506.074	ppb	185506.074	0.28	18540563	400000	
Al	27	2	45	10.821	ppb	10.821	36.83	283	400000	
K	39	1	45	9198.542	ppb	9198.542	0.44	39333477	400000	
K	39	2	45	10347.842	ppb	10347.842	0.74	497267	400000	
Ca	40	1	45	367443.171	ppb	367443.171	1.21	1745419494	400000	
Ca	44	2	45	356799.642	ppb	356799.642	0.70	939471	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-1.932	ppb	-1.932	-12.94	1110	2000	
Cr	52	2	72	0.160	ppb	0.160	17.20	460	5000	
Mn	55	2	72	2653.942	ppb	2653.942	1.49	1238710	10000	
Fe	57	2	72	5018.493	ppb	5018.493	1.95	110632	400000	
Co	59	2	72	1.668	ppb	1.668	7.42	3374	2000	
Ni	60	2	72	4.944	ppb	4.944	5.28	2974	5000	
Cu	63	2	72	-0.023	ppb	-0.023	-449.79	1123	5000	
Zn	66	2	72	4.119	ppb	4.119	16.36	1123	5000	
As	75	2	72	2.758	ppb	2.758	2.74	455	2000	
Se	78	1	72	0.018	ppb	0.018	298.79	16	2000	
Sr	88	2	72	3046.631	ppb	3046.631	1.22	1582386	4000	
Zr	90	2	72	48.826	ppb	48.826	41.98	417	1000	
Nb	93	2	72	-0.064	ppb	-0.064	-38.87	897	200	
Mo	95	2	115	3.430	ppb	3.430	4.16	2880	2000	
Pd	105	2	115	0.111	ppb	0.111	25.36	170	100	
Ag	107	2	115	-0.016	ppb	-0.016	-23.60	20	100	
Cd	111	2	115	0.038	ppb	0.038	115.15	13	2000	
Sn	120	2	115	0.152	ppb	0.152	72.95	297	2000	
Sb	121	2	115	0.015	ppb	0.015	120.85	63	1000	
Ba	137	2	115	17.922	ppb	17.922	3.97	5545	5000	
W	182	2	165	0.008	ppb	0.008	153.72	1477	100	
Pt	195	2	165	-0.005	ppb	-0.005	-60.05	20	100	
Tl	205	2	165	-0.005	ppb	-0.005	-24.46	70	2000	
Pb	208	2	165	0.010	ppb	0.010	115.47	890	5000	
Th	232	2	165	0.001	ppb	0.001	1301.68	287	2000	
U	238	2	165	2.474	ppb	2.474	1.84	39438	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1243803	0.57	1639580	75.86	60	120	
Sc (IS)	45	1	HMI H2	26243975	0.06	31715490	82.75	60	120	
Sc (IS)	45	2	HMI He	798345	0.77	891522	89.55	60	120	
Sc (IS)	45	3	No Gas	43981476	0.39	54087154	81.32	60	120	
Ge Internal Standard	72	1	HMI H2	10696652	0.21	13102322	81.64	60	120	
Ge Internal Standard	72	2	HMI He	919839	1.16	1026205	89.64	60	120	
In Internal Standard	115	2	HMI He	3726582	0.79	4195206	88.83	60	120	
Ho-165	165	2	HMI He	18466346	0.57	20206547	91.39	60	120	

Sample Report

Sample Table

Sample Name	280-115872-f-3-b
Data File Name	191SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:31:35-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-22.624	ppb	-22.624	-7.82	135832	500000	
Li	7	2	45	-50.108	ppb	-50.108	-57.09	7175	500000	
Li	7	3	45	-28.346	ppb	-28.346	-8.56	4542495	50000	
Be	9	1	6	-0.014	ppb	-0.014	-122.97	3	2000	
B	11	1	6	136.978	ppb	136.978	2.09	51329	2000	
Na	23	1	45	19419.442	ppb	19419.442	0.59	64711212	2000	>LDR
Na	23	2	45	18684.967	ppb	18684.967	1.55	4136943	400000	
Mg	24	2	45	17024.997	ppb	17024.997	0.71	1771779	400000	
Al	27	2	45	7.136	ppb	7.136	79.62	207	400000	
K	39	1	45	3490.823	ppb	3490.823	0.33	22304451	400000	
K	39	2	45	4853.759	ppb	4853.759	0.86	252291	400000	
Ca	40	1	45	94135.239	ppb	94135.239	0.39	474560340	400000	
Ca	44	2	45	92453.586	ppb	92453.586	0.40	253477	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	0.409	ppb	0.409	24.12	3377	2000	
Cr	52	2	72	7.541	ppb	7.541	3.41	9484	5000	
Mn	55	2	72	0.764	ppb	0.764	14.11	420	10000	
Fe	57	2	72	25.956	ppb	25.956	19.57	737	400000	
Co	59	2	72	0.072	ppb	0.072	16.12	157	2000	
Ni	60	2	72	0.149	ppb	0.149	86.91	240	5000	
Cu	63	2	72	0.223	ppb	0.223	46.74	1567	5000	
Zn	66	2	72	9.495	ppb	9.495	7.75	2340	5000	
As	75	2	72	1.420	ppb	1.420	12.48	259	2000	
Se	78	1	72	0.100	ppb	0.100	57.96	37	2000	
Sr	88	2	72	890.823	ppb	890.823	0.71	480771	4000	
Zr	90	2	72	3.456	ppb	3.456	101.55	100	1000	
Nb	93	2	72	-0.105	ppb	-0.105	-37.35	800	200	
Mo	95	2	115	1.061	ppb	1.061	2.48	967	2000	
Pd	105	2	115	0.029	ppb	0.029	156.24	70	100	
Ag	107	2	115	-0.008	ppb	-0.008	-114.87	43	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.130	ppb	0.130	40.32	290	2000	
Sb	121	2	115	0.166	ppb	0.166	52.05	210	1000	
Ba	137	2	115	178.954	ppb	178.954	1.39	58291	5000	
W	182	2	165	0.220	ppb	0.220	34.64	2364	100	
Pt	195	2	165	-0.002	ppb	-0.002	-406.65	30	100	
Tl	205	2	165	0.004	ppb	0.004	219.09	140	2000	
Pb	208	2	165	0.064	ppb	0.064	32.24	1447	5000	
Th	232	2	165	-0.001	ppb	-0.001	-340.07	267	2000	
U	238	2	165	4.708	ppb	4.708	0.79	76714	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1323589	0.53	1639580	80.73	60	120	
Sc (IS)	45	1	HMI H2	27849995	0.12	31715490	87.81	60	120	
Sc (IS)	45	2	HMI He	831127	0.61	891522	93.23	60	120	
Sc (IS)	45	3	No Gas	45318908	0.74	54087154	83.79	60	120	
Ge Internal Standard	72	1	HMI H2	11500640	0.95	13102322	87.78	60	120	
Ge Internal Standard	72	2	HMI He	955742	1.22	1026205	93.13	60	120	
In Internal Standard	115	2	HMI He	3926256	0.62	4195206	93.59	60	120	
Ho-165	165	2	HMI He	18904721	0.21	20206547	93.56	60	120	

Sample Report

Sample Table

Sample Name	280-115872-f-4-b
Data File Name	192SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:35:22-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434890 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-17.654	ppb	-17.654	-3.25	133837	500000	
Li	7	2	45	-54.876	ppb	-54.876	-5.33	6962	500000	
Li	7	3	45	-32.959	ppb	-32.959	-8.88	4392581	50000	
Be	9	1	6	-0.014	ppb	-0.014	-124.89	3	2000	
B	11	1	6	154.127	ppb	154.127	1.33	57180	2000	
Na	23	1	45	20621.440	ppb	20621.440	0.58	66726421	2000	>LDR
Na	23	2	45	19488.366	ppb	19488.366	0.75	4243673	400000	
Mg	24	2	45	16664.507	ppb	16664.507	1.50	1706165	400000	
Al	27	2	45	45.300	ppb	45.300	4.28	1097	400000	
K	39	1	45	2424.473	ppb	2424.473	2.74	18140988	400000	
K	39	2	45	3708.034	ppb	3708.034	0.60	193774	400000	
Ca	40	1	45	98196.563	ppb	98196.563	1.33	480917620	400000	
Ca	44	2	45	96878.839	ppb	96878.839	1.33	261306	400000	
Ti	47	2	45	0.152	ppb	0.152	173.21	3	4000	
V	51	2	72	0.383	ppb	0.383	12.00	3314	2000	
Cr	52	2	72	0.770	ppb	0.770	12.78	1207	5000	
Mn	55	2	72	0.448	ppb	0.448	29.14	263	10000	
Fe	57	2	72	20.736	ppb	20.736	21.80	610	400000	
Co	59	2	72	0.034	ppb	0.034	35.01	77	2000	
Ni	60	2	72	0.056	ppb	0.056	252.27	183	5000	
Cu	63	2	72	0.404	ppb	0.404	12.72	1840	5000	
Zn	66	2	72	5.557	ppb	5.557	10.85	1463	5000	
As	75	2	72	1.016	ppb	1.016	5.98	192	2000	
Se	78	1	72	0.211	ppb	0.211	39.58	63	2000	
Sr	88	2	72	991.333	ppb	991.333	0.86	528662	4000	
Zr	90	2	72	8.251	ppb	8.251	84.18	133	1000	
Nb	93	2	72	-0.130	ppb	-0.130	-13.19	710	200	
Mo	95	2	115	1.894	ppb	1.894	14.70	1677	2000	
Pd	105	2	115	0.022	ppb	0.022	35.43	60	100	
Ag	107	2	115	-0.016	ppb	-0.016	-45.34	20	100	
Cd	111	2	115	0.027	ppb	0.027	99.04	10	2000	
Sn	120	2	115	0.113	ppb	0.113	59.66	270	2000	
Sb	121	2	115	0.062	ppb	0.062	54.77	110	1000	
Ba	137	2	115	131.462	ppb	131.462	2.55	42410	5000	
W	182	2	165	0.215	ppb	0.215	18.32	2310	100	
Pt	195	2	165	-0.008	ppb	-0.008	-0.08	10	100	
Tl	205	2	165	-0.007	ppb	-0.007	-86.21	60	2000	
Pb	208	2	165	0.005	ppb	0.005	455.09	850	5000	
Th	232	2	165	0.001	ppb	0.001	468.82	297	2000	
U	238	2	165	5.127	ppb	5.127	0.86	82342	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1313718	1.52	1639580	80.13	60	120	
Sc (IS)	45	1	HMI H2	27057018	0.44	31715490	85.31	60	120	
Sc (IS)	45	2	HMI He	817706	0.92	891522	91.72	60	120	
Sc (IS)	45	3	No Gas	44419531	0.45	54087154	82.13	60	120	
Ge Internal Standard	72	1	HMI H2	11175403	0.26	13102322	85.29	60	120	
Ge Internal Standard	72	2	HMI He	944374	0.95	1026205	92.03	60	120	
In Internal Standard	115	2	HMI He	3889100	1.46	4195206	92.70	60	120	
Ho-165	165	2	HMI He	18636258	0.22	20206547	92.23	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	193_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:39:08-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	486.938	ppb	1.483	321422	500	97.4	90	110	
Li	7	2	45	458.845	ppb	13.042	17117	500	91.8	90	110	
Li	7	3	45	459.412	ppb	1.759	10692529	500	91.9	90	110	
Be	9	1	6	51.525	ppb	1.450	17387	50	103.0	90	110	
B	11	1	6	61.715	ppb	5.269	23807	50	123.4	90	110	>+\-10%
Na	23	1	45	5265.215	ppb	0.522	17289907	5000	105.3	90	110	
Na	23	2	45	5139.473	ppb	2.195	1132225	5000	102.8	90	110	
Mg	24	2	45	4427.189	ppb	0.730	448200	5000	88.5	90	110	>+\-10%
Al	27	2	45	5249.408	ppb	1.098	121400	5000	105.0	90	110	
K	39	1	45	5395.762	ppb	1.375	27749049	5000	107.9	90	110	
K	39	2	45	5182.853	ppb	2.048	260781	5000	103.7	90	110	
Ca	40	1	45	5436.356	ppb	2.308	26455676	5000	108.7	90	110	
Ca	44	2	45	5239.475	ppb	2.636	14014	5000	104.8	90	110	
Ti	47	2	45	52.490	ppb	16.948	1127	50	105.0	90	110	
V	51	2	72	49.030	ppb	0.848	48439	50	98.1	90	110	
Cr	52	2	72	49.913	ppb	0.763	59774	50	99.8	90	110	
Mn	55	2	72	48.761	ppb	1.159	23143	50	97.5	90	110	
Fe	57	2	72	4962.514	ppb	1.616	111021	5000	99.3	90	110	
Co	59	2	72	48.924	ppb	1.426	100165	50	97.8	90	110	
Ni	60	2	72	47.560	ppb	2.912	27734	50	95.1	90	110	
Cu	63	2	72	49.057	ppb	1.736	79190	50	98.1	90	110	
Zn	66	2	72	51.496	ppb	1.317	11242	50	103.0	90	110	
As	75	2	72	48.098	ppb	0.800	7534	50	96.2	90	110	
Se	78	1	72	50.361	ppb	2.349	11909	50	100.7	90	110	
Sr	88	2	72	52.784	ppb	1.691	27868	50	105.6	90	110	
Zr	90	2	72	55.403	ppb	28.426	470	50	110.8	90	110	>+\-10%
Nb	93	2	72	88.239	ppb	1.216	282024	100	88.2	90	110	>+\-10%
Mo	95	2	115	47.469	ppb	3.753	41061	50	94.9	90	110	
Pd	105	2	115	49.896	ppb	2.697	65707	50	99.8	90	110	
Ag	107	2	115	48.284	ppb	1.073	136077	50	96.6	90	110	
Cd	111	2	115	48.824	ppb	2.490	17815	50	97.6	90	110	
Sn	120	2	115	49.169	ppb	0.563	50228	50	98.3	90	110	
Sb	121	2	115	49.573	ppb	1.365	46362	50	99.1	90	110	
Ba	137	2	115	49.807	ppb	1.714	16060	50	99.6	90	110	
W	182	2	165	48.728	ppb	0.948	195263	50	97.5	90	110	
Pt	195	2	165	48.596	ppb	0.707	155503	50	97.2	90	110	
Tl	205	2	165	50.537	ppb	0.289	374131	50	101.1	90	110	
Pb	208	2	165	50.694	ppb	0.283	500933	50	101.4	90	110	
Th	232	2	165	39.028	ppb	0.096	597635	50	78.1	90	110	>+\-10%
U	238	2	165	39.885	ppb	0.218	642358	50	79.8	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1326537	1.05	1639580	80.91	60	120	
Sc (IS)	45	1	HMI H2	26842353	0.78	31715490	84.63	60	120	
Sc (IS)	45	2	HMI He	808053	1.26	891522	90.64	60	120	
Sc (IS)	45	3	No Gas	44084138	0.35	54087154	81.51	60	120	
Ge Internal Standard	72	1	HMI H2	11085426	0.46	13102322	84.61	60	120	
Ge Internal Standard	72	2	HMI He	933490	1.05	1026205	90.97	60	120	
In Internal Standard	115	2	HMI He	3886091	0.51	4195206	92.63	60	120	
Ho-165	165	2	HMI He	18711731	1.27	20206547	92.60	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	194_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:42:54-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-22.663	ppb	-22.0	4522384	10	
Be	9	1	6	0.035	ppb	145.6	20	0.5	
B	11	1	6	10.844	ppb	1.6	5195	0.5	>RL
Na	23	1	45	-41.249	ppb	-0.9	391557	25	
Na	23	2	45	-48.269	ppb	-7.1	25853	25	
Mg	24	2	45	18.789	ppb	15.2	2280	25	
Al	27	2	45	2.597	ppb	78.3	97	15	
K	39	1	45	117.376	ppb	17.4	10469400	50	>RL
K	39	2	45	-5.850	ppb	-49.9	17191	50	
Ca	40	1	45	9.750	ppb	1.9	94613	50	
Ca	44	2	45	14.094	ppb	119.0	87	25	
Ti	47	2	45	0.155	ppb	173.2	3	0.5	
V	51	2	72	-0.078	ppb	-281.1	2880	1	
Cr	52	2	72	-0.018	ppb	-61.9	257	1	
Mn	55	2	72	0.057	ppb	210.1	77	0.5	
Fe	57	2	72	1.721	ppb	167.5	180	25	
Co	59	2	72	0.013	ppb	119.1	33	0.5	
Ni	60	2	72	-0.051	ppb	-33.9	120	1	
Cu	63	2	72	-0.062	ppb	-120.7	1090	1	
Zn	66	2	72	-0.281	ppb	-67.0	203	5	
As	75	2	72	-0.065	ppb	-18.7	22	1	
Se	78	1	72	0.015	ppb	342.6	16	1	
Sr	88	2	72	0.019	ppb	199.1	53	0.5	
Zr	90	2	72	0.891	ppb	165.0	80	1	
Nb	93	2	72	3.248	ppb	8.1	11589	2	>RL
Mo	95	2	115	-0.008	ppb	-308.4	33	0.5	
Pd	105	2	115	0.009	ppb	184.0	43	1	
Ag	107	2	115	-0.010	ppb	-111.4	37	1	
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5	
Sn	120	2	115	0.208	ppb	17.5	367	1	
Sb	121	2	115	0.357	ppb	35.7	387	0.6	
Ba	137	2	115	0.031	ppb	149.0	13	0.5	
W	182	2	165	0.081	ppb	79.4	1787	1	
Pt	195	2	165	-0.003	ppb	-54.9	27	1	
Tl	205	2	165	0.004	ppb	280.2	143	0.1	
Pb	208	2	165	-0.002	ppb	-324.8	777	0.5	
Th	232	2	165	0.023	ppb	42.0	630	1	
U	238	2	165	0.014	ppb	33.5	347	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1344137	0.30	1639580	81.98	60	120	
Sc (IS)	45	1	HMI H2	26955438	0.88	31715490	84.99	60	120	
Sc (IS)	45	2	HMI He	814481	1.32	891522	91.36	60	120	
Sc (IS)	45	3	No Gas	44385259	0.57	54087154	82.06	60	120	
Ge Internal Standard	72	1	HMI H2	11159276	0.53	13102322	85.17	60	120	
Ge Internal Standard	72	2	HMI He	944145	0.81	1026205	92.00	60	120	
In Internal Standard	115	2	HMI He	3896246	1.56	4195206	92.87	60	120	
Ho-165	165	2	HMI He	18674818	0.56	20206547	92.42	60	120	

Blank Report

Sample Table

Sample Name	mb 280-435417/1-a
Data File Name	195_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:46:41-06:00
Sample Type	Blank
Dilution	1
Comment	435417 6020
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-19.339	ppb	-25.14059289	132689	0.5
Li	7	2	45	-53.798	ppb	-21.72560152	6935	0.5
Li	7	3	45	-33.528	ppb	-16.6089473	4388115	10
Be	9	1	6	-0.024	ppb	0	0	0.5
B	11	1	6	9.843	ppb	10.99311641	4738	0.5
Na	23	1	45	-54.241	ppb	-0.848887674	349967	25
Na	23	2	45	-54.387	ppb	-3.252632349	24471	25
Mg	24	2	45	36.277	ppb	14.94622364	4054	25
Al	27	2	45	2.741	ppb	31.57604066	100	15
K	39	1	45	-1356.818	ppb	-0.785642054	5609951	50
K	39	2	45	0.306	ppb	3786.958183	17431	50
Ca	40	1	45	15.077	ppb	9.804698302	120606	50
Ca	44	2	45	30.352	ppb	74.346661	130	25
Ti	47	2	45	0.465	ppb	100.2074681	10	0.5
V	51	2	72	-1.155	ppb	-20.3479959	1867	1
Cr	52	2	72	0.112	ppb	51.94707583	413	1
Mn	55	2	72	0.963	ppb	12.9413969	510	0.5
Fe	57	2	72	22.274	ppb	30.60491675	643	25
Co	59	2	72	0.015	ppb	37.78779116	37	0.5
Ni	60	2	72	-0.074	ppb	-48.15188346	107	1
Cu	63	2	72	-0.125	ppb	-28.21349305	987	1
Zn	66	2	72	0.340	ppb	172.0970487	337	5
As	75	2	72	-0.119	ppb	-26.18505459	13	1
Se	78	1	72	-0.013	ppb	-343.182463	9	1
Sr	88	2	72	0.283	ppb	37.32968707	193	0.5
Zr	90	2	72	4.128	ppb	52.83333177	103	1
Nb	93	2	72	2.396	ppb	7.858584346	8837	2
Mo	95	2	115	0.004	ppb	509.3001452	43	0.5
Pd	105	2	115	0.004	ppb	203.5441938	37	1
Ag	107	2	115	-0.010	ppb	-123.5112904	37	1
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5
Sn	120	2	115	0.135	ppb	54.01272897	293	1
Sb	121	2	115	0.071	ppb	90.09209243	120	0.6
Ba	137	2	115	0.083	ppb	37.02797934	30	0.5
W	182	2	165	0.055	ppb	85.05648369	1677	1
Pt	195	2	165	0.000	ppb	-11544.90549	37	1
Tl	205	2	165	0.009	ppb	74.56505794	177	0.1
Pb	208	2	165	0.034	ppb	32.41001792	1130	0.5
Th	232	2	165	0.064	ppb	6.394591146	1257	1
U	238	2	165	0.007	ppb	28.32436882	240	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1321239	1.08	1639580	80.58	60	120	
Sc (IS)	45	1	HMI H2	26951570	0.53	31715490	84.98	60	120	
Sc (IS)	45	2	HMI He	812036	0.47	891522	91.08	60	120	
Sc (IS)	45	3	No Gas	44450019	0.60	54087154	82.18	60	120	
Ge Internal Standard	72	1	HMI H2	11004361	0.75	13102322	83.99	60	120	
Ge Internal Standard	72	2	HMI He	942977	0.59	1026205	91.89	60	120	
In Internal Standard	115	2	HMI He	3905712	0.54	4195206	93.10	60	120	
Ho-165	165	2	HMI He	18620444	0.48	20206547	92.15	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-435417/2-a
Data File Name	196_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:50:29-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	435417 6020
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	61.415	61.415	ppb	6.130	162069	400	15.4	80	120	>+/-20%
Li	7	2	45	17.608	17.608	ppb	201.699	8366	400	4.4	80	120	>+/-20%
Li	7	3	45	50.961	50.961	ppb	15.628	5338357	400	12.7	80	120	>+/-20%
Be	9	1	6	39.005	39.005	ppb	5.164	13153	40	97.5	80	120	
Na	23	2	45	-74.042	-74.042	ppb	-3.323	20262	40	-185.1	80	120	>+/-20%
Mg	24	2	45	15.916	15.916	ppb	5.529	1984	40	39.8	80	120	>+/-20%
Al	27	2	45	421.898	421.898	ppb	1.980	9844	40	1054.7	80	120	>+/-20%
K	39	2	45	2.908	2.908	ppb	574.759	17558	40	7.3	80	120	>+/-20%
Ca	44	2	45	201.949	201.949	ppb	14.919	590	40	504.9	80	120	>+/-20%
V	51	2	72	38.018	38.018	ppb	3.380	38418	40	95.0	80	120	
Cr	52	2	72	39.219	39.219	ppb	3.396	47268	40	98.0	80	120	
Mn	55	2	72	40.056	40.056	ppb	1.205	19120	40	100.1	80	120	
Fe	57	2	72	409.607	409.607	ppb	2.468	9340	40	1024.0	80	120	>+/-20%
Co	59	2	72	39.467	39.467	ppb	0.881	81234	40	98.7	80	120	
Ni	60	2	72	39.703	39.703	ppb	3.839	23306	40	99.3	80	120	
Cu	63	2	72	38.701	38.701	ppb	3.163	63058	40	96.8	80	120	
Zn	66	2	72	40.503	40.503	ppb	2.717	8943	40	101.3	80	120	
As	75	2	72	36.059	36.059	ppb	3.752	5687	40	90.1	80	120	
Se	78	1	72	37.416	37.416	ppb	1.524	8808	40	93.5	80	120	
Nb	93	2	72	1.350	1.350	ppb	14.167	5445	40	3.4	80	120	>+/-20%
Mo	95	2	115	35.620	35.620	ppb	2.182	31022	40	89.1	80	120	
Pd	105	2	115	-0.001	-0.001	ppb	-953.163	30	40	0.0	80	120	>+/-20%
Ag	107	2	115	39.725	39.725	ppb	1.146	112713	40	99.3	80	120	
Cd	111	2	115	38.409	38.409	ppb	2.558	14108	40	96.0	80	120	
Sn	120	2	115	38.839	38.839	ppb	1.777	39972	40	97.1	80	120	
Sb	121	2	115	38.548	38.548	ppb	2.490	36308	40	96.4	80	120	
Ba	137	2	115	39.588	39.588	ppb	1.944	12853	40	99.0	80	120	
W	182	2	165	10.500	10.500	ppb	0.688	43221	40	26.2	80	120	>+/-20%
Pt	195	2	165	-0.008	-0.008	ppb	-64.028	10	40	0.0	80	120	>+/-20%
Tl	205	2	165	39.954	39.954	ppb	1.063	295756	40	99.9	80	120	
Pb	208	2	165	40.705	40.705	ppb	1.145	402337	40	101.8	80	120	
Th	232	2	165	30.636	30.636	ppb	1.840	469107	40	76.6	80	120	>+/-20%
U	238	2	165	31.416	31.416	ppb	0.475	505909	40	78.5	80	120	>+/-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1325355	0.69	1639580	80.84	60	120	
Sc (IS)	45	1	HMI H2	26797905	0.13	31715490	84.49	60	120	
Sc (IS)	45	2	HMI He	812343	0.90	891522	91.12	60	120	
Sc (IS)	45	3	No Gas	43271431	0.71	54087154	80.00	60	120	
Ge Internal Standard	72	1	HMI H2	11031349	0.12	13102322	84.19	60	120	
Ge Internal Standard	72	2	HMI He	938405	0.71	1026205	91.44	60	120	
In Internal Standard	115	2	HMI He	3912235	0.80	4195206	93.25	60	120	
Ho-165	165	2	HMI He	18708973	0.24	20206547	92.59	60	120	

Sample Report

Sample Table

Sample Name	280-116281-f-1-b
Data File Name	197SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:54:17-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-8.153	ppb	-8.153	-70.82	132989	500000	
Li	7	2	45	-41.259	ppb	-41.259	-39.13	7079	500000	
Li	7	3	45	-29.060	ppb	-29.060	-14.49	4305482	50000	
Be	9	1	6	0.106	ppb	0.106	70.78	43	2000	
B	11	1	6	22.148	ppb	22.148	3.44	9183	2000	
Na	23	1	45	8928.128	ppb	8928.128	1.32	28247795	2000	
Na	23	2	45	8619.804	ppb	8619.804	2.08	1856439	400000	
Mg	24	2	45	6674.715	ppb	6674.715	1.69	668942	400000	
Al	27	2	45	4053.729	ppb	4053.729	0.33	92860	400000	
K	39	1	45	5892.430	ppb	5892.430	1.02	28661796	400000	
K	39	2	45	7077.556	ppb	7077.556	1.59	346310	400000	
Ca	40	1	45	20436.600	ppb	20436.600	0.71	96908945	400000	
Ca	44	2	45	19570.283	ppb	19570.283	1.49	51692	400000	
Ti	47	2	45	127.170	ppb	127.170	7.59	2704	4000	
V	51	2	72	8.718	ppb	8.718	6.95	10795	2000	
Cr	52	2	72	5.481	ppb	5.481	1.83	6675	5000	
Mn	55	2	72	183.729	ppb	183.729	1.89	85354	10000	
Fe	57	2	72	3822.553	ppb	3822.553	1.61	83861	400000	
Co	59	2	72	2.265	ppb	2.265	3.93	4551	2000	
Ni	60	2	72	7.799	ppb	7.799	12.16	4581	5000	
Cu	63	2	72	16.526	ppb	16.526	3.64	26916	5000	
Zn	66	2	72	37.952	ppb	37.952	7.05	8189	5000	
As	75	2	72	3.239	ppb	3.239	1.42	526	2000	
Se	78	1	72	0.381	ppb	0.381	13.73	100	2000	
Sr	88	2	72	128.489	ppb	128.489	1.68	66429	4000	
Zr	90	2	72	425.880	ppb	425.880	17.25	3060	1000	
Nb	93	2	72	1.112	ppb	1.112	13.46	4564	200	
Mo	95	2	115	2.176	ppb	2.176	3.81	1864	2000	
Pd	105	2	115	0.003	ppb	0.003	1022.04	33	100	
Ag	107	2	115	0.006	ppb	0.006	160.30	80	100	
Cd	111	2	115	0.086	ppb	0.086	88.07	30	2000	
Sn	120	2	115	0.368	ppb	0.368	11.17	513	2000	
Sb	121	2	115	0.704	ppb	0.704	21.97	690	1000	
Ba	137	2	115	39.016	ppb	39.016	0.64	12209	5000	
W	182	2	165	0.098	ppb	0.098	43.53	1830	100	
Pt	195	2	165	-0.005	ppb	-0.005	-103.87	20	100	
Tl	205	2	165	0.019	ppb	0.019	61.06	247	2000	
Pb	208	2	165	3.914	ppb	3.914	0.53	38868	5000	
Th	232	2	165	0.221	ppb	0.221	15.10	3614	2000	
U	238	2	165	0.142	ppb	0.142	4.26	2374	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1313163	0.86	1639580	80.09	60	120	
Sc (IS)	45	1	HMI H2	26187881	1.12	31715490	82.57	60	120	
Sc (IS)	45	2	HMI He	800280	1.87	891522	89.77	60	120	
Sc (IS)	45	3	No Gas	43045413	1.10	54087154	79.59	60	120	
Ge Internal Standard	72	1	HMI H2	10821369	0.22	13102322	82.59	60	120	
Ge Internal Standard	72	2	HMI He	915032	0.30	1026205	89.17	60	120	
In Internal Standard	115	2	HMI He	3771212	1.82	4195206	89.89	60	120	
Ho-165	165	2	HMI He	18451378	0.50	20206547	91.31	60	120	

Sample Report

Sample Table

Sample Name	280-116245-d-1-d
Data File Name	198SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T04:58:03-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	467.461	ppb	467.461	1.46	286263	500000	
Li	7	2	45	409.220	ppb	409.220	3.12	15462	500000	
Li	7	3	45	435.424	ppb	435.424	1.05	9589062	50000	
Be	9	1	6	0.035	ppb	0.035	55.92	17	2000	
B	11	1	6	3242.701	ppb	3242.701	0.73	1005445	2000	
Na	23	1	45	287971.959	ppb	287971.959	0.52	836205801	2000	>LDR
Na	23	2	45	265034.893	ppb	265034.893	1.24	54230324	400000	
Mg	24	2	45	483146.988	ppb	483146.988	1.63	46844501	400000	
Al	27	2	45	28.516	ppb	28.516	5.08	667	400000	
K	39	1	45	56021.410	ppb	56021.410	0.48	176683397	400000	
K	39	2	45	63912.743	ppb	63912.743	0.94	2894144	400000	
Ca	40	1	45	467400.000	ppb	467400.000	0.34	2069199703	400000	
Ca	44	2	45	510144.656	ppb	510144.656	1.30	1303451	400000	
Ti	47	2	45	1.785	ppb	1.785	42.52	37	4000	
V	51	2	72	-1.772	ppb	-1.772	-8.33	1200	2000	
Cr	52	2	72	0.176	ppb	0.176	23.61	457	5000	
Mn	55	2	72	1291.589	ppb	1291.589	0.27	575393	10000	
Fe	57	2	72	877.266	ppb	877.266	1.60	18569	400000	
Co	59	2	72	4.821	ppb	4.821	3.67	9290	2000	
Ni	60	2	72	6.805	ppb	6.805	5.00	3851	5000	
Cu	63	2	72	-0.030	ppb	-0.030	-258.06	1060	5000	
Zn	66	2	72	9.755	ppb	9.755	7.33	2200	5000	
As	75	2	72	0.159	ppb	0.159	43.46	53	2000	
Se	78	1	72	0.207	ppb	0.207	27.19	55	2000	
Sr	88	2	72	2004.415	ppb	2004.415	1.18	993830	4000	
Zr	90	2	72	199.508	ppb	199.508	10.49	1413	1000	
Nb	93	2	72	0.587	ppb	0.587	29.93	2814	200	
Mo	95	2	115	0.095	ppb	0.095	47.75	113	2000	
Pd	105	2	115	0.071	ppb	0.071	25.53	117	100	
Ag	107	2	115	-0.006	ppb	-0.006	-92.30	43	100	
Cd	111	2	115	0.098	ppb	0.098	33.61	33	2000	
Sn	120	2	115	0.230	ppb	0.230	39.14	363	2000	
Sb	121	2	115	0.101	ppb	0.101	8.44	137	1000	
Ba	137	2	115	18.736	ppb	18.736	0.86	5628	5000	
W	182	2	165	0.038	ppb	0.038	109.69	1524	100	
Pt	195	2	165	-0.004	ppb	-0.004	-178.40	23	100	
Tl	205	2	165	0.006	ppb	0.006	34.85	150	2000	
Pb	208	2	165	0.162	ppb	0.162	22.45	2260	5000	
Th	232	2	165	0.092	ppb	0.092	7.11	1600	2000	
U	238	2	165	5.259	ppb	5.259	1.31	79960	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1118982	2.07	1639580	68.25	60	120	
Sc (IS)	45	1	HMI H2	24459035	0.80	31715490	77.12	60	120	
Sc (IS)	45	2	HMI He	774655	2.38	891522	86.89	60	120	
Sc (IS)	45	3	No Gas	40709454	0.70	54087154	75.27	60	120	
Ge Internal Standard	72	1	HMI H2	9897917	0.72	13102322	75.54	60	120	
Ge Internal Standard	72	2	HMI He	877883	2.33	1026205	85.55	60	120	
In Internal Standard	115	2	HMI He	3619550	2.95	4195206	86.28	60	120	
Ho-165	165	2	HMI He	17642230	1.33	20206547	87.31	60	120	

Sample Report

Sample Table

Sample Name	280-116245-d-2-b
Data File Name	199SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:01:58-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	816.203	ppb	816.203	1.36	409282	500000	
Li	7	2	45	780.745	ppb	780.745	2.49	21687	500000	
Li	7	3	45	736.242	ppb	736.242	0.56	12412931	50000	
Be	9	1	6	0.175	ppb	0.175	44.17	53	2000	
B	11	1	6	6902.616	ppb	6902.616	1.34	2016910	2000	
Na	23	1	45	289237.339	ppb	289237.339	0.34	848616014	2000	>LDR
Na	23	2	45	273592.775	ppb	273592.775	1.06	53804114	400000	
Mg	24	2	45	1355108.636	ppb	1355108.636	1.11	126283391	400000	
Al	27	2	45	432.461	ppb	432.461	3.47	9247	400000	
K	39	1	45	49759.225	ppb	49759.225	0.32	159606211	400000	
K	39	2	45	57660.730	ppb	57660.730	0.66	2510770	400000	
Ca	40	1	45	450483.420	ppb	450483.420	0.55	2015096023	400000	
Ca	44	2	45	503746.958	ppb	503746.958	2.37	1236732	400000	
Ti	47	2	45	12.820	ppb	12.820	10.66	253	4000	
V	51	2	72	-1.445	ppb	-1.445	-26.64	1430	2000	
Cr	52	2	72	0.257	ppb	0.257	27.59	527	5000	
Mn	55	2	72	5770.362	ppb	5770.362	0.45	2473926	10000	
Fe	57	2	72	3608.060	ppb	3608.060	1.33	73098	400000	
Co	59	2	72	223.183	ppb	223.183	0.88	413621	2000	
Ni	60	2	72	715.320	ppb	715.320	0.07	375750	5000	
Cu	63	2	72	0.708	ppb	0.708	19.19	2084	5000	
Zn	66	2	72	460.802	ppb	460.802	2.05	89175	5000	
As	75	2	72	9.831	ppb	9.831	4.39	1416	2000	
Se	78	1	72	0.521	ppb	0.521	3.12	120	2000	
Sr	88	2	72	2151.549	ppb	2151.549	0.65	1026546	4000	
Zr	90	2	72	367.694	ppb	367.694	14.26	2450	1000	
Nb	93	2	72	0.652	ppb	0.652	17.79	2890	200	
Mo	95	2	115	10.567	ppb	10.567	6.08	8246	2000	
Pd	105	2	115	0.087	ppb	0.087	85.15	130	100	
Ag	107	2	115	0.022	ppb	0.022	43.19	113	100	
Cd	111	2	115	0.234	ppb	0.234	15.56	77	2000	
Sn	120	2	115	0.301	ppb	0.301	16.81	413	2000	
Sb	121	2	115	0.603	ppb	0.603	20.66	553	1000	
Ba	137	2	115	12.759	ppb	12.759	2.86	3701	5000	
W	182	2	165	0.077	ppb	0.077	39.05	1634	100	
Pt	195	2	165	-0.001	ppb	-0.001	-485.69	30	100	
Tl	205	2	165	0.005	ppb	0.005	189.51	137	2000	
Pb	208	2	165	2.308	ppb	2.308	3.12	21741	5000	
Th	232	2	165	0.549	ppb	0.549	6.23	8000	2000	
U	238	2	165	28.738	ppb	28.738	1.42	426858	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1055087	1.23	1639580	64.35	60	120	
Sc (IS)	45	1	HMI H2	24714167	0.59	31715490	77.92	60	120	
Sc (IS)	45	2	HMI He	744434	0.83	891522	83.50	60	120	
Sc (IS)	45	3	No Gas	38391201	0.25	54087154	70.98	60	120	
Ge Internal Standard	72	1	HMI H2	9822598	0.86	13102322	74.97	60	120	
Ge Internal Standard	72	2	HMI He	844948	0.61	1026205	82.34	60	120	
In Internal Standard	115	2	HMI He	3492703	1.48	4195206	83.25	60	120	
Ho-165	165	2	HMI He	17257899	0.89	20206547	85.41	60	120	

Sample Report

Sample Table

Sample Name	280-116245-d-3-b
Data File Name	200SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:05:50-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	273.670	ppb	273.670	2.82	217017	500000	
Li	7	2	45	216.973	ppb	216.973	8.36	11475	500000	
Li	7	3	45	220.512	ppb	220.512	4.53	6615762	50000	
Be	9	1	6	0.435	ppb	0.435	39.47	120	2000	
B	11	1	6	1676.913	ppb	1676.913	1.73	480315	2000	
Na	23	1	45	154317.617	ppb	154317.617	0.96	441774473	2000	>LDR
Na	23	2	45	144266.883	ppb	144266.883	1.10	28739297	400000	
Mg	24	2	45	518375.807	ppb	518375.807	0.56	48911691	400000	
Al	27	2	45	2621.155	ppb	2621.155	1.94	56556	400000	
K	39	1	45	30127.091	ppb	30127.091	0.37	97800382	400000	
K	39	2	45	35972.561	ppb	35972.561	1.11	1592147	400000	
Ca	40	1	45	509425.932	ppb	509425.932	0.51	2222379167	400000	
Ca	44	2	45	563173.508	ppb	563173.508	0.38	1400101	400000	
Ti	47	2	45	61.206	ppb	61.206	14.86	1223	4000	
V	51	2	72	2.903	ppb	2.903	10.73	5208	2000	
Cr	52	2	72	1.999	ppb	1.999	10.44	2467	5000	
Mn	55	2	72	3509.414	ppb	3509.414	0.69	1541215	10000	
Fe	57	2	72	9549.177	ppb	9549.177	1.48	197942	400000	
Co	59	2	72	4.092	ppb	4.092	0.83	7772	2000	
Ni	60	2	72	8.443	ppb	8.443	3.15	4678	5000	
Cu	63	2	72	3.063	ppb	3.063	6.49	5605	5000	
Zn	66	2	72	28.031	ppb	28.031	4.70	5781	5000	
As	75	2	72	1.330	ppb	1.330	9.20	222	2000	
Se	78	1	72	0.301	ppb	0.301	36.65	73	2000	
Sr	88	2	72	1964.533	ppb	1964.533	0.20	960125	4000	
Zr	90	2	72	1133.131	ppb	1133.131	4.78	7592	1000	
Nb	93	2	72	0.525	ppb	0.525	7.02	2584	200	
Mo	95	2	115	0.349	ppb	0.349	6.00	317	2000	
Pd	105	2	115	0.059	ppb	0.059	64.61	100	100	
Ag	107	2	115	0.028	ppb	0.028	5.34	133	100	
Cd	111	2	115	0.119	ppb	0.119	66.61	40	2000	
Sn	120	2	115	0.417	ppb	0.417	33.73	537	2000	
Sb	121	2	115	0.207	ppb	0.207	61.81	227	1000	
Ba	137	2	115	62.827	ppb	62.827	4.25	18750	5000	
W	182	2	165	1.184	ppb	1.184	9.78	5822	100	
Pt	195	2	165	-0.010	ppb	-0.010	-18.01	3	100	
Tl	205	2	165	0.037	ppb	0.037	38.94	360	2000	
Pb	208	2	165	4.114	ppb	4.114	0.68	39015	5000	
Th	232	2	165	1.864	ppb	1.864	1.72	27146	2000	
U	238	2	165	1.630	ppb	1.630	1.95	24861	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1032979	2.01	1639580	63.00	60	120	
Sc (IS)	45	1	HMI H2	24102749	0.71	31715490	76.00	60	120	
Sc (IS)	45	2	HMI He	753747	1.84	891522	84.55	60	120	
Sc (IS)	45	3	No Gas	38277837	1.05	54087154	70.77	60	120	
Ge Internal Standard	72	1	HMI H2	9745175	1.24	13102322	74.38	60	120	
Ge Internal Standard	72	2	HMI He	865487	1.34	1026205	84.34	60	120	
In Internal Standard	115	2	HMI He	3598141	1.42	4195206	85.77	60	120	
Ho-165	165	2	HMI He	17637811	1.30	20206547	87.29	60	120	

Sample Report

Sample Table

Sample Name	280-116248-d-1-b
Data File Name	201SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:09:42-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	3.211	ppb	3.211	161.78	125523	500000	
Li	7	2	45	-25.961	ppb	-25.961	-20.17	6792	500000	
Li	7	3	45	-14.986	ppb	-14.986	-21.50	3959305	50000	
Be	9	1	6	1.831	ppb	1.831	21.48	493	2000	
B	11	1	6	259.415	ppb	259.415	2.16	75902	2000	
Na	23	1	45	237089.805	ppb	237089.805	1.24	674712790	2000	>LDR
Na	23	2	45	221572.370	ppb	221572.370	0.48	43088666	400000	
Mg	24	2	45	201922.601	ppb	201922.601	1.20	18604319	400000	
Al	27	2	45	16250.026	ppb	16250.026	0.37	342264	400000	
K	39	1	45	7508.870	ppb	7508.870	1.90	30971075	400000	
K	39	2	45	8481.633	ppb	8481.633	0.39	378626	400000	
Ca	40	1	45	430120.607	ppb	430120.607	1.56	1865912132	400000	
Ca	44	2	45	477555.016	ppb	477555.016	0.92	1159342	400000	
Ti	47	2	45	418.599	ppb	418.599	6.47	8179	4000	
V	51	2	72	45.240	ppb	45.240	2.21	40905	2000	
Cr	52	2	72	43.570	ppb	43.570	2.27	47546	5000	
Mn	55	2	72	689.876	ppb	689.876	0.53	297576	10000	
Fe	57	2	72	27109.200	ppb	27109.200	0.20	551709	400000	
Co	59	2	72	10.218	ppb	10.218	1.42	19053	2000	
Ni	60	2	72	25.047	ppb	25.047	1.45	13367	5000	
Cu	63	2	72	40.251	ppb	40.251	1.63	59356	5000	
Zn	66	2	72	57.305	ppb	57.305	1.36	11365	5000	
As	75	2	72	14.790	ppb	14.790	2.34	2130	2000	
Se	78	1	72	16.231	ppb	16.231	5.41	3378	2000	
Sr	88	2	72	3570.861	ppb	3570.861	1.12	1713925	4000	
Zr	90	2	72	828.485	ppb	828.485	5.99	5471	1000	
Nb	93	2	72	0.937	ppb	0.937	4.09	3734	200	
Mo	95	2	115	8.878	ppb	8.878	5.75	6879	2000	
Pd	105	2	115	0.096	ppb	0.096	28.06	140	100	
Ag	107	2	115	0.235	ppb	0.235	20.61	650	100	
Cd	111	2	115	0.277	ppb	0.277	22.69	90	2000	
Sn	120	2	115	0.865	ppb	0.865	21.06	923	2000	
Sb	121	2	115	0.311	ppb	0.311	16.32	307	1000	
Ba	137	2	115	179.897	ppb	179.897	1.65	51769	5000	
W	182	2	165	10.506	ppb	10.506	0.65	39887	100	
Pt	195	2	165	-0.003	ppb	-0.003	-270.76	27	100	
Tl	205	2	165	0.266	ppb	0.266	3.70	1917	2000	
Pb	208	2	165	16.174	ppb	16.174	0.75	147904	5000	
Th	232	2	165	8.197	ppb	8.197	1.45	115972	2000	
U	238	2	165	50.866	ppb	50.866	1.36	755494	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1044563	1.33	1639580	63.71	60	120	
Sc (IS)	45	1	HMI H2	23970290	1.17	31715490	75.58	60	120	
Sc (IS)	45	2	HMI He	736048	1.73	891522	82.56	60	120	
Sc (IS)	45	3	No Gas	38023550	1.19	54087154	70.30	60	120	
Ge Internal Standard	72	1	HMI H2	9733867	0.54	13102322	74.29	60	120	
Ge Internal Standard	72	2	HMI He	850019	1.16	1026205	82.83	60	120	
In Internal Standard	115	2	HMI He	3468266	1.26	4195206	82.67	60	120	
Ho-165	165	2	HMI He	17256875	0.85	20206547	85.40	60	120	

Sample Report

Sample Table

Sample Name	280-116248-d-2-b
Data File Name	202SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:13:32-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	16.103	ppb	16.103	45.86	128212	500000	
Li	7	2	45	-0.207	ppb	-0.207	-4208.45	7235	500000	
Li	7	3	45	-8.270	ppb	-8.270	-84.34	4011441	50000	
Be	9	1	6	1.178	ppb	1.178	18.74	313	2000	
B	11	1	6	260.843	ppb	260.843	1.44	75028	2000	
Na	23	1	45	313346.294	ppb	313346.294	0.56	880524414	2000	>LDR
Na	23	2	45	290446.461	ppb	290446.461	0.81	56293899	400000	
Mg	24	2	45	83927.257	ppb	83927.257	1.16	7708870	400000	
Al	27	2	45	15917.876	ppb	15917.876	0.24	334225	400000	
K	39	1	45	8598.429	ppb	8598.429	1.17	33740059	400000	
K	39	2	45	9573.440	ppb	9573.440	0.62	423991	400000	
Ca	40	1	45	154400.017	ppb	154400.017	1.30	661535603	400000	
Ca	44	2	45	156665.534	ppb	156665.534	0.73	379136	400000	
Ti	47	2	45	418.030	ppb	418.030	1.29	8146	4000	
V	51	2	72	26.323	ppb	26.323	1.02	24836	2000	
Cr	52	2	72	37.636	ppb	37.636	0.67	40979	5000	
Mn	55	2	72	749.764	ppb	749.764	1.20	322439	10000	
Fe	57	2	72	22998.961	ppb	22998.961	0.72	466657	400000	
Co	59	2	72	13.167	ppb	13.167	1.36	24478	2000	
Ni	60	2	72	31.455	ppb	31.455	0.98	16700	5000	
Cu	63	2	72	45.898	ppb	45.898	0.20	67334	5000	
Zn	66	2	72	62.287	ppb	62.287	6.95	12296	5000	
As	75	2	72	9.469	ppb	9.469	8.85	1369	2000	
Se	78	1	72	0.873	ppb	0.873	22.23	191	2000	
Sr	88	2	72	3132.584	ppb	3132.584	1.01	1499026	4000	
Zr	90	2	72	711.247	ppb	711.247	9.12	4691	1000	
Nb	93	2	72	0.504	ppb	0.504	5.02	2470	200	
Mo	95	2	115	55.888	ppb	55.888	1.26	43799	2000	
Pd	105	2	115	0.080	ppb	0.080	30.56	123	100	
Ag	107	2	115	0.118	ppb	0.118	21.64	360	100	
Cd	111	2	115	0.322	ppb	0.322	60.03	107	2000	
Sn	120	2	115	0.481	ppb	0.481	6.55	583	2000	
Sb	121	2	115	0.196	ppb	0.196	37.80	213	1000	
Ba	137	2	115	75.825	ppb	75.825	1.92	22155	5000	
W	182	2	165	0.575	ppb	0.575	12.86	3491	100	
Pt	195	2	165	-0.009	ppb	-0.009	-41.72	7	100	
Tl	205	2	165	0.288	ppb	0.288	14.44	2087	2000	
Pb	208	2	165	16.572	ppb	16.572	1.88	152779	5000	
Th	232	2	165	7.830	ppb	7.830	1.51	111695	2000	
U	238	2	165	4.173	ppb	4.173	1.38	62599	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1026842	0.97	1639580	62.63	60	120	
Sc (IS)	45	1	HMI H2	23671525	0.60	31715490	74.64	60	120	
Sc (IS)	45	2	HMI He	733719	0.93	891522	82.30	60	120	
Sc (IS)	45	3	No Gas	37808968	0.43	54087154	69.90	60	120	
Ge Internal Standard	72	1	HMI H2	9661016	0.66	13102322	73.74	60	120	
Ge Internal Standard	72	2	HMI He	847428	0.36	1026205	82.58	60	120	
In Internal Standard	115	2	HMI He	3521831	0.77	4195206	83.95	60	120	
Ho-165	165	2	HMI He	17399669	0.26	20206547	86.11	60	120	

Sample Report

Sample Table

Sample Name	280-116248-d-3-b
Data File Name	203SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:17:18-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	31.172	ppb	31.172	6.26	133177	500000	
Li	7	2	45	-14.565	ppb	-14.565	-79.86	7199	500000	
Li	7	3	45	11.249	ppb	11.249	48.24	4152335	50000	
Be	9	1	6	0.245	ppb	0.245	15.95	70	2000	
B	11	1	6	320.073	ppb	320.073	0.89	91756	2000	
Na	23	1	45	486198.465	ppb	486198.465	0.05	1365901526	2000	>LDR
Na	23	2	45	448199.677	ppb	448199.677	0.23	89634389	400000	
Mg	24	2	45	245289.769	ppb	245289.769	0.79	23251700	400000	
Al	27	2	45	2214.927	ppb	2214.927	0.54	48022	400000	
K	39	1	45	15476.494	ppb	15476.494	0.61	53644211	400000	
K	39	2	45	16094.879	ppb	16094.879	1.51	724573	400000	
Ca	40	1	45	224978.812	ppb	224978.812	0.66	963880146	400000	
Ca	44	2	45	248418.702	ppb	248418.702	1.44	620430	400000	
Ti	47	2	45	81.231	ppb	81.231	4.86	1634	4000	
V	51	2	72	1.816	ppb	1.816	19.25	4288	2000	
Cr	52	2	72	2.673	ppb	2.673	5.32	3224	5000	
Mn	55	2	72	74.002	ppb	74.002	1.73	32691	10000	
Fe	57	2	72	2984.902	ppb	2984.902	0.50	62241	400000	
Co	59	2	72	1.818	ppb	1.818	14.88	3474	2000	
Ni	60	2	72	2.520	ppb	2.520	10.80	1500	5000	
Cu	63	2	72	2.973	ppb	2.973	14.22	5498	5000	
Zn	66	2	72	9.564	ppb	9.564	10.42	2144	5000	
As	75	2	72	1.194	ppb	1.194	21.77	203	2000	
Se	78	1	72	5.596	ppb	5.596	5.62	1152	2000	
Sr	88	2	72	9256.142	ppb	9256.142	1.20	4544033	4000	
Zr	90	2	72	1103.988	ppb	1103.988	3.86	7432	1000	
Nb	93	2	72	0.388	ppb	0.388	23.36	2190	200	
Mo	95	2	115	9.183	ppb	9.183	3.25	7289	2000	
Pd	105	2	115	0.251	ppb	0.251	14.73	330	100	
Ag	107	2	115	0.060	ppb	0.060	11.16	213	100	
Cd	111	2	115	0.059	ppb	0.059	85.05	20	2000	
Sn	120	2	115	0.389	ppb	0.389	26.20	503	2000	
Sb	121	2	115	0.127	ppb	0.127	14.67	157	1000	
Ba	137	2	115	26.085	ppb	26.085	3.44	7686	5000	
W	182	2	165	0.116	ppb	0.116	19.50	1804	100	
Pt	195	2	165	-0.006	ppb	-0.006	-84.79	17	100	
Tl	205	2	165	0.046	ppb	0.046	8.16	420	2000	
Pb	208	2	165	2.832	ppb	2.832	1.36	26886	5000	
Th	232	2	165	1.673	ppb	1.673	2.89	24224	2000	
U	238	2	165	13.652	ppb	13.652	1.14	205757	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1025582	0.44	1639580	62.55	60	120	
Sc (IS)	45	1	HMI H2	23669484	0.30	31715490	74.63	60	120	
Sc (IS)	45	2	HMI He	757193	0.66	891522	84.93	60	120	
Sc (IS)	45	3	No Gas	37146393	1.61	54087154	68.68	60	120	
Ge Internal Standard	72	1	HMI H2	9573790	0.89	13102322	73.07	60	120	
Ge Internal Standard	72	2	HMI He	869328	1.11	1026205	84.71	60	120	
In Internal Standard	115	2	HMI He	3551100	1.64	4195206	84.65	60	120	
Ho-165	165	2	HMI He	17504031	0.53	20206547	86.63	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	204_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:21:10-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	421.992	ppb	3.405	283829	500	84.4	90	110	>+\-10%
Li	7	2	45	353.469	ppb	6.133	14962	500	70.7	90	110	>+\-10%
Li	7	3	45	396.456	ppb	0.544	8739565	500	79.3	90	110	>+\-10%
Be	9	1	6	50.896	ppb	0.689	15208	50	101.8	90	110	
B	11	1	6	65.691	ppb	0.619	22374	50	131.4	90	110	>+\-10%
Na	23	1	45	5661.559	ppb	0.804	17720881	5000	113.2	90	110	>+\-10%
Na	23	2	45	5290.046	ppb	1.351	1160106	5000	105.8	90	110	
Mg	24	2	45	4395.738	ppb	1.294	443358	5000	87.9	90	110	>+\-10%
Al	27	2	45	5232.904	ppb	0.534	120577	5000	104.7	90	110	
K	39	1	45	5473.919	ppb	1.525	26749488	5000	109.5	90	110	
K	39	2	45	5185.768	ppb	0.967	259909	5000	103.7	90	110	
Ca	40	1	45	5462.893	ppb	0.321	25395515	5000	109.3	90	110	
Ca	44	2	45	5203.149	ppb	2.450	13861	5000	104.1	90	110	
Ti	47	2	45	63.438	ppb	3.337	1357	50	126.9	90	110	>+\-10%
V	51	2	72	47.732	ppb	1.444	47817	50	95.5	90	110	
Cr	52	2	72	47.897	ppb	0.897	58094	50	95.8	90	110	
Mn	55	2	72	49.627	ppb	1.119	23850	50	99.3	90	110	
Fe	57	2	72	4871.165	ppb	1.107	110343	5000	97.4	90	110	
Co	59	2	72	47.929	ppb	1.259	99363	50	95.9	90	110	
Ni	60	2	72	48.696	ppb	2.623	28756	50	97.4	90	110	
Cu	63	2	72	47.603	ppb	2.837	77829	50	95.2	90	110	
Zn	66	2	72	49.233	ppb	5.842	10888	50	98.5	90	110	
As	75	2	72	48.281	ppb	4.588	7654	50	96.6	90	110	
Se	78	1	72	50.705	ppb	1.803	11481	50	101.4	90	110	
Sr	88	2	72	56.087	ppb	1.712	29973	50	112.2	90	110	>+\-10%
Zr	90	2	72	126.181	ppb	16.837	990	50	252.4	90	110	>+\-10%
Nb	93	2	72	87.155	ppb	1.674	282033	100	87.2	90	110	>+\-10%
Mo	95	2	115	47.363	ppb	1.376	41101	50	94.7	90	110	
Pd	105	2	115	49.337	ppb	0.274	65174	50	98.7	90	110	
Ag	107	2	115	47.928	ppb	0.683	135496	50	95.9	90	110	
Cd	111	2	115	48.479	ppb	3.441	17742	50	97.0	90	110	
Sn	120	2	115	49.876	ppb	2.051	51102	50	99.8	90	110	
Sb	121	2	115	50.222	ppb	1.856	47111	50	100.4	90	110	
Ba	137	2	115	50.428	ppb	4.010	16307	50	100.9	90	110	
W	182	2	165	48.079	ppb	0.710	193296	50	96.2	90	110	
Pt	195	2	165	47.383	ppb	0.810	152098	50	94.8	90	110	
Tl	205	2	165	50.336	ppb	0.434	373812	50	100.7	90	110	
Pb	208	2	165	50.679	ppb	0.443	502384	50	101.4	90	110	
Th	232	2	165	38.861	ppb	0.428	596964	50	77.7	90	110	>+\-10%
U	238	2	165	39.627	ppb	0.483	640215	50	79.3	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1174607	0.44	1639580	71.64	60	120	
Sc (IS)	45	1	HMI H2	25638820	0.52	31715490	80.84	60	120	
Sc (IS)	45	2	HMI He	805060	1.26	891522	90.30	60	120	
Sc (IS)	45	3	No Gas	38984197	0.41	54087154	72.08	60	120	
Ge Internal Standard	72	1	HMI H2	10614434	0.70	13102322	81.01	60	120	
Ge Internal Standard	72	2	HMI He	945154	1.37	1026205	92.10	60	120	
In Internal Standard	115	2	HMI He	3898552	1.61	4195206	92.93	60	120	
Ho-165	165	2	HMI He	18771216	1.14	20206547	92.90	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	205_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:24:57-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-52.372	ppb	-9.9	3720693	10	
Be	9	1	6	0.064	ppb	129.0	27	0.5	
B	11	1	6	15.051	ppb	4.5	5992	0.5	>RL
Na	23	1	45	117.880	ppb	0.9	865169	25	>RL
Na	23	2	45	97.669	ppb	0.6	58446	25	>RL
Mg	24	2	45	58.416	ppb	3.9	6455	25	>RL
Al	27	2	45	3.340	ppb	14.4	117	15	
K	39	1	45	218.030	ppb	22.0	10377132	50	>RL
K	39	2	45	20.071	ppb	65.8	18803	50	
Ca	40	1	45	15.188	ppb	4.6	116398	50	
Ca	44	2	45	26.933	ppb	34.0	123	25	>RL
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.366	ppb	-33.6	2707	1	
Cr	52	2	72	-0.002	ppb	-2381.4	287	1	
Mn	55	2	72	0.132	ppb	75.8	117	0.5	
Fe	57	2	72	2.726	ppb	74.7	210	25	
Co	59	2	72	0.013	ppb	57.8	33	0.5	
Ni	60	2	72	0.001	ppb	2656.6	157	1	
Cu	63	2	72	-0.015	ppb	-691.8	1210	1	
Zn	66	2	72	0.060	ppb	629.1	287	5	
As	75	2	72	-0.070	ppb	-53.0	22	1	
Se	78	1	72	0.035	ppb	218.1	20	1	
Sr	88	2	72	0.119	ppb	41.4	110	0.5	
Zr	90	2	72	0.912	ppb	461.2	83	1	
Nb	93	2	72	3.386	ppb	8.3	12486	2	>RL
Mo	95	2	115	0.023	ppb	150.3	63	0.5	
Pd	105	2	115	0.043	ppb	32.7	93	1	
Ag	107	2	115	-0.005	ppb	-367.6	53	1	
Cd	111	2	115	0.017	ppb	173.2	7	0.5	
Sn	120	2	115	0.091	ppb	85.3	263	1	
Sb	121	2	115	0.293	ppb	19.3	347	0.6	
Ba	137	2	115	0.058	ppb	28.2	23	0.5	
W	182	2	165	0.088	ppb	55.7	1860	1	
Pt	195	2	165	0.042	ppb	50.8	177	1	
Tl	205	2	165	0.006	ppb	132.0	160	0.1	
Pb	208	2	165	-0.004	ppb	-352.1	777	0.5	
Th	232	2	165	0.025	ppb	41.6	673	1	
U	238	2	165	0.014	ppb	31.3	350	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1191223	0.46	1639580	72.65	60	120	
Sc (IS)	45	1	HMI H2	25898025	0.52	31715490	81.66	60	120	
Sc (IS)	45	2	HMI He	831633	1.57	891522	93.28	60	120	
Sc (IS)	45	3	No Gas	39913265	0.78	54087154	73.79	60	120	
Ge Internal Standard	72	1	HMI H2	10714583	0.26	13102322	81.78	60	120	
Ge Internal Standard	72	2	HMI He	979472	0.86	1026205	95.45	60	120	
In Internal Standard	115	2	HMI He	4136349	1.51	4195206	98.60	60	120	
Ho-165	165	2	HMI He	19154582	0.27	20206547	94.79	60	120	

Sample Report

Sample Table

Sample Name	280-116248-d-4-b
Data File Name	206SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:28:45-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-3.958	ppb	-3.958	-80.20	122781	500000	
Li	7	2	45	-42.381	ppb	-42.381	-13.76	6819	500000	
Li	7	3	45	-22.679	ppb	-22.679	-8.91	3742538	50000	
Be	9	1	6	0.177	ppb	0.177	80.93	53	2000	
B	11	1	6	328.806	ppb	328.806	2.78	96600	2000	
Na	23	1	45	418465.615	ppb	418465.615	0.48	1187143529	2000	>LDR
Na	23	2	45	383901.033	ppb	383901.033	0.62	78371192	400000	
Mg	24	2	45	28084.745	ppb	28084.745	0.52	2717550	400000	
Al	27	2	45	1854.233	ppb	1854.233	0.65	41038	400000	
K	39	1	45	3308.754	ppb	3308.754	1.65	18608630	400000	
K	39	2	45	4415.246	ppb	4415.246	1.66	214931	400000	
Ca	40	1	45	38872.913	ppb	38872.913	0.72	168198984	400000	
Ca	44	2	45	40493.473	ppb	40493.473	2.04	103269	400000	
Ti	47	2	45	84.776	ppb	84.776	8.86	1740	4000	
V	51	2	72	3.039	ppb	3.039	10.24	5508	2000	
Cr	52	2	72	4.553	ppb	4.553	5.77	5468	5000	
Mn	55	2	72	63.845	ppb	63.845	2.50	29043	10000	
Fe	57	2	72	3044.449	ppb	3044.449	0.17	65374	400000	
Co	59	2	72	1.398	ppb	1.398	4.81	2750	2000	
Ni	60	2	72	2.723	ppb	2.723	6.95	1657	5000	
Cu	63	2	72	3.024	ppb	3.024	7.71	5741	5000	
Zn	66	2	72	8.489	ppb	8.489	6.14	1987	5000	
As	75	2	72	4.691	ppb	4.691	3.02	732	2000	
Se	78	1	72	0.113	ppb	0.113	69.99	35	2000	
Sr	88	2	72	778.211	ppb	778.211	0.23	393438	4000	
Zr	90	2	72	196.613	ppb	196.613	4.62	1420	1000	
Nb	93	2	72	3.060	ppb	3.060	3.09	10414	200	
Mo	95	2	115	9.189	ppb	9.189	3.69	7653	2000	
Pd	105	2	115	0.024	ppb	0.024	59.45	60	100	
Ag	107	2	115	0.073	ppb	0.073	34.72	260	100	
Cd	111	2	115	0.028	ppb	0.028	99.12	10	2000	
Sn	120	2	115	0.261	ppb	0.261	32.57	403	2000	
Sb	121	2	115	0.171	ppb	0.171	27.27	203	1000	
Ba	137	2	115	17.249	ppb	17.249	1.18	5335	5000	
W	182	2	165	1.041	ppb	1.041	5.68	5421	100	
Pt	195	2	165	0.027	ppb	0.027	77.50	120	100	
Tl	205	2	165	0.051	ppb	0.051	10.96	473	2000	
Pb	208	2	165	1.792	ppb	1.792	1.99	17873	5000	
Th	232	2	165	1.212	ppb	1.212	2.33	18201	2000	
U	238	2	165	9.147	ppb	9.147	1.55	142520	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1051497	1.05	1639580	64.13	60	120	
Sc (IS)	45	1	HMI H2	23900729	0.80	31715490	75.36	60	120	
Sc (IS)	45	2	HMI He	772852	1.04	891522	86.69	60	120	
Sc (IS)	45	3	No Gas	36731837	0.83	54087154	67.91	60	120	
Ge Internal Standard	72	1	HMI H2	9799508	0.50	13102322	74.79	60	120	
Ge Internal Standard	72	2	HMI He	895243	1.03	1026205	87.24	60	120	
In Internal Standard	115	2	HMI He	3725579	1.33	4195206	88.81	60	120	
Ho-165	165	2	HMI He	18093400	0.97	20206547	89.54	60	120	

Sample Report

Sample Table

Sample Name	280-116248-d-5-b
Data File Name	207SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:32:38-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	44.450	ppb	44.450	10.65	136619	500000	
Li	7	2	45	-0.752	ppb	-0.752	-2466.02	7506	500000	
Li	7	3	45	38.522	ppb	38.522	12.64	4313393	50000	
Be	9	1	6	0.278	ppb	0.278	72.64	77	2000	
B	11	1	6	588.903	ppb	588.903	1.05	164737	2000	
Na	23	1	45	442032.199	ppb	442032.199	0.62	1233405475	2000	>LDR
Na	23	2	45	408413.923	ppb	408413.923	0.72	82234390	400000	
Mg	24	2	45	443021.517	ppb	443021.517	0.28	42278125	400000	
Al	27	2	45	4183.786	ppb	4183.786	0.87	91298	400000	
K	39	1	45	27178.469	ppb	27178.469	0.58	86914859	400000	
K	39	2	45	32333.387	ppb	32333.387	1.95	1449062	400000	
Ca	40	1	45	494272.708	ppb	494272.708	0.53	2103185462	400000	
Ca	44	2	45	599884.507	ppb	599884.507	0.97	1508315	400000	
Ti	47	2	45	106.717	ppb	106.717	4.85	2160	4000	
V	51	2	72	6.897	ppb	6.897	1.95	8650	2000	
Cr	52	2	72	4.969	ppb	4.969	2.66	5751	5000	
Mn	55	2	72	390.722	ppb	390.722	0.12	171738	10000	
Fe	57	2	72	9610.605	ppb	9610.605	0.58	199348	400000	
Co	59	2	72	5.767	ppb	5.767	6.70	10951	2000	
Ni	60	2	72	6.004	ppb	6.004	6.02	3367	5000	
Cu	63	2	72	5.369	ppb	5.369	1.63	9013	5000	
Zn	66	2	72	18.438	ppb	18.438	3.62	3891	5000	
As	75	2	72	15.826	ppb	15.826	1.58	2320	2000	
Se	78	1	72	0.249	ppb	0.249	29.09	60	2000	
Sr	88	2	72	12769.530	ppb	12769.530	0.45	6244820	4000	
Zr	90	2	72	984.451	ppb	984.451	12.05	6606	1000	
Nb	93	2	72	2.075	ppb	2.075	9.65	7169	200	
Mo	95	2	115	0.693	ppb	0.693	29.70	593	2000	
Pd	105	2	115	0.366	ppb	0.366	20.88	477	100	
Ag	107	2	115	0.035	ppb	0.035	32.41	153	100	
Cd	111	2	115	0.147	ppb	0.147	52.13	50	2000	
Sn	120	2	115	0.401	ppb	0.401	16.85	523	2000	
Sb	121	2	115	0.220	ppb	0.220	36.01	240	1000	
Ba	137	2	115	64.295	ppb	64.295	1.68	19288	5000	
W	182	2	165	0.424	ppb	0.424	13.93	2934	100	
Pt	195	2	165	0.078	ppb	0.078	19.15	267	100	
Tl	205	2	165	0.069	ppb	0.069	33.95	580	2000	
Pb	208	2	165	7.751	ppb	7.751	2.00	71954	5000	
Th	232	2	165	2.625	ppb	2.625	2.20	37676	2000	
U	238	2	165	5.894	ppb	5.894	0.71	88495	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1005229	1.57	1639580	61.31	60	120	
Sc (IS)	45	1	HMI H2	23508884	0.67	31715490	74.12	60	120	
Sc (IS)	45	2	HMI He	762295	1.10	891522	85.50	60	120	
Sc (IS)	45	3	No Gas	36024400	1.31	54087154	66.60	60	120	
Ge Internal Standard	72	1	HMI H2	9335393	0.78	13102322	71.25	60	120	
Ge Internal Standard	72	2	HMI He	866036	1.61	1026205	84.39	60	120	
In Internal Standard	115	2	HMI He	3615385	0.90	4195206	86.18	60	120	
Ho-165	165	2	HMI He	17424969	1.15	20206547	86.23	60	120	

Sample Report

Sample Table

Sample Name	280-116248-I-7-b
Data File Name	208SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:36:34-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	10.117	ppb	10.117	66.20	127691	500000	
Li	7	2	45	-20.720	ppb	-20.720	-104.95	7075	500000	
Li	7	3	45	-8.453	ppb	-8.453	-72.58	3887405	50000	
Be	9	1	6	0.629	ppb	0.629	51.28	170	2000	
B	11	1	6	636.404	ppb	636.404	2.37	180839	2000	
Na	23	1	45	535564.761	ppb	535564.761	1.18	1521862857	2000	>LDR
Na	23	2	45	487249.124	ppb	487249.124	1.03	97323285	400000	
Mg	24	2	45	82519.588	ppb	82519.588	1.15	7813038	400000	
Al	27	2	45	9063.119	ppb	9063.119	1.50	196152	400000	
K	39	1	45	9412.559	ppb	9412.559	1.39	36509597	400000	
K	39	2	45	10323.680	ppb	10323.680	1.48	470005	400000	
Ca	40	1	45	82964.468	ppb	82964.468	0.86	359559661	400000	
Ca	44	2	45	90412.527	ppb	90412.527	0.97	225583	400000	
Ti	47	2	45	265.682	ppb	265.682	5.70	5338	4000	
V	51	2	72	22.322	ppb	22.322	2.04	22178	2000	
Cr	52	2	72	14.623	ppb	14.623	0.86	16610	5000	
Mn	55	2	72	233.047	ppb	233.047	1.13	103590	10000	
Fe	57	2	72	13351.548	ppb	13351.548	0.72	279977	400000	
Co	59	2	72	4.369	ppb	4.369	1.01	8396	2000	
Ni	60	2	72	9.267	ppb	9.267	9.90	5181	5000	
Cu	63	2	72	12.021	ppb	12.021	2.72	19037	5000	
Zn	66	2	72	29.664	ppb	29.664	1.71	6178	5000	
As	75	2	72	3.045	ppb	3.045	6.07	475	2000	
Se	78	1	72	0.352	ppb	0.352	27.18	84	2000	
Sr	88	2	72	3404.742	ppb	3404.742	0.69	1683518	4000	
Zr	90	2	72	494.564	ppb	494.564	4.93	3391	1000	
Nb	93	2	72	1.091	ppb	1.091	7.75	4304	200	
Mo	95	2	115	6.683	ppb	6.683	4.48	5375	2000	
Pd	105	2	115	0.177	ppb	0.177	19.93	243	100	
Ag	107	2	115	0.055	ppb	0.055	22.10	203	100	
Cd	111	2	115	0.288	ppb	0.288	69.77	97	2000	
Sn	120	2	115	0.596	ppb	0.596	6.27	703	2000	
Sb	121	2	115	0.175	ppb	0.175	33.95	200	1000	
Ba	137	2	115	58.334	ppb	58.334	5.26	17389	5000	
W	182	2	165	0.726	ppb	0.726	14.31	4038	100	
Pt	195	2	165	0.019	ppb	0.019	65.20	90	100	
Tl	205	2	165	0.183	ppb	0.183	10.59	1357	2000	
Pb	208	2	165	7.460	ppb	7.460	1.29	68970	5000	
Th	232	2	165	5.378	ppb	5.378	1.60	76546	2000	
U	238	2	165	12.951	ppb	12.951	1.64	193390	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1021612	1.11	1639580	62.31	60	120	
Sc (IS)	45	1	HMI H2	23942870	0.68	31715490	75.49	60	120	
Sc (IS)	45	2	HMI He	756336	1.22	891522	84.84	60	120	
Sc (IS)	45	3	No Gas	36659050	0.25	54087154	67.78	60	120	
Ge Internal Standard	72	1	HMI H2	9732393	0.17	13102322	74.28	60	120	
Ge Internal Standard	72	2	HMI He	875639	0.36	1026205	85.33	60	120	
In Internal Standard	115	2	HMI He	3592506	0.92	4195206	85.63	60	120	
Ho-165	165	2	HMI He	17343948	0.96	20206547	85.83	60	120	

Sample Report

Sample Table

Sample Name	280-116248-I-7-bSD@5
Data File Name	209SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:40:23-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-34.685	ppb	-34.685	-11.15	119098	500000	
Li	7	2	45	-59.278	ppb	-59.278	-9.60	6585	500000	
Li	7	3	45	-49.231	ppb	-49.231	-7.45	3609436	50000	
Be	9	1	6	0.226	ppb	0.226	56.91	70	2000	
B	11	1	6	135.110	ppb	135.110	2.61	42240	2000	
Na	23	1	45	108258.547	ppb	108258.547	0.47	325342588	2000	>LDR
Na	23	2	45	100480.386	ppb	100480.386	1.61	20814193	400000	
Mg	24	2	45	17928.562	ppb	17928.562	1.10	1758471	400000	
Al	27	2	45	1875.359	ppb	1875.359	1.66	42068	400000	
K	39	1	45	2024.080	ppb	2024.080	2.00	15718696	400000	
K	39	2	45	2111.263	ppb	2111.263	1.40	112924	400000	
Ca	40	1	45	16749.727	ppb	16749.727	0.15	76715221	400000	
Ca	44	2	45	18399.036	ppb	18399.036	2.33	47575	400000	
Ti	47	2	45	54.292	ppb	54.292	11.06	1130	4000	
V	51	2	72	3.386	ppb	3.386	4.38	6002	2000	
Cr	52	2	72	2.784	ppb	2.784	2.05	3557	5000	
Mn	55	2	72	47.486	ppb	47.486	0.47	22311	10000	
Fe	57	2	72	2686.957	ppb	2686.957	1.04	59569	400000	
Co	59	2	72	0.910	ppb	0.910	6.49	1850	2000	
Ni	60	2	72	1.915	ppb	1.915	6.99	1247	5000	
Cu	63	2	72	2.528	ppb	2.528	2.78	5144	5000	
Zn	66	2	72	6.815	ppb	6.815	9.76	1697	5000	
As	75	2	72	0.505	ppb	0.505	11.41	109	2000	
Se	78	1	72	0.116	ppb	0.116	100.32	37	2000	
Sr	88	2	72	579.242	ppb	579.242	0.79	302246	4000	
Zr	90	2	72	99.893	ppb	99.893	3.62	780	1000	
Nb	93	2	72	0.207	ppb	0.207	37.98	1757	200	
Mo	95	2	115	1.451	ppb	1.451	3.14	1270	2000	
Pd	105	2	115	0.007	ppb	0.007	274.23	40	100	
Ag	107	2	115	-0.006	ppb	-0.006	-90.49	47	100	
Cd	111	2	115	0.046	ppb	0.046	91.58	17	2000	
Sn	120	2	115	0.292	ppb	0.292	7.03	443	2000	
Sb	121	2	115	0.035	ppb	0.035	35.81	83	1000	
Ba	137	2	115	12.427	ppb	12.427	5.15	3937	5000	
W	182	2	165	0.223	ppb	0.223	44.92	2260	100	
Pt	195	2	165	0.005	ppb	0.005	141.73	50	100	
Tl	205	2	165	0.037	ppb	0.037	9.29	370	2000	
Pb	208	2	165	1.543	ppb	1.543	3.81	15411	5000	
Th	232	2	165	1.056	ppb	1.056	2.21	15817	2000	
U	238	2	165	2.640	ppb	2.640	3.69	40983	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1104156	1.48	1639580	67.34	60	120	
Sc (IS)	45	1	HMI H2	25290368	0.35	31715490	79.74	60	120	
Sc (IS)	45	2	HMI He	783382	1.25	891522	87.87	60	120	
Sc (IS)	45	3	No Gas	38341869	0.66	54087154	70.89	60	120	
Ge Internal Standard	72	1	HMI H2	10427873	0.40	13102322	79.59	60	120	
Ge Internal Standard	72	2	HMI He	923989	0.83	1026205	90.04	60	120	
In Internal Standard	115	2	HMI He	3815901	0.27	4195206	90.96	60	120	
Ho-165	165	2	HMI He	17997396	1.27	20206547	89.07	60	120	

Sample Report

Sample Table

Sample Name	280-116248-I-7-c ms
Data File Name	210SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:44:10-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	82.518	ppb	82.518	15.89	146237	500000	
Li	7	2	45	37.963	ppb	37.963	42.02	7999	500000	
Li	7	3	45	57.086	ppb	57.086	8.66	4476392	50000	
Be	9	1	6	43.381	ppb	43.381	2.49	11165	2000	
B	11	1	6	633.243	ppb	633.243	1.55	178154	2000	
Na	23	1	45	523233.228	ppb	523233.228	2.77	1432048619	2000	>LDR
Na	23	2	45	478820.887	ppb	478820.887	0.17	93646799	400000	
Mg	24	2	45	81610.703	ppb	81610.703	0.89	7565696	400000	
Al	27	2	45	9333.332	ppb	9333.332	1.30	197792	400000	
K	39	1	45	9283.306	ppb	9283.306	3.11	34802934	400000	
K	39	2	45	10072.031	ppb	10072.031	0.42	449376	400000	
Ca	40	1	45	80400.100	ppb	80400.100	3.42	335570582	400000	
Ca	44	2	45	89419.625	ppb	89419.625	1.03	218437	400000	
Ti	47	2	45	251.916	ppb	251.916	2.00	4954	4000	
V	51	2	72	59.893	ppb	59.893	0.63	54025	2000	
Cr	52	2	72	50.864	ppb	50.864	2.37	56226	5000	
Mn	55	2	72	265.704	ppb	265.704	1.13	116227	10000	
Fe	57	2	72	12987.150	ppb	12987.150	0.29	268025	400000	
Co	59	2	72	40.917	ppb	40.917	1.25	77339	2000	
Ni	60	2	72	44.773	ppb	44.773	1.98	24115	5000	
Cu	63	2	72	47.605	ppb	47.605	0.61	70978	5000	
Zn	66	2	72	64.505	ppb	64.505	5.66	12940	5000	
As	75	2	72	39.339	ppb	39.339	3.54	5694	2000	
Se	78	1	72	38.263	ppb	38.263	2.77	7680	2000	
Sr	88	2	72	3438.690	ppb	3438.690	0.93	1673291	4000	
Zr	90	2	72	6757.597	ppb	6757.597	6.36	44750	1000	>LDR
Nb	93	2	72	0.684	ppb	0.684	11.74	3041	200	
Mo	95	2	115	41.367	ppb	41.367	2.13	32632	2000	
Pd	105	2	115	0.076	ppb	0.076	17.89	120	100	
Ag	107	2	115	36.440	ppb	36.440	1.21	93659	100	
Cd	111	2	115	38.172	ppb	38.172	1.53	12700	2000	
Sn	120	2	115	20.984	ppb	20.984	2.42	19625	2000	
Sb	121	2	115	23.248	ppb	23.248	1.33	19852	1000	
Ba	137	2	115	93.536	ppb	93.536	1.27	27502	5000	
W	182	2	165	9.465	ppb	9.465	1.93	35903	100	
Pt	195	2	165	-0.002	ppb	-0.002	-210.69	27	100	
Tl	205	2	165	38.109	ppb	38.109	0.95	259007	2000	
Pb	208	2	165	45.676	ppb	45.676	0.44	414426	5000	
Th	232	2	165	35.584	ppb	35.584	0.70	500240	2000	
U	238	2	165	44.258	ppb	44.258	0.12	654316	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1011333	1.53	1639580	61.68	60	120	
Sc (IS)	45	1	HMI H2	23071457	2.75	31715490	72.75	60	120	
Sc (IS)	45	2	HMI He	740510	0.76	891522	83.06	60	120	
Sc (IS)	45	3	No Gas	35767962	1.58	54087154	66.13	60	120	
Ge Internal Standard	72	1	HMI H2	9407624	1.66	13102322	71.80	60	120	
Ge Internal Standard	72	2	HMI He	861754	0.34	1026205	83.97	60	120	
In Internal Standard	115	2	HMI He	3543605	0.83	4195206	84.47	60	120	
Ho-165	165	2	HMI He	17177481	0.39	20206547	85.01	60	120	

Sample Report

Sample Table

Sample Name	280-116248-I-7-d msd
Data File Name	211SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:47:59-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	83.599	ppb	83.599	8.98	145107	500000	
Li	7	2	45	8.394	ppb	8.394	122.76	7479	500000	
Li	7	3	45	48.555	ppb	48.555	5.49	4432024	50000	
Be	9	1	6	42.743	ppb	42.743	0.95	10904	2000	
B	11	1	6	631.002	ppb	631.002	0.57	176012	2000	
Na	23	1	45	516227.320	ppb	516227.320	0.50	1398653952	2000	>LDR
Na	23	2	45	462432.352	ppb	462432.352	1.26	90653382	400000	
Mg	24	2	45	78278.464	ppb	78278.464	0.46	7274500	400000	
Al	27	2	45	8977.199	ppb	8977.199	0.32	190706	400000	
K	39	1	45	9071.706	ppb	9071.706	0.47	33859264	400000	
K	39	2	45	9746.932	ppb	9746.932	0.84	436433	400000	
Ca	40	1	45	79270.734	ppb	79270.734	0.28	327569042	400000	
Ca	44	2	45	85621.874	ppb	85621.874	0.21	209659	400000	
Ti	47	2	45	223.641	ppb	223.641	6.81	4408	4000	
V	51	2	72	56.977	ppb	56.977	2.85	50950	2000	
Cr	52	2	72	50.001	ppb	50.001	2.44	54664	5000	
Mn	55	2	72	258.020	ppb	258.020	0.99	111610	10000	
Fe	57	2	72	12685.503	ppb	12685.503	0.86	258889	400000	
Co	59	2	72	40.330	ppb	40.330	1.44	75383	2000	
Ni	60	2	72	43.583	ppb	43.583	4.25	23213	5000	
Cu	63	2	72	47.652	ppb	47.652	0.78	70255	5000	
Zn	66	2	72	62.708	ppb	62.708	4.13	12446	5000	
As	75	2	72	39.422	ppb	39.422	0.51	5642	2000	
Se	78	1	72	39.212	ppb	39.212	1.09	7809	2000	
Sr	88	2	72	3374.819	ppb	3374.819	0.42	1623923	4000	
Zr	90	2	72	6620.503	ppb	6620.503	2.13	43350	1000	>LDR
Nb	93	2	72	0.572	ppb	0.572	12.17	2680	200	
Mo	95	2	115	41.379	ppb	41.379	2.38	32425	2000	
Pd	105	2	115	0.127	ppb	0.127	25.47	180	100	
Ag	107	2	115	36.242	ppb	36.242	0.70	92544	100	
Cd	111	2	115	38.875	ppb	38.875	5.55	12850	2000	
Sn	120	2	115	21.915	ppb	21.915	3.57	20356	2000	
Sb	121	2	115	24.620	ppb	24.620	3.98	20880	1000	
Ba	137	2	115	96.959	ppb	96.959	3.54	28317	5000	
W	182	2	165	9.678	ppb	9.678	4.18	36177	100	
Pt	195	2	165	-0.007	ppb	-0.007	-76.53	13	100	
Tl	205	2	165	38.012	ppb	38.012	0.51	254748	2000	
Pb	208	2	165	45.413	ppb	45.413	0.94	406268	5000	
Th	232	2	165	35.433	ppb	35.433	1.13	491147	2000	
U	238	2	165	43.703	ppb	43.703	1.41	637068	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1002697	0.94	1639580	61.16	60	120	
Sc (IS)	45	1	HMI H2	22827855	0.41	31715490	71.98	60	120	
Sc (IS)	45	2	HMI He	742292	0.88	891522	83.26	60	120	
Sc (IS)	45	3	No Gas	36127878	0.30	54087154	66.80	60	120	
Ge Internal Standard	72	1	HMI H2	9332343	0.94	13102322	71.23	60	120	
Ge Internal Standard	72	2	HMI He	852145	0.45	1026205	83.04	60	120	
In Internal Standard	115	2	HMI He	3520616	0.78	4195206	83.92	60	120	
Ho-165	165	2	HMI He	16937568	0.75	20206547	83.82	60	120	

Sample Report

Sample Table

Sample Name	280-116248-I-7-b PDS
Data File Name	212SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:51:49-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	11.252	ppb	11.252	19.49	120556	500000	
Li	7	2	45	-26.501	ppb	-26.501	-26.08	6648	500000	
Li	7	3	45	-14.917	ppb	-14.917	-8.55	3761978	50000	
Be	9	1	6	217.610	ppb	217.610	1.09	55276	2000	
B	11	1	6	613.959	ppb	613.959	0.64	170605	2000	
Na	23	1	45	536495.709	ppb	536495.709	0.55	1435092405	2000	>LDR
Na	23	2	45	490197.619	ppb	490197.619	0.08	93416249	400000	
Mg	24	2	45	83886.243	ppb	83886.243	1.28	7577755	400000	
Al	27	2	45	11400.192	ppb	11400.192	0.08	235405	400000	
K	39	1	45	9560.769	ppb	9560.769	0.75	34776675	400000	
K	39	2	45	10474.124	ppb	10474.124	0.05	454744	400000	
Ca	40	1	45	82936.838	ppb	82936.838	0.28	338357035	400000	
Ca	44	2	45	90947.445	ppb	90947.445	1.04	216476	400000	
Ti	47	2	45	279.958	ppb	279.958	8.17	5365	4000	
V	51	2	72	220.693	ppb	220.693	1.41	186292	2000	
Cr	52	2	72	205.581	ppb	205.581	0.30	219955	5000	
Mn	55	2	72	434.225	ppb	434.225	1.28	184425	10000	
Fe	57	2	72	15396.979	ppb	15396.979	1.18	308562	400000	
Co	59	2	72	193.330	ppb	193.330	0.52	354860	2000	
Ni	60	2	72	192.171	ppb	192.171	1.20	100084	5000	
Cu	63	2	72	197.604	ppb	197.604	0.44	282807	5000	
Zn	66	2	72	232.696	ppb	232.696	2.64	44714	5000	
As	75	2	72	191.922	ppb	191.922	1.15	26868	2000	
Se	78	1	72	199.670	ppb	199.670	1.41	38782	2000	
Sr	88	2	72	3449.047	ppb	3449.047	1.15	1629974	4000	
Zr	90	2	72	41987.578	ppb	41987.578	0.56	269657	1000	>LDR
Nb	93	2	72	4.453	ppb	4.453	2.08	13711	200	
Mo	95	2	115	200.322	ppb	200.322	1.93	154318	2000	
Pd	105	2	115	0.136	ppb	0.136	27.58	187	100	
Ag	107	2	115	40.335	ppb	40.335	2.68	101317	100	
Cd	111	2	115	196.913	ppb	196.913	1.21	64064	2000	
Sn	120	2	115	206.323	ppb	206.323	0.43	187470	2000	
Sb	121	2	115	207.306	ppb	207.306	0.32	172694	1000	
Ba	137	2	115	269.281	ppb	269.281	3.86	77360	5000	
W	182	2	165	199.365	ppb	199.365	0.29	708621	100	
Pt	195	2	165	0.053	ppb	0.053	44.57	183	100	
Tl	205	2	165	247.905	ppb	247.905	0.79	1636630	2000	
Pb	208	2	165	203.406	ppb	203.406	0.51	1790832	5000	
Th	232	2	165	18.049	ppb	18.049	1.65	246685	2000	
U	238	2	165	215.822	ppb	215.822	0.94	3099902	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	998761	1.45	1639580	60.92	60	120	
Sc (IS)	45	1	HMI H2	22537723	0.26	31715490	71.06	60	120	
Sc (IS)	45	2	HMI He	721552	0.26	891522	80.93	60	120	
Sc (IS)	45	3	No Gas	36119269	0.61	54087154	66.78	60	120	
Ge Internal Standard	72	1	HMI H2	9111817	0.21	13102322	69.54	60	120	
Ge Internal Standard	72	2	HMI He	836886	0.52	1026205	81.55	60	120	
In Internal Standard	115	2	HMI He	3464669	2.17	4195206	82.59	60	120	
Ho-165	165	2	HMI He	16691267	0.63	20206547	82.60	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	213_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:55:39-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	422.150	ppb	1.663	272277	500	84.4	90	110	>+\-10%
Li	7	2	45	346.018	ppb	7.795	13984	500	69.2	90	110	>+\-10%
Li	7	3	45	371.020	ppb	3.780	8189108	500	74.2	90	110	>+\-10%
Be	9	1	6	51.238	ppb	1.866	14574	50	102.5	90	110	
B	11	1	6	62.942	ppb	2.927	20448	50	125.9	90	110	>+\-10%
Na	23	1	45	5728.911	ppb	0.505	17192138	5000	114.6	90	110	>+\-10%
Na	23	2	45	5413.360	ppb	1.589	1119749	5000	108.3	90	110	
Mg	24	2	45	4382.187	ppb	0.825	417192	5000	87.6	90	110	>+\-10%
Al	27	2	45	5255.813	ppb	1.137	114304	5000	105.1	90	110	
K	39	1	45	5575.659	ppb	0.996	25961389	5000	111.5	90	110	>+\-10%
K	39	2	45	5220.110	ppb	0.289	246841	5000	104.4	90	110	
Ca	40	1	45	5372.744	ppb	0.491	23955067	5000	107.5	90	110	
Ca	44	2	45	5109.124	ppb	1.014	12850	5000	102.2	90	110	
Ti	47	2	45	47.924	ppb	13.445	967	50	95.8	90	110	
V	51	2	72	46.951	ppb	2.402	44492	50	93.9	90	110	
Cr	52	2	72	48.275	ppb	1.167	55316	50	96.5	90	110	
Mn	55	2	72	50.096	ppb	1.640	22745	50	100.2	90	110	
Fe	57	2	72	4854.767	ppb	0.541	103916	5000	97.1	90	110	
Co	59	2	72	48.148	ppb	0.445	94316	50	96.3	90	110	
Ni	60	2	72	47.118	ppb	6.126	26298	50	94.2	90	110	
Cu	63	2	72	47.326	ppb	0.684	73132	50	94.7	90	110	
Zn	66	2	72	47.357	ppb	1.278	9911	50	94.7	90	110	
As	75	2	72	47.917	ppb	3.613	7180	50	95.8	90	110	
Se	78	1	72	50.601	ppb	4.347	10942	50	101.2	90	110	
Sr	88	2	72	55.853	ppb	0.278	28206	50	111.7	90	110	>+\-10%
Zr	90	2	72	97.910	ppb	22.043	740	50	195.8	90	110	>+\-10%
Nb	93	2	72	87.501	ppb	1.121	267568	100	87.5	90	110	>+\-10%
Mo	95	2	115	47.762	ppb	1.147	39336	50	95.5	90	110	
Pd	105	2	115	49.063	ppb	1.581	61529	50	98.1	90	110	
Ag	107	2	115	47.470	ppb	0.812	127395	50	94.9	90	110	
Cd	111	2	115	48.389	ppb	3.373	16811	50	96.8	90	110	
Sn	120	2	115	51.400	ppb	1.706	49998	50	102.8	90	110	
Sb	121	2	115	51.579	ppb	0.853	45930	50	103.2	90	110	
Ba	137	2	115	51.817	ppb	2.802	15913	50	103.6	90	110	
W	182	2	165	47.829	ppb	1.832	180172	50	95.7	90	110	
Pt	195	2	165	47.335	ppb	0.583	142373	50	94.7	90	110	
Tl	205	2	165	50.807	ppb	0.141	353544	50	101.6	90	110	
Pb	208	2	165	51.032	ppb	0.769	473992	50	102.1	90	110	
Th	232	2	165	39.333	ppb	0.562	566145	50	78.7	90	110	>+\-10%
U	238	2	165	39.832	ppb	0.775	602964	50	79.7	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1118083	0.60	1639580	68.19	60	120	
Sc (IS)	45	1	HMI H2	24589921	0.39	31715490	77.53	60	120	
Sc (IS)	45	2	HMI He	759861	0.73	891522	85.23	60	120	
Sc (IS)	45	3	No Gas	37781619	0.51	54087154	69.85	60	120	
Ge Internal Standard	72	1	HMI H2	10137616	0.89	13102322	77.37	60	120	
Ge Internal Standard	72	2	HMI He	893058	0.53	1026205	87.03	60	120	
In Internal Standard	115	2	HMI He	3700650	0.74	4195206	88.21	60	120	
Ho-165	165	2	HMI He	17588686	0.90	20206547	87.04	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	214_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T05:59:26-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-68.588	ppb	-2.3	3699539	10	
Be	9	1	6	0.057	ppb	196.2	23	0.5	
B	11	1	6	11.600	ppb	9.9	4644	0.5	>RL
Na	23	1	45	400.765	ppb	2.5	1639793	25	>RL
Na	23	2	45	313.113	ppb	0.6	97481	25	>RL
Mg	24	2	45	55.647	ppb	3.6	5685	25	>RL
Al	27	2	45	5.430	ppb	26.0	153	15	
K	39	1	45	281.132	ppb	6.2	10001017	50	>RL
K	39	2	45	30.459	ppb	16.1	17798	50	
Ca	40	1	45	12.389	ppb	4.1	97643	50	
Ca	44	2	45	8.231	ppb	110.5	67	25	
Ti	47	2	45	0.163	ppb	173.2	3	0.5	
V	51	2	72	-0.628	ppb	-11.0	2257	1	
Cr	52	2	72	-0.034	ppb	-80.9	227	1	
Mn	55	2	72	0.094	ppb	23.5	90	0.5	
Fe	57	2	72	2.872	ppb	56.2	197	25	
Co	59	2	72	0.027	ppb	63.8	60	0.5	
Ni	60	2	72	0.018	ppb	609.6	153	1	
Cu	63	2	72	0.001	ppb	18402.0	1137	1	
Zn	66	2	72	0.153	ppb	160.7	283	5	
As	75	2	72	0.024	ppb	462.2	34	1	
Se	78	1	72	0.059	ppb	31.1	24	1	
Sr	88	2	72	0.168	ppb	35.8	127	0.5	
Zr	90	2	72	7.193	ppb	0.6	120	1	>RL
Nb	93	2	72	3.185	ppb	9.0	10868	2	>RL
Mo	95	2	115	0.060	ppb	98.0	90	0.5	
Pd	105	2	115	0.031	ppb	90.3	70	1	
Ag	107	2	115	0.000	ppb	-15444.2	63	1	
Cd	111	2	115	0.019	ppb	173.2	7	0.5	
Sn	120	2	115	0.236	ppb	77.5	387	1	
Sb	121	2	115	0.473	ppb	29.2	483	0.6	
Ba	137	2	115	0.064	ppb	123.6	23	0.5	
W	182	2	165	0.159	ppb	31.4	1967	1	
Pt	195	2	165	0.007	ppb	51.9	57	1	
Tl	205	2	165	0.025	ppb	56.8	280	0.1	
Pb	208	2	165	0.004	ppb	204.7	793	0.5	
Th	232	2	165	0.028	ppb	13.3	667	1	
U	238	2	165	0.022	ppb	18.3	440	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1141014	1.69	1639580	69.59	60	120	
Sc (IS)	45	1	HMI H2	24487515	0.99	31715490	77.21	60	120	
Sc (IS)	45	2	HMI He	766589	0.36	891522	85.99	60	120	
Sc (IS)	45	3	No Gas	41807336	2.17	54087154	77.30	60	120	
Ge Internal Standard	72	1	HMI H2	10111835	0.43	13102322	77.18	60	120	
Ge Internal Standard	72	2	HMI He	901352	0.24	1026205	87.83	60	120	
In Internal Standard	115	2	HMI He	3801729	0.43	4195206	90.62	60	120	
Ho-165	165	2	HMI He	17538599	0.48	20206547	86.80	60	120	

Sample Report

Sample Table

Sample Name	280-116248-f-8-b
Data File Name	215SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:03:12-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	69.840	ppb	69.840	11.13	135476	500000	
Li	7	2	45	28.128	ppb	28.128	81.26	7529	500000	
Li	7	3	45	25.609	ppb	25.609	7.60	4264733	50000	
Be	9	1	6	1.373	ppb	1.373	14.58	287	2000	
B	11	1	6	1133.965	ppb	1133.965	12.36	252670	2000	
Na	23	1	45	322034.075	ppb	322034.075	0.42	840117907	2000	>LDR
Na	23	2	45	292731.221	ppb	292731.221	1.31	55147671	400000	
Mg	24	2	45	420255.486	ppb	420255.486	1.16	37518760	400000	
Al	27	2	45	19392.836	ppb	19392.836	1.93	395779	400000	
K	39	1	45	21205.990	ppb	21205.990	1.05	65198152	400000	
K	39	2	45	21461.241	ppb	21461.241	1.04	904882	400000	
Ca	40	1	45	629040.043	ppb	629040.043	1.26	2502039536	400000	
Ca	44	2	45	769779.065	ppb	769779.065	1.08	1810542	400000	
Ti	47	2	45	650.471	ppb	650.471	5.87	12316	4000	
V	51	2	72	33.641	ppb	33.641	2.68	29778	2000	
Cr	52	2	72	23.297	ppb	23.297	1.62	24448	5000	
Mn	55	2	72	1423.639	ppb	1423.639	0.89	588032	10000	
Fe	57	2	72	32475.382	ppb	32475.382	0.51	632768	400000	
Co	59	2	72	19.253	ppb	19.253	0.65	34372	2000	
Ni	60	2	72	21.917	ppb	21.917	5.08	11212	5000	
Cu	63	2	72	23.756	ppb	23.756	2.48	33971	5000	
Zn	66	2	72	69.387	ppb	69.387	1.58	13130	5000	
As	75	2	72	27.060	ppb	27.060	6.66	3711	2000	
Se	78	1	72	1.174	ppb	1.174	8.75	229	2000	
Sr	88	2	72	19368.831	ppb	19368.831	0.78	8902410	4000	
Zr	90	2	72	1163.432	ppb	1163.432	3.77	7329	1000	
Nb	93	2	72	4.603	ppb	4.603	7.37	13761	200	
Mo	95	2	115	0.694	ppb	0.694	18.12	557	2000	
Pd	105	2	115	0.633	ppb	0.633	0.52	753	100	
Ag	107	2	115	0.100	ppb	0.100	39.02	300	100	
Cd	111	2	115	0.264	ppb	0.264	94.98	83	2000	
Sn	120	2	115	1.166	ppb	1.166	3.62	1170	2000	
Sb	121	2	115	0.612	ppb	0.612	22.91	547	1000	
Ba	137	2	115	121.154	ppb	121.154	3.34	34080	5000	
W	182	2	165	1.264	ppb	1.264	4.12	5725	100	
Pt	195	2	165	-0.006	ppb	-0.006	-68.46	17	100	
Tl	205	2	165	0.333	ppb	0.333	11.85	2270	2000	
Pb	208	2	165	26.491	ppb	26.491	0.67	231208	5000	
Th	232	2	165	11.356	ppb	11.356	1.61	153535	2000	
U	238	2	165	12.073	ppb	12.073	0.94	171576	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	811470	13.19	1639580	49.49	60	120	IS Failed
Sc (IS)	45	1	HMI H2	21976116	0.81	31715490	69.29	60	120	
Sc (IS)	45	2	HMI He	713276	3.08	891522	80.01	60	120	
Sc (IS)	45	3	No Gas	36771169	1.25	54087154	67.99	60	120	
Ge Internal Standard	72	1	HMI H2	8776301	0.65	13102322	66.98	60	120	
Ge Internal Standard	72	2	HMI He	813889	2.14	1026205	79.31	60	120	
In Internal Standard	115	2	HMI He	3390888	2.48	4195206	80.83	60	120	
Ho-165	165	2	HMI He	16503664	2.30	20206547	81.67	60	120	

Sample Report

Sample Table

Sample Name	280-116276-d-1-b
Data File Name	216SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:07:04-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	107.110	ppb	107.110	4.78	148153	500000	
Li	7	2	45	67.542	ppb	67.542	43.99	8063	500000	
Li	7	3	45	85.308	ppb	85.308	6.16	4480829	50000	
Be	9	1	6	0.098	ppb	0.098	90.34	23	2000	
B	11	1	6	2581.117	ppb	2581.117	14.52	563324	2000	
Na	23	1	45	1110421.637	ppb	1110421.637	3.39	2919511103	2000	>LDR
Na	23	2	45	1026206.780	ppb	1026206.780	2.25	189362977	400000	
Mg	24	2	45	291999.130	ppb	291999.130	2.30	25545386	400000	
Al	27	2	45	288.507	ppb	288.507	3.81	5801	400000	
K	39	1	45	3952.330	ppb	3952.330	6.66	18993173	400000	
K	39	2	45	4457.560	ppb	4457.560	3.39	196013	400000	
Ca	40	1	45	219167.699	ppb	219167.699	4.00	878836387	400000	
Ca	44	2	45	238895.300	ppb	238895.300	2.21	550618	400000	
Ti	47	2	45	18.292	ppb	18.292	11.89	340	4000	
V	51	2	72	43.977	ppb	43.977	1.65	37426	2000	
Cr	52	2	72	4.217	ppb	4.217	8.16	4534	5000	
Mn	55	2	72	7337.719	ppb	7337.719	1.70	2973428	10000	
Fe	57	2	72	8697.624	ppb	8697.624	2.50	166381	400000	
Co	59	2	72	5.577	ppb	5.577	3.14	9774	2000	
Ni	60	2	72	57.326	ppb	57.326	2.57	28582	5000	
Cu	63	2	72	1.386	ppb	1.386	17.77	2890	5000	
Zn	66	2	72	3344.820	ppb	3344.820	2.36	610369	5000	
As	75	2	72	42.264	ppb	42.264	3.27	5667	2000	
Se	78	1	72	1.271	ppb	1.271	23.37	248	2000	
Sr	88	2	72	7814.079	ppb	7814.079	1.57	3523863	4000	
Zr	90	2	72	5240.854	ppb	5240.854	2.17	32178	1000	>LDR
Nb	93	2	72	3.277	ppb	3.277	8.37	9877	200	
Mo	95	2	115	1.552	ppb	1.552	2.89	1173	2000	
Pd	105	2	115	0.263	ppb	0.263	36.34	320	100	
Ag	107	2	115	0.003	ppb	0.003	378.69	63	100	
Cd	111	2	115	0.022	ppb	0.022	173.21	7	2000	
Sn	120	2	115	0.882	ppb	0.882	9.36	893	2000	
Sb	121	2	115	0.938	ppb	0.938	10.52	790	1000	
Ba	137	2	115	163.280	ppb	163.280	3.54	44711	5000	
W	182	2	165	1.396	ppb	1.396	4.55	5895	100	
Pt	195	2	165	0.008	ppb	0.008	21.26	53	100	
Tl	205	2	165	0.004	ppb	0.004	153.21	117	2000	
Pb	208	2	165	0.455	ppb	0.455	7.99	4437	5000	
Th	232	2	165	0.152	ppb	0.152	3.58	2190	2000	
U	238	2	165	16.943	ppb	16.943	2.31	229103	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	798431	14.42	1639580	48.70	60	120	IS Failed
Sc (IS)	45	1	HMI H2	22167951	2.43	31715490	69.90	60	120	
Sc (IS)	45	2	HMI He	698981	1.82	891522	78.40	60	120	
Sc (IS)	45	3	No Gas	33590300	0.55	54087154	62.10	60	120	
Ge Internal Standard	72	1	HMI H2	8785715	1.24	13102322	67.05	60	120	
Ge Internal Standard	72	2	HMI He	798729	1.22	1026205	77.83	60	120	
In Internal Standard	115	2	HMI He	3302403	2.51	4195206	78.72	60	120	
Ho-165	165	2	HMI He	15712417	2.22	20206547	77.76	60	120	

Sample Report

Sample Table

Sample Name	280-116276-d-2-b
Data File Name	217SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:10:56-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-14.551	ppb	-14.551	-18.21	111773	500000	
Li	7	2	45	-60.019	ppb	-60.019	-16.68	5988	500000	
Li	7	3	45	-36.047	ppb	-36.047	-11.77	3437510	50000	
Be	9	1	6	0.627	ppb	0.627	18.05	147	2000	
B	11	1	6	254.772	ppb	254.772	13.07	63351	2000	
Na	23	1	45	276583.992	ppb	276583.992	0.48	735545429	2000	>LDR
Na	23	2	45	254009.855	ppb	254009.855	0.88	47921711	400000	
Mg	24	2	45	67047.872	ppb	67047.872	1.18	5994093	400000	
Al	27	2	45	6693.930	ppb	6693.930	1.24	136806	400000	
K	39	1	45	5117.572	ppb	5117.572	1.58	22395516	400000	
K	39	2	45	6362.109	ppb	6362.109	0.44	279389	400000	
Ca	40	1	45	111229.462	ppb	111229.462	0.96	450996993	400000	
Ca	44	2	45	113406.462	ppb	113406.462	1.55	267139	400000	
Ti	47	2	45	207.080	ppb	207.080	1.31	3927	4000	
V	51	2	72	9.094	ppb	9.094	1.00	10114	2000	
Cr	52	2	72	7.373	ppb	7.373	2.82	8069	5000	
Mn	55	2	72	118.101	ppb	118.101	1.09	49833	10000	
Fe	57	2	72	7666.320	ppb	7666.320	0.64	152610	400000	
Co	59	2	72	2.743	ppb	2.743	1.81	5004	2000	
Ni	60	2	72	5.626	ppb	5.626	3.25	3037	5000	
Cu	63	2	72	8.433	ppb	8.433	3.63	12983	5000	
Zn	66	2	72	36.050	ppb	36.050	1.49	7075	5000	
As	75	2	72	1.992	ppb	1.992	6.29	305	2000	
Se	78	1	72	0.195	ppb	0.195	18.65	48	2000	
Sr	88	2	72	1976.139	ppb	1976.139	0.46	927212	4000	
Zr	90	2	72	317.152	ppb	317.152	9.43	2087	1000	
Nb	93	2	72	0.623	ppb	0.623	6.53	2757	200	
Mo	95	2	115	11.298	ppb	11.298	2.75	8616	2000	
Pd	105	2	115	0.048	ppb	0.048	54.92	83	100	
Ag	107	2	115	0.059	ppb	0.059	57.48	203	100	
Cd	111	2	115	0.563	ppb	0.563	30.45	180	2000	
Sn	120	2	115	0.356	ppb	0.356	25.76	453	2000	
Sb	121	2	115	0.138	ppb	0.138	56.05	160	1000	
Ba	137	2	115	64.565	ppb	64.565	1.19	18300	5000	
W	182	2	165	0.534	ppb	0.534	3.20	3151	100	
Pt	195	2	165	-0.007	ppb	-0.007	-79.95	13	100	
Tl	205	2	165	0.124	ppb	0.124	7.81	900	2000	
Pb	208	2	165	6.375	ppb	6.375	0.81	55923	5000	
Th	232	2	165	3.053	ppb	3.053	2.70	41270	2000	
U	238	2	165	6.397	ppb	6.397	1.69	90542	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	897031	12.56	1639580	54.71	60	120	IS Failed
Sc (IS)	45	1	HMI H2	22400381	0.30	31715490	70.63	60	120	
Sc (IS)	45	2	HMI He	714146	1.20	891522	80.10	60	120	
Sc (IS)	45	3	No Gas	35081404	0.51	54087154	64.86	60	120	
Ge Internal Standard	72	1	HMI H2	9111128	0.38	13102322	69.54	60	120	
Ge Internal Standard	72	2	HMI He	830933	1.00	1026205	80.97	60	120	
In Internal Standard	115	2	HMI He	3415496	1.49	4195206	81.41	60	120	
Ho-165	165	2	HMI He	16427250	0.14	20206547	81.30	60	120	

Sample Report

Sample Table

Sample Name	280-116276-f-4-b
Data File Name	218SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:14:43-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-33.610	ppb	-33.610	-6.49	104386	500000	
Li	7	2	45	-59.318	ppb	-59.318	-30.95	5908	500000	
Li	7	3	45	-48.297	ppb	-48.297	-9.68	3273176	50000	
Be	9	1	6	0.280	ppb	0.280	41.38	60	2000	
B	11	1	6	261.055	ppb	261.055	14.47	58157	2000	
Na	23	1	45	284819.158	ppb	284819.158	0.77	747093349	2000	>LDR
Na	23	2	45	258276.947	ppb	258276.947	0.49	47982541	400000	
Mg	24	2	45	155624.862	ppb	155624.862	1.07	13700421	400000	
Al	27	2	45	5258.340	ppb	5258.340	2.08	105827	400000	
K	39	1	45	6117.560	ppb	6117.560	1.42	24791708	400000	
K	39	2	45	7181.602	ppb	7181.602	0.46	308609	400000	
Ca	40	1	45	454286.712	ppb	454286.712	0.96	1816724240	400000	
Ca	44	2	45	474045.626	ppb	474045.626	6.70	1099824	400000	
Ti	47	2	45	133.419	ppb	133.419	7.08	2490	4000	
V	51	2	72	13.360	ppb	13.360	3.95	13300	2000	
Cr	52	2	72	9.884	ppb	9.884	2.36	10468	5000	
Mn	55	2	72	579.846	ppb	579.846	1.22	238519	10000	
Fe	57	2	72	10876.931	ppb	10876.931	1.13	211158	400000	
Co	59	2	72	3.585	ppb	3.585	4.62	6378	2000	
Ni	60	2	72	7.752	ppb	7.752	3.25	4034	5000	
Cu	63	2	72	5.114	ppb	5.114	3.53	8083	5000	
Zn	66	2	72	19.481	ppb	19.481	9.40	3834	5000	
As	75	2	72	45.894	ppb	45.894	1.74	6244	2000	
Se	78	1	72	1.219	ppb	1.219	47.99	241	2000	
Sr	88	2	72	2059.780	ppb	2059.780	0.46	942713	4000	
Zr	90	2	72	627.306	ppb	627.306	4.66	3964	1000	
Nb	93	2	72	0.611	ppb	0.611	13.01	2657	200	
Mo	95	2	115	139.832	ppb	139.832	1.49	104154	2000	
Pd	105	2	115	0.029	ppb	0.029	61.52	60	100	
Ag	107	2	115	0.017	ppb	0.017	38.63	97	100	
Cd	111	2	115	0.330	ppb	0.330	40.64	103	2000	
Sn	120	2	115	0.713	ppb	0.713	20.38	760	2000	
Sb	121	2	115	0.921	ppb	0.921	7.94	787	1000	
Ba	137	2	115	129.415	ppb	129.415	0.56	35962	5000	
W	182	2	165	1.571	ppb	1.571	2.59	6712	100	
Pt	195	2	165	-0.002	ppb	-0.002	-402.05	27	100	
Tl	205	2	165	0.365	ppb	0.365	4.98	2444	2000	
Pb	208	2	165	5.062	ppb	5.062	3.06	44144	5000	
Th	232	2	165	2.961	ppb	2.961	1.26	39675	2000	
U	238	2	165	127.905	ppb	127.905	0.83	1792227	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	804953	13.13	1639580	49.10	60	120	IS Failed
Sc (IS)	45	1	HMI H2	22095455	0.80	31715490	69.67	60	120	
Sc (IS)	45	2	HMI He	703189	1.31	891522	78.88	60	120	
Sc (IS)	45	3	No Gas	34671123	1.06	54087154	64.10	60	120	
Ge Internal Standard	72	1	HMI H2	8903657	0.31	13102322	67.95	60	120	
Ge Internal Standard	72	2	HMI He	810462	1.56	1026205	78.98	60	120	
In Internal Standard	115	2	HMI He	3349028	1.78	4195206	79.83	60	120	
Ho-165	165	2	HMI He	16281604	1.97	20206547	80.58	60	120	

Sample Report

Sample Table

Sample Name	280-116276-f-5-b
Data File Name	219SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:18:33-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435417 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	68.653	ppb	68.653	14.99	131287	500000	
Li	7	2	45	20.623	ppb	20.623	73.96	6955	500000	
Li	7	3	45	31.635	ppb	31.635	26.97	3990027	50000	
Be	9	1	6	0.138	ppb	0.138	140.96	30	2000	
B	11	1	6	1152.749	ppb	1152.749	0.69	233574	2000	
Na	23	1	45	483364.510	ppb	483364.510	1.25	1224999555	2000	>LDR
Na	23	2	45	443265.298	ppb	443265.298	0.54	78481034	400000	
Mg	24	2	45	147884.746	ppb	147884.746	0.37	12410968	400000	
Al	27	2	45	2322.453	ppb	2322.453	0.28	44578	400000	
K	39	1	45	13220.939	ppb	13220.939	1.28	42503943	400000	
K	39	2	45	13968.518	ppb	13968.518	0.89	558625	400000	
Ca	40	1	45	285892.773	ppb	285892.773	1.43	1104908197	400000	
Ca	44	2	45	315504.363	ppb	315504.363	0.82	697571	400000	
Ti	47	2	45	101.850	ppb	101.850	5.51	1814	4000	
V	51	2	72	2.304	ppb	2.304	19.96	4194	2000	
Cr	52	2	72	2.750	ppb	2.750	4.95	2947	5000	
Mn	55	2	72	94.234	ppb	94.234	1.87	37042	10000	
Fe	57	2	72	3742.160	ppb	3742.160	1.20	69444	400000	
Co	59	2	72	3.215	ppb	3.215	1.73	5461	2000	
Ni	60	2	72	3.744	ppb	3.744	10.96	1924	5000	
Cu	63	2	72	4.596	ppb	4.596	1.52	7035	5000	
Zn	66	2	72	11.950	ppb	11.950	13.48	2330	5000	
As	75	2	72	3.682	ppb	3.682	15.45	503	2000	
Se	78	1	72	1.034	ppb	1.034	22.37	199	2000	
Sr	88	2	72	12801.883	ppb	12801.883	0.68	5594378	4000	
Zr	90	2	72	249.762	ppb	249.762	3.27	1543	1000	
Nb	93	2	72	0.367	ppb	0.367	13.83	1894	200	
Mo	95	2	115	3.184	ppb	3.184	9.16	2304	2000	
Pd	105	2	115	0.376	ppb	0.376	5.25	433	100	
Ag	107	2	115	-0.004	ppb	-0.004	-340.32	43	100	
Cd	111	2	115	0.133	ppb	0.133	24.95	40	2000	
Sn	120	2	115	0.602	ppb	0.602	17.22	633	2000	
Sb	121	2	115	0.467	ppb	0.467	18.15	403	1000	
Ba	137	2	115	23.509	ppb	23.509	10.07	6258	5000	
W	182	2	165	0.130	ppb	0.130	38.31	1640	100	
Pt	195	2	165	-0.009	ppb	-0.009	-23.99	7	100	
Tl	205	2	165	0.055	ppb	0.055	13.34	430	2000	
Pb	208	2	165	3.574	ppb	3.574	1.96	29851	5000	
Th	232	2	165	1.233	ppb	1.233	2.26	15847	2000	
U	238	2	165	3.310	ppb	3.310	2.42	44217	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	729965	0.11	1639580	44.52	60	120	IS Failed
Sc (IS)	45	1	HMI H2	21353243	0.59	31715490	67.33	60	120	
Sc (IS)	45	2	HMI He	670360	0.43	891522	75.19	60	120	
Sc (IS)	45	3	No Gas	33893153	0.94	54087154	62.66	60	120	
Ge Internal Standard	72	1	HMI H2	8580211	0.27	13102322	65.49	60	120	
Ge Internal Standard	72	2	HMI He	773928	0.85	1026205	75.42	60	120	
In Internal Standard	115	2	HMI He	3206795	0.43	4195206	76.44	60	120	
Ho-165	165	2	HMI He	15486519	0.59	20206547	76.64	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	220_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:22:26-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	406.256	ppb	1.640	247410	500	81.3	90	110	>+\-10%
Li	7	2	45	380.311	ppb	7.281	13633	500	76.1	90	110	>+\-10%
Li	7	3	45	359.451	ppb	4.633	7572129	500	71.9	90	110	>+\-10%
Be	9	1	6	49.116	ppb	6.217	13003	50	98.2	90	110	
B	11	1	6	61.989	ppb	1.956	18773	50	124.0	90	110	>+\-10%
Na	23	1	45	5745.404	ppb	0.773	15986414	5000	114.9	90	110	>+\-10%
Na	23	2	45	4902.367	ppb	6.558	948292	5000	98.0	90	110	
Mg	24	2	45	4297.141	ppb	0.584	381276	5000	85.9	90	110	>+\-10%
Al	27	2	45	5194.391	ppb	0.917	105289	5000	103.9	90	110	
K	39	1	45	5580.379	ppb	1.330	24085644	5000	111.6	90	110	>+\-10%
K	39	2	45	5262.032	ppb	0.649	231772	5000	105.2	90	110	
Ca	40	1	45	5448.119	ppb	0.490	22523985	5000	109.0	90	110	
Ca	44	2	45	5249.612	ppb	3.986	12306	5000	105.0	90	110	
Ti	47	2	45	56.393	ppb	9.867	1060	50	112.8	90	110	>+\-10%
V	51	2	72	46.433	ppb	0.556	40778	50	92.9	90	110	
Cr	52	2	72	47.398	ppb	2.418	50295	50	94.8	90	110	
Mn	55	2	72	49.437	ppb	0.553	20789	50	98.9	90	110	
Fe	57	2	72	4785.453	ppb	0.341	94866	5000	95.7	90	110	
Co	59	2	72	48.456	ppb	2.697	87886	50	96.9	90	110	
Ni	60	2	72	47.584	ppb	3.863	24582	50	95.2	90	110	
Cu	63	2	72	46.702	ppb	2.914	66842	50	93.4	90	110	
Zn	66	2	72	48.923	ppb	5.921	9470	50	97.8	90	110	
As	75	2	72	47.884	ppb	3.754	6645	50	95.8	90	110	
Se	78	1	72	49.110	ppb	2.518	9876	50	98.2	90	110	
Sr	88	2	72	56.907	ppb	1.919	26616	50	113.8	90	110	>+\-10%
Zr	90	2	72	84.365	ppb	10.559	600	50	168.7	90	110	>+\-10%
Nb	93	2	72	86.118	ppb	1.151	243889	100	86.1	90	110	>+\-10%
Mo	95	2	115	46.185	ppb	2.097	35579	50	92.4	90	110	
Pd	105	2	115	48.683	ppb	3.096	57077	50	97.4	90	110	
Ag	107	2	115	46.483	ppb	1.487	116650	50	93.0	90	110	
Cd	111	2	115	49.764	ppb	1.877	16170	50	99.5	90	110	
Sn	120	2	115	49.102	ppb	1.046	44670	50	98.2	90	110	
Sb	121	2	115	49.133	ppb	1.889	40925	50	98.3	90	110	
Ba	137	2	115	51.017	ppb	1.677	14649	50	102.0	90	110	
W	182	2	165	47.851	ppb	1.424	168293	50	95.7	90	110	
Pt	195	2	165	46.835	ppb	0.858	131521	50	93.7	90	110	
Tl	205	2	165	50.351	ppb	1.226	327090	50	100.7	90	110	
Pb	208	2	165	50.773	ppb	0.709	440289	50	101.5	90	110	
Th	232	2	165	38.726	ppb	0.663	520397	50	77.5	90	110	>+\-10%
U	238	2	165	39.372	ppb	0.400	556439	50	78.7	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1041388	1.78	1639580	63.52	60	120	
Sc (IS)	45	1	HMI H2	22801135	0.62	31715490	71.89	60	120	
Sc (IS)	45	2	HMI He	708177	0.87	891522	79.43	60	120	
Sc (IS)	45	3	No Gas	35489624	0.77	54087154	65.62	60	120	
Ge Internal Standard	72	1	HMI H2	9425092	0.59	13102322	71.93	60	120	
Ge Internal Standard	72	2	HMI He	827093	1.31	1026205	80.60	60	120	
In Internal Standard	115	2	HMI He	3460750	1.18	4195206	82.49	60	120	
Ho-165	165	2	HMI He	16420192	0.87	20206547	81.26	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	221_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:26:12-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-59.622	ppb	-12.7	3239325	10	
Be	9	1	6	0.127	ppb	59.7	40	0.5	
B	11	1	6	11.923	ppb	10.7	4361	0.5	>RL
Na	23	1	45	428.759	ppb	2.1	1600857	25	>RL
Na	23	2	45	339.884	ppb	0.6	95588	25	>RL
Mg	24	2	45	54.151	ppb	5.6	5148	25	>RL
Al	27	2	45	1.545	ppb	120.6	63	15	
K	39	1	45	235.687	ppb	2.1	9174677	50	>RL
K	39	2	45	31.661	ppb	10.5	16583	50	
Ca	40	1	45	13.658	ppb	2.9	96044	50	
Ca	44	2	45	4.529	ppb	212.0	53	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.617	ppb	-18.9	2107	1	
Cr	52	2	72	-0.022	ppb	-200.0	223	1	
Mn	55	2	72	0.109	ppb	129.7	90	0.5	
Fe	57	2	72	0.408	ppb	496.8	133	25	
Co	59	2	72	0.019	ppb	29.2	40	0.5	
Ni	60	2	72	0.000	ppb	14823.8	133	1	
Cu	63	2	72	-0.067	ppb	-132.5	960	1	
Zn	66	2	72	0.066	ppb	131.8	247	5	
As	75	2	72	0.013	ppb	695.6	30	1	
Se	78	1	72	0.014	ppb	293.5	13	1	
Sr	88	2	72	0.131	ppb	33.0	100	0.5	
Zr	90	2	72	0.203	ppb	1144.3	67	1	
Nb	93	2	72	3.218	ppb	7.1	10198	2	>RL
Mo	95	2	115	0.047	ppb	19.0	73	0.5	
Pd	105	2	115	0.052	ppb	34.1	90	1	
Ag	107	2	115	0.007	ppb	286.5	77	1	
Cd	111	2	115	0.020	ppb	173.2	7	0.5	
Sn	120	2	115	0.147	ppb	27.5	277	1	
Sb	121	2	115	0.312	ppb	11.6	313	0.6	
Ba	137	2	115	0.071	ppb	101.7	23	0.5	
W	182	2	165	0.083	ppb	49.8	1584	1	
Pt	195	2	165	-0.002	ppb	-100.8	27	1	
Tl	205	2	165	0.010	ppb	213.0	160	0.1	
Pb	208	2	165	-0.003	ppb	-150.8	683	0.5	
Th	232	2	165	0.029	ppb	44.8	640	1	
U	238	2	165	0.017	ppb	55.9	350	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1047275	0.31	1639580	63.87	60	120	
Sc (IS)	45	1	HMI H2	22773360	0.35	31715490	71.81	60	120	
Sc (IS)	45	2	HMI He	712130	0.91	891522	79.88	60	120	
Sc (IS)	45	3	No Gas	35557026	0.84	54087154	65.74	60	120	
Ge Internal Standard	72	1	HMI H2	9371234	0.34	13102322	71.52	60	120	
Ge Internal Standard	72	2	HMI He	837731	0.64	1026205	81.63	60	120	
In Internal Standard	115	2	HMI He	3536657	1.67	4195206	84.30	60	120	
Ho-165	165	2	HMI He	16484309	0.77	20206547	81.58	60	120	

Blank Report

Sample Table

Sample Name	mb 280-435001/1-a
Data File Name	222_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:29:58-06:00
Sample Type	Blank
Dilution	1
Comment	435001 6020 Zn
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-43.556	ppb	-28.24139386	102212	0.5
Li	7	2	45	-94.123	ppb	-21.59873112	5371	0.5
Li	7	3	45	-64.887	ppb	-8.506927802	3067837	10
Be	9	1	6	0.015	ppb	261.8436691	10	0.5
B	11	1	6	11.941	ppb	2.150512315	4251	0.5
Na	23	1	45	371.685	ppb	0.267479804	1416147	25
Na	23	2	45	294.568	ppb	3.92919182	87042	25
Mg	24	2	45	40.014	ppb	5.668449988	3887	25
Al	27	2	45	7.277	ppb	20.7959898	180	15
K	39	1	45	-1272.968	ppb	-0.768556837	4869034	50
K	39	2	45	19.431	ppb	52.28379399	16073	50
Ca	40	1	45	19.011	ppb	2.972701591	115625	50
Ca	44	2	45	7.471	ppb	172.130009	60	25
Ti	47	2	45	0.178	ppb	173.2050808	3	0.5
V	51	2	72	-1.475	ppb	-11.8417313	1383	1
Cr	52	2	72	0.123	ppb	12.29258849	377	1
Mn	55	2	72	0.466	ppb	40.50292094	240	0.5
Fe	57	2	72	20.344	ppb	21.6420322	530	25
Co	59	2	72	0.004	ppb	74.71335206	13	0.5
Ni	60	2	72	-0.037	ppb	-182.8376325	113	1
Cu	63	2	72	-0.116	ppb	-118.2999968	883	1
Zn	66	2	72	0.899	ppb	19.48358591	403	5
As	75	2	72	-0.033	ppb	-186.1637088	24	1
Se	78	1	72	-0.004	ppb	-978.11383	9	1
Sr	88	2	72	0.090	ppb	41.79400206	80	0.5
Zr	90	2	72	3.403	ppb	67.3699304	87	1
Nb	93	2	72	2.349	ppb	12.33499801	7662	2
Mo	95	2	115	0.018	ppb	124.7462389	50	0.5
Pd	105	2	115	-0.012	ppb	-104.5846187	13	1
Ag	107	2	115	-0.011	ppb	-93.65130918	30	1
Cd	111	2	115	0.020	ppb	173.2050808	7	0.5
Sn	120	2	115	0.106	ppb	93.96350462	237	1
Sb	121	2	115	0.070	ppb	70.70532264	107	0.6
Ba	137	2	115	0.289	ppb	66.04843522	87	0.5
W	182	2	165	0.098	ppb	40.137531	1624	1
Pt	195	2	165	-0.007	ppb	-79.25944952	13	1
Tl	205	2	165	-0.003	ppb	-201.6936566	80	0.1
Pb	208	2	165	0.011	ppb	55.45024775	800	0.5
Th	232	2	165	0.057	ppb	20.92961758	1007	1
U	238	2	165	0.006	ppb	32.68548664	197	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1019729	0.98	1639580	62.19	60	120	
Sc (IS)	45	1	HMI H2	22294088	0.96	31715490	70.29	60	120	
Sc (IS)	45	2	HMI He	712007	0.86	891522	79.86	60	120	
Sc (IS)	45	3	No Gas	34249807	0.34	54087154	63.32	60	120	
Ge Internal Standard	72	1	HMI H2	9126651	0.93	13102322	69.66	60	120	
Ge Internal Standard	72	2	HMI He	832120	0.86	1026205	81.09	60	120	
In Internal Standard	115	2	HMI He	3508871	0.52	4195206	83.64	60	120	
Ho-165	165	2	HMI He	16379933	0.85	20206547	81.06	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-435001/2-a
Data File Name	223_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:33:45-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	435001 6020 Zn
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	24.648	24.648	ppb	5.724	123927	400	6.2	80	120	>+/-20%
Li	7	2	45	-33.648	-33.648	ppb	-41.818	6522	400	-8.4	80	120	>+/-20%
Li	7	3	45	-4.390	-4.390	ppb	-46.310	3672247	400	-1.1	80	120	>+/-20%
Be	9	1	6	38.723	38.723	ppb	0.851	9970	40	96.8	80	120	
Na	23	2	45	245.559	245.559	ppb	1.578	78893	40	613.9	80	120	>+/-20%
Mg	24	2	45	34.721	34.721	ppb	6.421	3461	40	86.8	80	120	
Al	27	2	45	404.570	404.570	ppb	3.854	8386	40	1011.4	80	120	>+/-20%
K	39	2	45	12.689	12.689	ppb	79.070	16009	40	31.7	80	120	>+/-20%
Ca	44	2	45	201.773	201.773	ppb	17.658	523	40	504.4	80	120	>+/-20%
V	51	2	72	35.645	35.645	ppb	2.915	32240	40	89.1	80	120	
Cr	52	2	72	38.107	38.107	ppb	2.521	40912	40	95.3	80	120	
Mn	55	2	72	40.624	40.624	ppb	0.871	17268	40	101.6	80	120	
Fe	57	2	72	381.452	381.452	ppb	3.352	7756	40	953.6	80	120	>+/-20%
Co	59	2	72	38.090	38.090	ppb	1.509	69813	40	95.2	80	120	
Ni	60	2	72	37.414	37.414	ppb	2.552	19561	40	93.5	80	120	
Cu	63	2	72	36.570	36.570	ppb	0.428	53119	40	91.4	80	120	
Zn	66	2	72	35.426	35.426	ppb	1.638	6995	40	88.6	80	120	
As	75	2	72	35.731	35.731	ppb	4.815	5019	40	89.3	80	120	
Se	78	1	72	36.867	36.867	ppb	1.571	7217	40	92.2	80	120	
Nb	93	2	72	1.232	1.232	ppb	23.694	4511	40	3.1	80	120	>+/-20%
Mo	95	2	115	33.769	33.769	ppb	2.824	26676	40	84.4	80	120	
Pd	105	2	115	-0.023	-0.023	ppb	0.000	0	40	-0.1	80	120	>+/-20%
Ag	107	2	115	37.555	37.555	ppb	1.690	96655	40	93.9	80	120	
Cd	111	2	115	38.824	38.824	ppb	0.869	12933	40	97.1	80	120	
Sn	120	2	115	38.690	38.690	ppb	0.528	36114	40	96.7	80	120	
Sb	121	2	115	37.590	37.590	ppb	0.979	32108	40	94.0	80	120	
Ba	137	2	115	41.083	41.083	ppb	6.740	12089	40	102.7	80	120	
W	182	2	165	11.728	11.728	ppb	1.179	42582	40	29.3	80	120	>+/-20%
Pt	195	2	165	-0.006	-0.006	ppb	-129.903	17	40	0.0	80	120	>+/-20%
Tl	205	2	165	40.017	40.017	ppb	0.639	262212	40	100.0	80	120	
Pb	208	2	165	40.443	40.443	ppb	0.469	353855	40	101.1	80	120	
Th	232	2	165	30.437	30.437	ppb	0.661	412555	40	76.1	80	120	>+/-20%
U	238	2	165	30.989	30.989	ppb	1.426	441737	40	77.5	80	120	>+/-20%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	1011934	1.23	1639580	61.72	60	120	
Sc (IS)	45	1	HMI H2	22386951	0.43	31715490	70.59	60	120	
Sc (IS)	45	2	HMI He	721625	0.05	891522	80.94	60	120	
Sc (IS)	45	3	No Gas	34246992	0.56	54087154	63.32	60	120	
Ge Internal Standard	72	1	HMI H2	9171862	0.61	13102322	70.00	60	120	
Ge Internal Standard	72	2	HMI He	835646	0.62	1026205	81.43	60	120	
In Internal Standard	115	2	HMI He	3548063	1.18	4195206	84.57	60	120	
Ho-165	165	2	HMI He	16560854	0.40	20206547	81.96	60	120	

Sample Report

Sample Table

Sample Name	280-115718-b-1-c
Data File Name	224SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:37:34-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	320.598	ppb	320.598	0.75	198831	500000	
Li	7	2	45	257.499	ppb	257.499	4.45	10774	500000	
Li	7	3	45	260.520	ppb	260.520	1.93	6036009	50000	
Be	9	1	6	0.050	ppb	0.050	254.80	13	2000	
B	11	1	6	2641.510	ppb	2641.510	0.09	517100	2000	
Na	23	1	45	651097.385	ppb	651097.385	0.40	1590833203	2000	>LDR
Na	23	2	45	589675.754	ppb	589675.754	0.47	103436365	400000	
Mg	24	2	45	41325.243	ppb	41325.243	0.35	3436617	400000	
Al	27	2	45	30.190	ppb	30.190	7.69	603	400000	
K	39	1	45	14071.675	ppb	14071.675	0.56	43122009	400000	
K	39	2	45	14568.999	ppb	14568.999	0.93	576707	400000	
Ca	40	1	45	129794.211	ppb	129794.211	1.22	483669699	400000	
Ca	44	2	45	153218.069	ppb	153218.069	0.70	335690	400000	
Ti	47	2	45	0.379	ppb	0.379	173.21	7	4000	
V	51	2	72	21.886	ppb	21.886	7.52	19093	2000	
Cr	52	2	72	2.052	ppb	2.052	8.77	2237	5000	
Mn	55	2	72	1.885	ppb	1.885	6.04	773	10000	
Fe	57	2	72	48.609	ppb	48.609	12.71	1007	400000	
Co	59	2	72	4.275	ppb	4.275	3.62	7195	2000	
Ni	60	2	72	49.302	ppb	49.302	2.69	23620	5000	
Cu	63	2	72	1.531	ppb	1.531	19.62	2967	5000	
Zn	66	2	72	9.699	ppb	9.699	9.91	1914	5000	
As	75	2	72	4.491	ppb	4.491	4.32	601	2000	
Se	78	1	72	7.191	ppb	7.191	3.84	1285	2000	
Sr	88	2	72	8432.690	ppb	8432.690	0.95	3651930	4000	
Zr	90	2	72	234.108	ppb	234.108	12.80	1437	1000	
Nb	93	2	72	0.945	ppb	0.945	9.40	3391	200	
Mo	95	2	115	17.116	ppb	17.116	2.81	12183	2000	
Pd	105	2	115	0.297	ppb	0.297	12.19	347	100	
Ag	107	2	115	0.010	ppb	0.010	49.28	77	100	
Cd	111	2	115	0.056	ppb	0.056	124.50	17	2000	
Sn	120	2	115	1.136	ppb	1.136	9.73	1077	2000	
Sb	121	2	115	1.386	ppb	1.386	4.52	1107	1000	
Ba	137	2	115	134.714	ppb	134.714	0.95	35687	5000	
W	182	2	165	1.233	ppb	1.233	8.04	5265	100	
Pt	195	2	165	-0.003	ppb	-0.003	-286.80	23	100	
Tl	205	2	165	0.011	ppb	0.011	58.48	160	2000	
Pb	208	2	165	0.195	ppb	0.195	12.34	2250	5000	
Th	232	2	165	0.106	ppb	0.106	19.23	1567	2000	
U	238	2	165	7.714	ppb	7.714	0.79	102769	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	706304	0.35	1639580	43.08	60	120	IS Failed
Sc (IS)	45	1	HMI H2	20587338	0.23	31715490	64.91	60	120	
Sc (IS)	45	2	HMI He	664214	0.54	891522	74.50	60	120	
Sc (IS)	45	3	No Gas	32712161	0.23	54087154	60.48	60	120	
Ge Internal Standard	72	1	HMI H2	8327808	0.62	13102322	63.56	60	120	
Ge Internal Standard	72	2	HMI He	766926	0.52	1026205	74.73	60	120	
In Internal Standard	115	2	HMI He	3193123	1.04	4195206	76.11	60	120	
Ho-165	165	2	HMI He	15466813	0.13	20206547	76.54	60	120	

Sample Report

Sample Table

Sample Name	280-115718-b-2-c
Data File Name	225SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:41:25-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	60.326	ppb	60.326	5.52	124921	500000	
Li	7	2	45	-2.606	ppb	-2.606	-1321.67	6548	500000	
Li	7	3	45	24.077	ppb	24.077	14.26	3815177	50000	
Be	9	1	6	0.013	ppb	0.013	242.32	7	2000	
B	11	1	6	2161.141	ppb	2161.141	0.54	424336	2000	
Na	23	1	45	622447.882	ppb	622447.882	0.65	1529667977	2000	>LDR
Na	23	2	45	567860.628	ppb	567860.628	0.37	100231229	400000	
Mg	24	2	45	40930.797	ppb	40930.797	0.33	3425038	400000	
Al	27	2	45	18.494	ppb	18.494	10.14	383	400000	
K	39	1	45	2304.331	ppb	2304.331	1.90	13579391	400000	
K	39	2	45	3019.909	ppb	3019.909	1.24	131650	400000	
Ca	40	1	45	141354.140	ppb	141354.140	0.69	529804419	400000	
Ca	44	2	45	143485.049	ppb	143485.049	0.53	316327	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	36.610	ppb	36.610	1.67	30577	2000	
Cr	52	2	72	1.112	ppb	1.112	1.91	1327	5000	
Mn	55	2	72	6.871	ppb	6.871	13.48	2737	10000	
Fe	57	2	72	48.507	ppb	48.507	6.04	1013	400000	
Co	59	2	72	0.097	ppb	0.097	31.27	170	2000	
Ni	60	2	72	0.674	ppb	0.674	28.48	447	5000	
Cu	63	2	72	16.732	ppb	16.732	1.67	23022	5000	
Zn	66	2	72	6.496	ppb	6.496	6.73	1363	5000	
As	75	2	72	5.560	ppb	5.560	14.06	744	2000	
Se	78	1	72	3.160	ppb	3.160	13.01	573	2000	
Sr	88	2	72	3360.086	ppb	3360.086	0.82	1467412	4000	
Zr	90	2	72	70.213	ppb	70.213	16.04	477	1000	
Nb	93	2	72	0.529	ppb	0.529	9.05	2320	200	
Mo	95	2	115	5.662	ppb	5.662	8.27	4104	2000	
Pd	105	2	115	0.070	ppb	0.070	63.84	103	100	
Ag	107	2	115	-0.012	ppb	-0.012	-19.83	27	100	
Cd	111	2	115	0.011	ppb	0.011	173.21	3	2000	
Sn	120	2	115	0.463	ppb	0.463	26.27	520	2000	
Sb	121	2	115	0.639	ppb	0.639	11.07	540	1000	
Ba	137	2	115	41.896	ppb	41.896	2.59	11242	5000	
W	182	2	165	0.173	ppb	0.173	15.41	1800	100	
Pt	195	2	165	0.000	ppb	0.000	-1051.58	30	100	
Tl	205	2	165	-0.001	ppb	-0.001	-591.39	87	2000	
Pb	208	2	165	0.140	ppb	0.140	7.56	1820	5000	
Th	232	2	165	0.045	ppb	0.045	3.85	807	2000	
U	238	2	165	9.541	ppb	9.541	1.63	128381	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	708251	0.45	1639580	43.20	60	120	IS Failed
Sc (IS)	45	1	HMI H2	20707161	0.63	31715490	65.29	60	120	
Sc (IS)	45	2	HMI He	668355	1.00	891522	74.97	60	120	
Sc (IS)	45	3	No Gas	33023811	0.68	54087154	61.06	60	120	
Ge Internal Standard	72	1	HMI H2	8374104	0.22	13102322	63.91	60	120	
Ge Internal Standard	72	2	HMI He	773396	0.49	1026205	75.36	60	120	
In Internal Standard	115	2	HMI He	3233516	1.47	4195206	77.08	60	120	
Ho-165	165	2	HMI He	15623702	0.59	20206547	77.32	60	120	

Sample Report

Sample Table

Sample Name	280-115718-b-3-c
Data File Name	226SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:45:17-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	57.021	ppb	57.021	12.42	123856	500000	
Li	7	2	45	18.385	ppb	18.385	75.08	6895	500000	
Li	7	3	45	30.752	ppb	30.752	8.23	3826506	50000	
Be	9	1	6	0.032	ppb	0.032	300.27	10	2000	
B	11	1	6	2215.898	ppb	2215.898	0.68	430847	2000	
Na	23	1	45	631753.550	ppb	631753.550	0.71	1551208724	2000	>LDR
Na	23	2	45	575639.966	ppb	575639.966	1.06	101547355	400000	
Mg	24	2	45	41337.700	ppb	41337.700	0.47	3457217	400000	
Al	27	2	45	18.131	ppb	18.131	12.65	377	400000	
K	39	1	45	2337.252	ppb	2337.252	0.88	13651267	400000	
K	39	2	45	3085.679	ppb	3085.679	1.55	134123	400000	
Ca	40	1	45	142684.531	ppb	142684.531	0.65	534335672	400000	
Ca	44	2	45	145599.228	ppb	145599.228	1.33	320791	400000	
Ti	47	2	45	0.372	ppb	0.372	173.21	7	4000	
V	51	2	72	36.472	ppb	36.472	3.21	30540	2000	
Cr	52	2	72	1.172	ppb	1.172	20.38	1390	5000	
Mn	55	2	72	6.541	ppb	6.541	8.19	2614	10000	
Fe	57	2	72	40.994	ppb	40.994	13.42	877	400000	
Co	59	2	72	0.079	ppb	0.079	15.13	140	2000	
Ni	60	2	72	0.664	ppb	0.664	12.75	443	5000	
Cu	63	2	72	15.999	ppb	15.999	0.95	22108	5000	
Zn	66	2	72	5.139	ppb	5.139	5.86	1127	5000	
As	75	2	72	5.540	ppb	5.540	2.12	744	2000	
Se	78	1	72	3.801	ppb	3.801	13.76	687	2000	
Sr	88	2	72	3372.746	ppb	3372.746	1.07	1476472	4000	
Zr	90	2	72	38.038	ppb	38.038	13.41	287	1000	
Nb	93	2	72	0.314	ppb	0.314	19.96	1757	200	
Mo	95	2	115	5.602	ppb	5.602	4.82	4037	2000	
Pd	105	2	115	0.108	ppb	0.108	13.58	143	100	
Ag	107	2	115	-0.017	ppb	-0.017	-28.51	13	100	
Cd	111	2	115	0.033	ppb	0.033	173.21	10	2000	
Sn	120	2	115	0.438	ppb	0.438	15.30	497	2000	
Sb	121	2	115	0.536	ppb	0.536	15.36	457	1000	
Ba	137	2	115	37.971	ppb	37.971	4.29	10131	5000	
W	182	2	165	0.216	ppb	0.216	40.61	1944	100	
Pt	195	2	165	-0.003	ppb	-0.003	-325.25	23	100	
Tl	205	2	165	0.000	ppb	0.000	-681.10	90	2000	
Pb	208	2	165	0.110	ppb	0.110	6.73	1580	5000	
Th	232	2	165	0.022	ppb	0.022	33.77	510	2000	
U	238	2	165	9.776	ppb	9.776	0.86	131782	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	701362	0.20	1639580	42.78	60	120	IS Failed
Sc (IS)	45	1	HMI H2	20689188	0.24	31715490	65.23	60	120	
Sc (IS)	45	2	HMI He	668010	0.88	891522	74.93	60	120	
Sc (IS)	45	3	No Gas	32571535	0.30	54087154	60.22	60	120	
Ge Internal Standard	72	1	HMI H2	8363697	0.34	13102322	63.83	60	120	
Ge Internal Standard	72	2	HMI He	775218	0.54	1026205	75.54	60	120	
In Internal Standard	115	2	HMI He	3214822	1.39	4195206	76.63	60	120	
Ho-165	165	2	HMI He	15653679	0.46	20206547	77.47	60	120	

Sample Report

Sample Table

Sample Name	280-115718-b-4-c
Data File Name	227SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:49:07-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	131.272	ppb	131.272	4.66	140429	500000	
Li	7	2	45	55.368	ppb	55.368	26.15	7219	500000	
Li	7	3	45	83.806	ppb	83.806	5.15	4273414	50000	
Be	9	1	6	0.016	ppb	0.016	215.77	7	2000	
B	11	1	6	4426.968	ppb	4426.968	1.00	812439	2000	
Na	23	1	45	1016931.290	ppb	1016931.290	0.19	2413909457	2000	>LDR
Na	23	2	45	923621.208	ppb	923621.208	0.43	156739878	400000	
Mg	24	2	45	71726.893	ppb	71726.893	0.31	5770888	400000	
Al	27	2	45	17.833	ppb	17.833	1.42	357	400000	
K	39	1	45	30177.777	ppb	30177.777	0.66	81288347	400000	
K	39	2	45	34862.147	ppb	34862.147	1.13	1315994	400000	
Ca	40	1	45	260818.726	ppb	260818.726	0.42	944299426	400000	
Ca	44	2	45	286128.124	ppb	286128.124	0.23	606477	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	26.427	ppb	26.427	4.45	21560	2000	
Cr	52	2	72	1.418	ppb	1.418	7.15	1544	5000	
Mn	55	2	72	7.347	ppb	7.347	6.99	2770	10000	
Fe	57	2	72	58.345	ppb	58.345	6.51	1133	400000	
Co	59	2	72	0.078	ppb	0.078	13.53	130	2000	
Ni	60	2	72	1.303	ppb	1.303	22.00	710	5000	
Cu	63	2	72	2.846	ppb	2.846	6.70	4478	5000	
Zn	66	2	72	14.108	ppb	14.108	7.02	2567	5000	
As	75	2	72	3.308	ppb	3.308	14.22	430	2000	
Se	78	1	72	8.026	ppb	8.026	1.31	1376	2000	
Sr	88	2	72	11739.548	ppb	11739.548	0.57	4859362	4000	
Zr	90	2	72	24.187	ppb	24.187	62.02	193	1000	
Nb	93	2	72	0.199	ppb	0.199	38.62	1373	200	
Mo	95	2	115	5.099	ppb	5.099	9.11	3501	2000	
Pd	105	2	115	0.366	ppb	0.366	13.69	403	100	
Ag	107	2	115	-0.010	ppb	-0.010	-81.97	30	100	
Cd	111	2	115	0.046	ppb	0.046	43.20	13	2000	
Sn	120	2	115	0.647	ppb	0.647	40.18	640	2000	
Sb	121	2	115	0.338	ppb	0.338	18.29	290	1000	
Ba	137	2	115	78.710	ppb	78.710	1.50	19985	5000	
W	182	2	165	0.107	ppb	0.107	54.11	1504	100	
Pt	195	2	165	-0.009	ppb	-0.009	-50.76	7	100	
Tl	205	2	165	0.009	ppb	0.009	68.86	143	2000	
Pb	208	2	165	0.075	ppb	0.075	10.55	1230	5000	
Th	232	2	165	0.022	ppb	0.022	27.47	487	2000	
U	238	2	165	21.233	ppb	21.233	1.03	271983	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	662473	0.62	1639580	40.41	60	120	IS Failed
Sc (IS)	45	1	HMI H2	20002682	0.63	31715490	63.07	60	120	
Sc (IS)	45	2	HMI He	642648	0.73	891522	72.08	60	120	
Sc (IS)	45	3	No Gas	32139878	0.34	54087154	59.42	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7993183	0.52	13102322	61.01	60	120	
Ge Internal Standard	72	2	HMI He	733042	0.32	1026205	71.43	60	120	
In Internal Standard	115	2	HMI He	3060196	0.13	4195206	72.95	60	120	
Ho-165	165	2	HMI He	14880466	0.05	20206547	73.64	60	120	

Sample Report

Sample Table

Sample Name	280-115718-b-5-c
Data File Name	228SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:52:59-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	112.982	ppb	112.982	1.82	133893	500000	
Li	7	2	45	37.260	ppb	37.260	57.38	6895	500000	
Li	7	3	45	65.914	ppb	65.914	9.62	4109869	50000	
Be	9	1	6	-0.004	ppb	-0.004	-963.90	3	2000	
B	11	1	6	4586.831	ppb	4586.831	7.89	834332	2000	
Na	23	1	45	972025.549	ppb	972025.549	0.31	2282676233	2000	>LDR
Na	23	2	45	879526.587	ppb	879526.587	0.06	148412781	400000	
Mg	24	2	45	66863.930	ppb	66863.930	0.94	5349652	400000	
Al	27	2	45	17.042	ppb	17.042	41.42	340	400000	
K	39	1	45	26951.015	ppb	26951.015	0.47	72612086	400000	
K	39	2	45	28836.152	ppb	28836.152	7.50	1084937	400000	
Ca	40	1	45	235081.177	ppb	235081.177	0.20	842034334	400000	
Ca	44	2	45	255915.305	ppb	255915.305	0.49	539375	400000	
Ti	47	2	45	0.199	ppb	0.199	173.21	3	4000	
V	51	2	72	40.565	ppb	40.565	3.64	31893	2000	
Cr	52	2	72	0.667	ppb	0.667	11.56	840	5000	
Mn	55	2	72	1.191	ppb	1.191	32.90	480	10000	
Fe	57	2	72	71.063	ppb	71.063	3.86	1357	400000	
Co	59	2	72	0.057	ppb	0.057	55.13	97	2000	
Ni	60	2	72	0.396	ppb	0.396	53.91	297	5000	
Cu	63	2	72	3.197	ppb	3.197	8.95	4918	5000	
Zn	66	2	72	6.159	ppb	6.159	9.64	1237	5000	
As	75	2	72	4.155	ppb	4.155	0.21	534	2000	
Se	78	1	72	7.175	ppb	7.175	1.30	1216	2000	
Sr	88	2	72	9752.308	ppb	9752.308	1.52	4039577	4000	
Zr	90	2	72	33.201	ppb	33.201	33.88	243	1000	
Nb	93	2	72	0.041	ppb	0.041	77.78	980	200	
Mo	95	2	115	3.709	ppb	3.709	13.05	2557	2000	
Pd	105	2	115	0.363	ppb	0.363	9.90	400	100	
Ag	107	2	115	-0.016	ppb	-0.016	-17.10	17	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.444	ppb	0.444	29.24	477	2000	
Sb	121	2	115	0.610	ppb	0.610	8.72	490	1000	
Ba	137	2	115	27.069	ppb	27.069	6.43	6869	5000	
W	182	2	165	0.139	ppb	0.139	43.89	1600	100	
Pt	195	2	165	-0.005	ppb	-0.005	-124.73	17	100	
Tl	205	2	165	0.001	ppb	0.001	837.73	93	2000	
Pb	208	2	165	0.090	ppb	0.090	12.37	1340	5000	
Th	232	2	165	0.006	ppb	0.006	35.78	297	2000	
U	238	2	165	20.511	ppb	20.511	0.32	261912	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	656507	0.70	1639580	40.04	60	120	IS Failed
Sc (IS)	45	1	HMI H2	19789058	0.64	31715490	62.40	60	120	
Sc (IS)	45	2	HMI He	639008	1.32	891522	71.68	60	120	
Sc (IS)	45	3	No Gas	32173750	0.17	54087154	59.49	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7895439	0.38	13102322	60.26	60	120	
Ge Internal Standard	72	2	HMI He	733564	2.01	1026205	71.48	60	120	
In Internal Standard	115	2	HMI He	3060035	1.97	4195206	72.94	60	120	
Ho-165	165	2	HMI He	14833937	2.17	20206547	73.41	60	120	

Sample Report

Sample Table

Sample Name	280-115718-b-6-c
Data File Name	229SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T06:56:52-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	336.693	ppb	336.693	1.25	190143	500000	
Li	7	2	45	306.044	ppb	306.044	6.37	10721	500000	
Li	7	3	45	309.165	ppb	309.165	3.00	6018180	50000	
Be	9	1	6	0.040	ppb	0.040	159.45	10	2000	
B	11	1	6	10323.399	ppb	10323.399	0.86	1761129	2000	>LDR
Na	23	1	45	OR	ppb	OR	#VALUE!	OR	2000	>LDR
Na	23	2	45	1740162.519	ppb	1740162.519	0.65	282857289	400000	
Mg	24	2	45	119420.536	ppb	119420.536	0.98	9203307	400000	
Al	27	2	45	26.772	ppb	26.772	26.24	500	400000	
K	39	1	45	15563.730	ppb	15563.730	0.23	43812514	400000	
K	39	2	45	14517.417	ppb	14517.417	1.14	532703	400000	
Ca	40	1	45	407367.967	ppb	407367.967	0.11	1418704939	400000	
Ca	44	2	45	438986.515	ppb	438986.515	1.10	891319	400000	
Ti	47	2	45	0.203	ppb	0.203	173.21	3	4000	
V	51	2	72	45.186	ppb	45.186	1.97	33359	2000	
Cr	52	2	72	1.842	ppb	1.842	3.87	1837	5000	
Mn	55	2	72	3.422	ppb	3.422	6.58	1240	10000	
Fe	57	2	72	104.425	ppb	104.425	9.69	1840	400000	
Co	59	2	72	0.032	ppb	0.032	61.39	53	2000	
Ni	60	2	72	0.495	ppb	0.495	29.10	323	5000	
Cu	63	2	72	9.477	ppb	9.477	1.49	12079	5000	
Zn	66	2	72	8.852	ppb	8.852	7.84	1597	5000	
As	75	2	72	3.999	ppb	3.999	9.03	488	2000	
Se	78	1	72	15.128	ppb	15.128	7.22	2460	2000	
Sr	88	2	72	15551.997	ppb	15551.997	0.53	6094156	4000	
Zr	90	2	72	19.933	ppb	19.933	50.53	160	1000	
Nb	93	2	72	0.010	ppb	0.010	457.33	853	200	
Mo	95	2	115	3.573	ppb	3.573	5.27	2337	2000	
Pd	105	2	115	0.530	ppb	0.530	21.90	543	100	
Ag	107	2	115	0.009	ppb	0.009	171.44	67	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.478	ppb	0.478	43.99	480	2000	
Sb	121	2	115	0.263	ppb	0.263	20.22	223	1000	
Ba	137	2	115	29.400	ppb	29.400	5.23	7089	5000	
W	182	2	165	0.129	ppb	0.129	39.37	1484	100	
Pt	195	2	165	-0.009	ppb	-0.009	-27.73	7	100	
Tl	205	2	165	-0.005	ppb	-0.005	-108.97	53	2000	
Pb	208	2	165	0.078	ppb	0.078	16.92	1180	5000	
Th	232	2	165	0.007	ppb	0.007	61.35	293	2000	
U	238	2	165	29.760	ppb	29.760	0.15	359253	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	616073	0.56	1639580	37.58	60	120	IS Failed
Sc (IS)	45	1	HMI H2	19240878	0.61	31715490	60.67	60	120	
Sc (IS)	45	2	HMI He	615630	1.58	891522	69.05	60	120	
Sc (IS)	45	3	No Gas	30287547	0.83	54087154	56.00	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7603463	0.66	13102322	58.03	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	693921	1.76	1026205	67.62	60	120	
In Internal Standard	115	2	HMI He	2905153	1.56	4195206	69.25	60	120	
Ho-165	165	2	HMI He	14024715	1.57	20206547	69.41	60	120	

Sample Report

Sample Table

Sample Name	280-115718-b-7-e
Data File Name	230SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:00:43-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	93.266	ppb	93.266	5.81	123415	500000	
Li	7	2	45	60.142	ppb	60.142	19.48	6959	500000	
Li	7	3	45	52.479	ppb	52.479	7.08	3803947	50000	
Be	9	1	6	-0.024	ppb	-0.024	0.00	0	2000	
B	11	1	6	1898.138	ppb	1898.138	0.65	340752	2000	
Na	23	1	45	345093.590	ppb	345093.590	0.88	778805108	2000	>LDR
Na	23	2	45	311264.497	ppb	311264.497	4.03	50388884	400000	
Mg	24	2	45	41088.439	ppb	41088.439	4.75	3152066	400000	
Al	27	2	45	29.106	ppb	29.106	15.97	537	400000	
K	39	1	45	15619.793	ppb	15619.793	0.61	43420408	400000	
K	39	2	45	16183.493	ppb	16183.493	2.76	589752	400000	
Ca	40	1	45	224759.755	ppb	224759.755	0.83	773438148	400000	
Ca	44	2	45	221333.563	ppb	221333.563	5.10	447290	400000	
Ti	47	2	45	1.241	ppb	1.241	52.44	20	4000	
V	51	2	72	20.166	ppb	20.166	8.52	16403	2000	
Cr	52	2	72	1.485	ppb	1.485	10.54	1550	5000	
Mn	55	2	72	87.737	ppb	87.737	3.77	31549	10000	
Fe	57	2	72	539.124	ppb	539.124	3.22	9247	400000	
Co	59	2	72	0.336	ppb	0.336	33.92	523	2000	
Ni	60	2	72	3.026	ppb	3.026	8.45	1443	5000	
Cu	63	2	72	3.839	ppb	3.839	6.67	5525	5000	
Zn	66	2	72	31.042	ppb	31.042	8.41	5218	5000	
As	75	2	72	4.405	ppb	4.405	7.16	545	2000	
Se	78	1	72	2.651	ppb	2.651	1.04	441	2000	
Sr	88	2	72	2432.681	ppb	2432.681	3.66	972406	4000	
Zr	90	2	72	14.485	ppb	14.485	56.43	133	1000	
Nb	93	2	72	-0.001	ppb	-0.001	-10663.59	847	200	
Mo	95	2	115	19.195	ppb	19.195	6.01	12519	2000	
Pd	105	2	115	0.081	ppb	0.081	18.93	103	100	
Ag	107	2	115	-0.001	ppb	-0.001	-1992.02	47	100	
Cd	111	2	115	0.048	ppb	0.048	86.68	13	2000	
Sn	120	2	115	0.517	ppb	0.517	29.12	510	2000	
Sb	121	2	115	0.678	ppb	0.678	10.22	517	1000	
Ba	137	2	115	41.947	ppb	41.947	4.63	10188	5000	
W	182	2	165	0.227	ppb	0.227	17.74	1797	100	
Pt	195	2	165	-0.007	ppb	-0.007	-96.90	10	100	
Tl	205	2	165	-0.003	ppb	-0.003	-76.72	70	2000	
Pb	208	2	165	0.132	ppb	0.132	46.20	1590	5000	
Th	232	2	165	0.000	ppb	0.000	3948.02	213	2000	
U	238	2	165	14.732	ppb	14.732	4.98	179805	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	647421	0.50	1639580	39.49	60	120	IS Failed
Sc (IS)	45	1	HMI H2	19011734	0.31	31715490	59.94	60	120	IS Failed
Sc (IS)	45	2	HMI He	613342	3.20	891522	68.80	60	120	
Sc (IS)	45	3	No Gas	30723107	0.83	54087154	56.80	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7659454	0.51	13102322	58.46	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	708246	2.27	1026205	69.02	60	120	
In Internal Standard	115	2	HMI He	2930028	4.07	4195206	69.84	60	120	
Ho-165	165	2	HMI He	14188081	2.70	20206547	70.22	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	231_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:04:30-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	417.527	ppb	1.579	221291	500	83.5	90	110	>+\-10%
Li	7	2	45	341.880	ppb	4.887	11762	500	68.4	90	110	>+\-10%
Li	7	3	45	364.847	ppb	2.944	6905118	500	73.0	90	110	>+\-10%
Be	9	1	6	59.287	ppb	13.594	11769	50	118.6	90	110	>+\-10%
B	11	1	6	117.988	ppb	15.917	26110	50	236.0	90	110	>+\-10%
Na	23	1	45	6319.553	ppb	0.935	15463864	5000	126.4	90	110	>+\-10%
Na	23	2	45	5033.051	ppb	0.599	882530	5000	100.7	90	110	
Mg	24	2	45	4378.126	ppb	0.344	352520	5000	87.6	90	110	>+\-10%
Al	27	2	45	5281.858	ppb	1.334	97154	5000	105.6	90	110	
K	39	1	45	5537.409	ppb	0.734	21130609	5000	110.7	90	110	>+\-10%
K	39	2	45	5338.568	ppb	0.445	213191	5000	106.8	90	110	
Ca	40	1	45	5528.751	ppb	0.838	20151950	5000	110.6	90	110	>+\-10%
Ca	44	2	45	5119.091	ppb	4.237	10888	5000	102.4	90	110	
Ti	47	2	45	46.686	ppb	6.807	797	50	93.4	90	110	
V	51	2	72	46.156	ppb	1.274	37028	50	92.3	90	110	
Cr	52	2	72	46.520	ppb	2.984	45081	50	93.0	90	110	
Mn	55	2	72	50.575	ppb	3.801	19424	50	101.2	90	110	
Fe	57	2	72	4754.146	ppb	2.169	86048	5000	95.1	90	110	
Co	59	2	72	47.774	ppb	1.277	79133	50	95.5	90	110	
Ni	60	2	72	46.251	ppb	2.439	21827	50	92.5	90	110	
Cu	63	2	72	47.927	ppb	1.693	62616	50	95.9	90	110	
Zn	66	2	72	45.934	ppb	5.938	8133	50	91.9	90	110	
As	75	2	72	45.077	ppb	2.427	5715	50	90.2	90	110	
Se	78	1	72	50.324	ppb	2.084	8812	50	100.6	90	110	
Sr	88	2	72	54.328	ppb	3.245	23207	50	108.7	90	110	
Zr	90	2	72	107.423	ppb	37.767	680	50	214.8	90	110	>+\-10%
Nb	93	2	72	84.828	ppb	0.876	219387	100	84.8	90	110	>+\-10%
Mo	95	2	115	46.770	ppb	0.776	33023	50	93.5	90	110	
Pd	105	2	115	49.073	ppb	1.668	52747	50	98.1	90	110	
Ag	107	2	115	46.711	ppb	1.876	107462	50	93.4	90	110	
Cd	111	2	115	47.233	ppb	3.853	14068	50	94.5	90	110	
Sn	120	2	115	49.622	ppb	1.369	41379	50	99.2	90	110	
Sb	121	2	115	49.059	ppb	2.033	37455	50	98.1	90	110	
Ba	137	2	115	52.049	ppb	2.511	13701	50	104.1	90	110	
W	182	2	165	48.440	ppb	0.988	154727	50	96.9	90	110	
Pt	195	2	165	46.693	ppb	1.811	119087	50	93.4	90	110	
Tl	205	2	165	51.829	ppb	0.395	305818	50	103.7	90	110	
Pb	208	2	165	51.897	ppb	0.586	408747	50	103.8	90	110	
Th	232	2	165	39.772	ppb	0.950	485434	50	79.5	90	110	>+\-10%
U	238	2	165	40.752	ppb	0.437	523104	50	81.5	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	789086	12.66	1639580	48.13	60	120	IS Failed
Sc (IS)	45	1	HMI H2	20102918	0.35	31715490	63.39	60	120	
Sc (IS)	45	2	HMI He	642650	0.91	891522	72.08	60	120	
Sc (IS)	45	3	No Gas	32124948	0.93	54087154	59.39	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	8208058	1.06	13102322	62.65	60	120	
Ge Internal Standard	72	2	HMI He	755229	0.82	1026205	73.59	60	120	
In Internal Standard	115	2	HMI He	3172388	1.04	4195206	75.62	60	120	
Ho-165	165	2	HMI He	14914205	0.45	20206547	73.81	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	232_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:08:17-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-67.345	ppb	-8.9	3126259	10	
Be	9	1	6	0.047	ppb	172.0	13	0.5	
B	11	1	6	45.625	ppb	7.5	9987	0.5	>RL
Na	23	1	45	667.105	ppb	0.2	1972356	25	>RL
Na	23	2	45	523.954	ppb	0.9	119027	25	>RL
Mg	24	2	45	44.846	ppb	2.4	3947	25	>RL
Al	27	2	45	2.549	ppb	31.5	77	15	
K	39	1	45	176.686	ppb	10.0	7916648	50	>RL
K	39	2	45	29.138	ppb	19.2	15065	50	
Ca	40	1	45	15.006	ppb	6.9	89254	50	
Ca	44	2	45	16.016	ppb	32.9	73	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.389	ppb	-30.8	2087	1	
Cr	52	2	72	-0.025	ppb	-217.8	200	1	
Mn	55	2	72	0.217	ppb	34.4	123	0.5	
Fe	57	2	72	5.470	ppb	65.7	213	25	
Co	59	2	72	0.031	ppb	29.7	57	0.5	
Ni	60	2	72	-0.045	ppb	-45.4	100	1	
Cu	63	2	72	0.029	ppb	108.4	997	1	
Zn	66	2	72	-0.247	ppb	-161.9	170	5	
As	75	2	72	-0.032	ppb	-211.5	22	1	
Se	78	1	72	0.047	ppb	75.2	17	1	
Sr	88	2	72	0.106	ppb	76.2	80	0.5	
Zr	90	2	72	4.120	ppb	128.2	83	1	>RL
Nb	93	2	72	3.656	ppb	10.8	10404	2	>RL
Mo	95	2	115	0.014	ppb	155.4	43	0.5	
Pd	105	2	115	0.007	ppb	420.3	33	1	
Ag	107	2	115	0.003	ppb	436.5	60	1	
Cd	111	2	115	0.033	ppb	100.4	10	0.5	
Sn	120	2	115	0.124	ppb	137.0	233	1	
Sb	121	2	115	0.266	ppb	50.7	250	0.6	
Ba	137	2	115	0.090	ppb	95.8	27	0.5	
W	182	2	165	0.055	ppb	3.2	1357	1	
Pt	195	2	165	0.011	ppb	95.8	57	1	
Tl	205	2	165	0.005	ppb	170.5	117	0.1	
Pb	208	2	165	-0.010	ppb	-128.2	563	0.5	
Th	232	2	165	0.019	ppb	22.1	457	1	
U	238	2	165	0.014	ppb	22.2	283	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	740265	0.43	1639580	45.15	60	120	IS Failed
Sc (IS)	45	1	HMI H2	20009183	0.45	31715490	63.09	60	120	
Sc (IS)	45	2	HMI He	651038	0.50	891522	73.03	60	120	
Sc (IS)	45	3	No Gas	35181629	2.04	54087154	65.05	60	120	
Ge Internal Standard	72	1	HMI H2	8166235	0.26	13102322	62.33	60	120	
Ge Internal Standard	72	2	HMI He	761367	0.41	1026205	74.19	60	120	
In Internal Standard	115	2	HMI He	3228077	0.75	4195206	76.95	60	120	
Ho-165	165	2	HMI He	15062954	1.48	20206547	74.54	60	120	

Sample Report

Sample Table

Sample Name	280-115718-b-8-d
Data File Name	233SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:12:05-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-42.438	ppb	-42.438	-10.44	88808	500000	
Li	7	2	45	-88.021	ppb	-88.021	-16.84	4874	500000	
Li	7	3	45	-65.850	ppb	-65.850	-2.85	2739247	50000	
Be	9	1	6	0.088	ppb	0.088	168.06	20	2000	
B	11	1	6	44.780	ppb	44.780	0.13	9340	2000	
Na	23	1	45	1160.583	ppb	1160.583	0.67	3032593	2000	
Na	23	2	45	949.157	ppb	949.157	2.32	186859	400000	
Mg	24	2	45	42.675	ppb	42.675	2.95	3667	400000	
Al	27	2	45	12.425	ppb	12.425	16.26	253	400000	
K	39	1	45	-1254.615	ppb	-1254.615	-0.48	4258636	400000	
K	39	2	45	49.568	ppb	49.568	17.77	15405	400000	
Ca	40	1	45	148.486	ppb	148.486	0.67	552386	400000	
Ca	44	2	45	154.143	ppb	154.143	15.47	360	400000	
Ti	47	2	45	0.399	ppb	0.399	173.21	7	4000	
V	51	2	72	-1.238	ppb	-1.238	-8.97	1403	2000	
Cr	52	2	72	0.238	ppb	0.238	43.08	443	5000	
Mn	55	2	72	1.061	ppb	1.061	19.69	437	10000	
Fe	57	2	72	23.300	ppb	23.300	43.58	523	400000	
Co	59	2	72	0.015	ppb	0.015	68.45	30	2000	
Ni	60	2	72	0.564	ppb	0.564	49.28	377	5000	
Cu	63	2	72	2.464	ppb	2.464	9.45	4037	5000	
Zn	66	2	72	4.359	ppb	4.359	24.17	943	5000	
As	75	2	72	-0.038	ppb	-0.038	-119.19	20	2000	
Se	78	1	72	-0.005	ppb	-0.005	-1337.69	8	2000	
Sr	88	2	72	0.446	ppb	0.446	57.83	220	4000	
Zr	90	2	72	13.935	ppb	13.935	32.56	137	1000	
Nb	93	2	72	2.500	ppb	2.500	11.46	7189	200	
Mo	95	2	115	0.054	ppb	0.054	27.72	70	2000	
Pd	105	2	115	-0.005	ppb	-0.005	-354.59	20	100	
Ag	107	2	115	-0.016	ppb	-0.016	-43.16	17	100	
Cd	111	2	115	0.023	ppb	0.023	173.21	7	2000	
Sn	120	2	115	0.486	ppb	0.486	17.15	523	2000	
Sb	121	2	115	0.125	ppb	0.125	42.33	137	1000	
Ba	137	2	115	0.747	ppb	0.747	15.14	197	5000	
W	182	2	165	0.120	ppb	0.120	27.58	1537	100	
Pt	195	2	165	0.033	ppb	0.033	77.87	113	100	
Tl	205	2	165	0.005	ppb	0.005	193.80	120	2000	
Pb	208	2	165	0.115	ppb	0.115	27.42	1530	5000	
Th	232	2	165	0.055	ppb	0.055	22.65	893	2000	
U	238	2	165	0.005	ppb	0.005	18.25	163	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	704418	0.62	1639580	42.96	60	120	IS Failed
Sc (IS)	45	1	HMI H2	19300453	0.22	31715490	60.85	60	120	
Sc (IS)	45	2	HMI He	633286	0.67	891522	71.03	60	120	
Sc (IS)	45	3	No Gas	30676660	0.13	54087154	56.72	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7871861	0.55	13102322	60.08	60	120	
Ge Internal Standard	72	2	HMI He	739696	0.46	1026205	72.08	60	120	
In Internal Standard	115	2	HMI He	3132121	0.65	4195206	74.66	60	120	
Ho-165	165	2	HMI He	14787210	0.58	20206547	73.18	60	120	

Sample Report

Sample Table

Sample Name	280-115720-b-1-d
Data File Name	234SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:15:52-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	140.769	ppb	140.769	0.73	125294	500000	
Li	7	2	45	79.605	ppb	79.605	7.24	6959	500000	
Li	7	3	45	89.895	ppb	89.895	3.88	3954292	50000	
Be	9	1	6	0.149	ppb	0.149	25.57	27	2000	
B	11	1	6	6175.042	ppb	6175.042	0.25	1040891	2000	
Na	23	1	45	1047025.016	ppb	1047025.016	1.24	2176194474	2000	>LDR
Na	23	2	45	933779.634	ppb	933779.634	1.08	145024725	400000	
Mg	24	2	45	59526.651	ppb	59526.651	0.86	4383214	400000	
Al	27	2	45	36.503	ppb	36.503	15.79	640	400000	
K	39	1	45	6845.646	ppb	6845.646	0.99	21212290	400000	
K	39	2	45	7053.736	ppb	7053.736	0.64	253751	400000	
Ca	40	1	45	212722.272	ppb	212722.272	0.70	674400950	400000	
Ca	44	2	45	216866.271	ppb	216866.271	0.67	420712	400000	
Ti	47	2	45	1.066	ppb	1.066	125.67	17	4000	
V	51	2	72	109.454	ppb	109.454	1.64	75325	2000	
Cr	52	2	72	2.874	ppb	2.874	5.54	2667	5000	
Mn	55	2	72	72.014	ppb	72.014	1.75	24619	10000	
Fe	57	2	72	85.069	ppb	85.069	2.94	1470	400000	
Co	59	2	72	0.318	ppb	0.318	14.37	473	2000	
Ni	60	2	72	1.436	ppb	1.436	19.56	707	5000	
Cu	63	2	72	1.376	ppb	1.376	10.85	2424	5000	
Zn	66	2	72	2.744	ppb	2.744	15.62	610	5000	
As	75	2	72	11.178	ppb	11.178	6.70	1279	2000	
Se	78	1	72	13.411	ppb	13.411	6.79	1994	2000	
Sr	88	2	72	5829.431	ppb	5829.431	1.57	2214237	4000	
Zr	90	2	72	10.466	ppb	10.466	54.31	107	1000	
Nb	93	2	72	1.843	ppb	1.843	15.63	5038	200	
Mo	95	2	115	5.017	ppb	5.017	7.57	3181	2000	
Pd	105	2	115	0.231	ppb	0.231	25.46	243	100	
Ag	107	2	115	0.060	ppb	0.060	36.50	170	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.105	ppb	0.105	21.93	190	2000	
Sb	121	2	115	0.332	ppb	0.332	9.94	263	1000	
Ba	137	2	115	36.022	ppb	36.022	3.60	8443	5000	
W	182	2	165	0.168	ppb	0.168	32.28	1574	100	
Pt	195	2	165	0.008	ppb	0.008	29.10	47	100	
Tl	205	2	165	0.020	ppb	0.020	19.31	190	2000	
Pb	208	2	165	0.079	ppb	0.079	16.16	1163	5000	
Th	232	2	165	0.041	ppb	0.041	14.42	667	2000	
U	238	2	165	27.361	ppb	27.361	0.85	325051	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	608598	0.74	1639580	37.12	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17515733	0.77	31715490	55.23	60	120	IS Failed
Sc (IS)	45	2	HMI He	588206	1.73	891522	65.98	60	120	
Sc (IS)	45	3	No Gas	29350373	1.45	54087154	54.26	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6948425	0.24	13102322	53.03	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	672742	1.06	1026205	65.56	60	120	
In Internal Standard	115	2	HMI He	2824118	0.68	4195206	67.32	60	120	
Ho-165	165	2	HMI He	13801972	0.49	20206547	68.30	60	120	

Sample Report

Sample Table

Sample Name	280-115720-b-2-f
Data File Name	235SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:19:44-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	160.523	ppb	160.523	2.88	136086	500000	
Li	7	2	45	119.527	ppb	119.527	38.79	7646	500000	
Li	7	3	45	120.539	ppb	120.539	6.74	4192821	50000	
Be	9	1	6	0.059	ppb	0.059	160.88	13	2000	
B	11	1	6	2553.528	ppb	2553.528	0.48	448867	2000	
Na	23	1	45	493009.326	ppb	493009.326	1.03	1072002784	2000	>LDR
Na	23	2	45	445414.908	ppb	445414.908	0.09	70195466	400000	
Mg	24	2	45	31790.240	ppb	31790.240	0.89	2374865	400000	
Al	27	2	45	53.516	ppb	53.516	17.95	940	400000	
K	39	1	45	265.274	ppb	265.274	9.84	7446905	400000	
K	39	2	45	1521.178	ppb	1521.178	2.60	65547	400000	
Ca	40	1	45	78582.164	ppb	78582.164	0.82	260598456	400000	
Ca	44	2	45	89519.938	ppb	89519.938	2.70	176189	400000	
Ti	47	2	45	1.054	ppb	1.054	92.03	17	4000	
V	51	2	72	1.273	ppb	1.273	19.28	3044	2000	
Cr	52	2	72	0.334	ppb	0.334	13.20	500	5000	
Mn	55	2	72	1649.185	ppb	1649.185	1.24	579798	10000	
Fe	57	2	72	1066.479	ppb	1066.479	1.72	17792	400000	
Co	59	2	72	3.275	ppb	3.275	4.48	4981	2000	
Ni	60	2	72	4.086	ppb	4.086	8.55	1870	5000	
Cu	63	2	72	0.116	ppb	0.116	161.20	1010	5000	
Zn	66	2	72	2.673	ppb	2.673	3.06	617	5000	
As	75	2	72	48.577	ppb	48.577	4.30	5648	2000	
Se	78	1	72	0.109	ppb	0.109	93.63	25	2000	
Sr	88	2	72	4098.887	ppb	4098.887	0.84	1603624	4000	
Zr	90	2	72	33.094	ppb	33.094	77.06	230	1000	
Nb	93	2	72	1.247	ppb	1.247	13.73	3777	200	
Mo	95	2	115	14.205	ppb	14.205	3.87	9240	2000	
Pd	105	2	115	0.108	ppb	0.108	51.68	130	100	
Ag	107	2	115	-0.007	ppb	-0.007	-149.87	33	100	
Cd	111	2	115	0.024	ppb	0.024	86.61	7	2000	
Sn	120	2	115	0.201	ppb	0.201	57.20	270	2000	
Sb	121	2	115	0.319	ppb	0.319	33.25	263	1000	
Ba	137	2	115	63.403	ppb	63.403	6.00	15339	5000	
W	182	2	165	0.261	ppb	0.261	11.10	1894	100	
Pt	195	2	165	0.011	ppb	0.011	60.92	53	100	
Tl	205	2	165	-0.008	ppb	-0.008	-23.07	40	2000	
Pb	208	2	165	0.139	ppb	0.139	7.40	1643	5000	
Th	232	2	165	0.042	ppb	0.042	21.18	697	2000	
U	238	2	165	59.185	ppb	59.185	0.58	720113	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	634201	0.39	1639580	38.68	60	120	IS Failed
Sc (IS)	45	1	HMI H2	18320215	0.23	31715490	57.76	60	120	IS Failed
Sc (IS)	45	2	HMI He	596688	0.79	891522	66.93	60	120	
Sc (IS)	45	3	No Gas	29183228	0.44	54087154	53.96	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7341612	0.62	13102322	56.03	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	692838	0.63	1026205	67.51	60	120	
In Internal Standard	115	2	HMI He	2916199	1.63	4195206	69.51	60	120	
Ho-165	165	2	HMI He	14137586	0.49	20206547	69.97	60	120	

Sample Report

Sample Table

Sample Name	280-115720-b-2-fSD@5
Data File Name	236SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:23:34-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	2.671	ppb	2.671	181.57	100793	500000	
Li	7	2	45	-38.715	ppb	-38.715	-45.76	5611	500000	
Li	7	3	45	-19.856	ppb	-19.856	-36.92	3138331	50000	
Be	9	1	6	0.013	ppb	0.013	484.31	7	2000	
B	11	1	6	543.437	ppb	543.437	1.85	106506	2000	
Na	23	1	45	102459.425	ppb	102459.425	0.61	234682143	2000	>LDR
Na	23	2	45	92528.259	ppb	92528.259	0.45	15410705	400000	
Mg	24	2	45	5784.058	ppb	5784.058	0.54	456239	400000	
Al	27	2	45	10.270	ppb	10.270	27.24	213	400000	
K	39	1	45	152.172	ppb	152.172	23.09	7567866	400000	
K	39	2	45	331.759	ppb	331.759	0.87	25647	400000	
Ca	40	1	45	16118.079	ppb	16118.079	0.35	56261362	400000	
Ca	44	2	45	18130.193	ppb	18130.193	1.54	37690	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-0.629	ppb	-0.629	-37.30	1850	2000	
Cr	52	2	72	0.066	ppb	0.066	106.85	280	5000	
Mn	55	2	72	338.112	ppb	338.112	0.43	126872	10000	
Fe	57	2	72	225.836	ppb	225.836	5.94	4107	400000	
Co	59	2	72	0.678	ppb	0.678	6.06	1103	2000	
Ni	60	2	72	0.963	ppb	0.963	5.67	560	5000	
Cu	63	2	72	-0.160	ppb	-0.160	-26.08	730	5000	
Zn	66	2	72	0.079	ppb	0.079	78.32	220	5000	
As	75	2	72	9.738	ppb	9.738	11.02	1228	2000	
Se	78	1	72	0.082	ppb	0.082	72.88	23	2000	
Sr	88	2	72	686.824	ppb	686.824	1.06	286762	4000	
Zr	90	2	72	7.478	ppb	7.478	63.09	100	1000	
Nb	93	2	72	0.186	ppb	0.186	27.00	1353	200	
Mo	95	2	115	2.725	ppb	2.725	10.81	1910	2000	
Pd	105	2	115	0.002	ppb	0.002	1990.27	27	100	
Ag	107	2	115	-0.017	ppb	-0.017	-30.20	13	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.107	ppb	0.107	40.74	210	2000	
Sb	121	2	115	0.024	ppb	0.024	108.70	60	1000	
Ba	137	2	115	13.026	ppb	13.026	5.58	3351	5000	
W	182	2	165	0.083	ppb	0.083	70.65	1420	100	
Pt	195	2	165	0.017	ppb	0.017	79.33	73	100	
Tl	205	2	165	-0.007	ppb	-0.007	-61.28	47	2000	
Pb	208	2	165	0.008	ppb	0.008	158.93	697	5000	
Th	232	2	165	0.003	ppb	0.003	251.56	253	2000	
U	238	2	165	12.089	ppb	12.089	1.61	153853	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	703972	0.69	1639580	42.94	60	120	IS Failed
Sc (IS)	45	1	HMI H2	19274013	0.52	31715490	60.77	60	120	
Sc (IS)	45	2	HMI He	629677	0.40	891522	70.63	60	120	
Sc (IS)	45	3	No Gas	30553649	0.63	54087154	56.49	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7874354	0.31	13102322	60.10	60	120	
Ge Internal Standard	72	2	HMI He	739308	0.27	1026205	72.04	60	120	
In Internal Standard	115	2	HMI He	3099012	0.92	4195206	73.87	60	120	
Ho-165	165	2	HMI He	14780713	0.62	20206547	73.15	60	120	

Sample Report

Sample Table

Sample Name	280-115720-b-2-g ms
Data File Name	237SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:27:21-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	246.667	ppb	246.667	2.75	154712	500000	
Li	7	2	45	164.485	ppb	164.485	24.43	8209	500000	
Li	7	3	45	190.022	ppb	190.022	1.70	4691349	50000	
Be	9	1	6	51.738	ppb	51.738	1.15	8233	2000	
B	11	1	6	2466.915	ppb	2466.915	0.24	427699	2000	
Na	23	1	45	477625.923	ppb	477625.923	0.65	1016458038	2000	>LDR
Na	23	2	45	435318.733	ppb	435318.733	2.22	67797387	400000	
Mg	24	2	45	30995.937	ppb	30995.937	2.13	2288405	400000	
Al	27	2	45	494.317	ppb	494.317	3.87	8366	400000	
K	39	1	45	220.668	ppb	220.668	22.19	7190206	400000	
K	39	2	45	1468.813	ppb	1468.813	4.12	62983	400000	
Ca	40	1	45	76235.106	ppb	76235.106	0.63	247442643	400000	
Ca	44	2	45	87276.265	ppb	87276.265	1.82	169769	400000	
Ti	47	2	45	2.562	ppb	2.562	67.01	40	4000	
V	51	2	72	39.899	ppb	39.899	1.91	29077	2000	
Cr	52	2	72	38.575	ppb	38.575	0.95	33660	5000	
Mn	55	2	72	1665.348	ppb	1665.348	2.32	573940	10000	
Fe	57	2	72	1437.286	ppb	1437.286	0.50	23470	400000	
Co	59	2	72	40.653	ppb	40.653	1.32	60564	2000	
Ni	60	2	72	38.949	ppb	38.949	5.09	16547	5000	
Cu	63	2	72	37.637	ppb	37.637	0.98	44410	5000	
Zn	66	2	72	37.945	ppb	37.945	6.58	6078	5000	
As	75	2	72	84.613	ppb	84.613	1.67	9626	2000	
Se	78	1	72	37.739	ppb	37.739	4.24	5791	2000	
Sr	88	2	72	4113.572	ppb	4113.572	2.85	1577597	4000	
Zr	90	2	72	8076.709	ppb	8076.709	4.22	42137	1000	>LDR
Nb	93	2	72	0.487	ppb	0.487	5.52	1940	200	
Mo	95	2	115	49.122	ppb	49.122	0.81	31256	2000	
Pd	105	2	115	0.100	ppb	0.100	16.92	120	100	
Ag	107	2	115	36.898	ppb	36.898	2.45	76505	100	
Cd	111	2	115	38.441	ppb	38.441	5.46	10318	2000	
Sn	120	2	115	40.945	ppb	40.945	3.42	30785	2000	
Sb	121	2	115	41.779	ppb	41.779	4.83	28747	1000	
Ba	137	2	115	100.749	ppb	100.749	2.89	23895	5000	
W	182	2	165	12.748	ppb	12.748	3.50	38938	100	
Pt	195	2	165	0.040	ppb	0.040	14.42	123	100	
Tl	205	2	165	39.828	ppb	39.828	1.94	220109	2000	
Pb	208	2	165	40.388	ppb	40.388	2.11	298039	5000	
Th	232	2	165	32.509	ppb	32.509	3.78	371566	2000	
U	238	2	165	101.084	ppb	101.084	16.72	1213432	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	625488	0.57	1639580	38.15	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17930730	0.91	31715490	56.54	60	120	IS Failed
Sc (IS)	45	2	HMI He	589735	0.86	891522	66.15	60	120	
Sc (IS)	45	3	No Gas	28614316	0.48	54087154	52.90	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7190609	0.45	13102322	54.88	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	679230	0.48	1026205	66.19	60	120	
In Internal Standard	115	2	HMI He	2859053	0.87	4195206	68.15	60	120	
Ho-165	165	2	HMI He	13969971	1.39	20206547	69.14	60	120	

Sample Report

Sample Table

Sample Name	280-115720-b-2-h msd
Data File Name	238SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:31:11-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	243.549	ppb	243.549	1.68	154172	500000	
Li	7	2	45	162.356	ppb	162.356	5.37	8229	500000	
Li	7	3	45	196.355	ppb	196.355	0.78	4767147	50000	
Be	9	1	6	52.400	ppb	52.400	3.27	8369	2000	
B	11	1	6	2528.856	ppb	2528.856	1.53	440085	2000	
Na	23	1	45	486222.735	ppb	486222.735	0.60	1036399771	2000	>LDR
Na	23	2	45	436773.068	ppb	436773.068	0.59	68424531	400000	
Mg	24	2	45	31415.076	ppb	31415.076	0.36	2333007	400000	
Al	27	2	45	463.090	ppb	463.090	1.50	7886	400000	
K	39	1	45	238.104	ppb	238.104	4.46	7240293	400000	
K	39	2	45	1480.034	ppb	1480.034	0.87	63746	400000	
Ca	40	1	45	77622.369	ppb	77622.369	0.50	252338663	400000	
Ca	44	2	45	87768.227	ppb	87768.227	0.59	171729	400000	
Ti	47	2	45	1.903	ppb	1.903	33.18	30	4000	
V	51	2	72	39.460	ppb	39.460	1.80	29030	2000	
Cr	52	2	72	37.513	ppb	37.513	1.46	33025	5000	
Mn	55	2	72	1664.647	ppb	1664.647	0.20	578757	10000	
Fe	57	2	72	1421.322	ppb	1421.322	4.88	23417	400000	
Co	59	2	72	40.513	ppb	40.513	2.48	60889	2000	
Ni	60	2	72	39.823	ppb	39.823	3.78	17067	5000	
Cu	63	2	72	35.591	ppb	35.591	0.72	42410	5000	
Zn	66	2	72	37.928	ppb	37.928	3.48	6128	5000	
As	75	2	72	84.400	ppb	84.400	0.62	9686	2000	
Se	78	1	72	38.172	ppb	38.172	1.58	5869	2000	
Sr	88	2	72	4088.626	ppb	4088.626	1.63	1581903	4000	
Zr	90	2	72	7916.252	ppb	7916.252	1.16	41669	1000	>LDR
Nb	93	2	72	0.216	ppb	0.216	8.95	1323	200	
Mo	95	2	115	47.586	ppb	47.586	0.27	30715	2000	
Pd	105	2	115	0.106	ppb	0.106	31.57	127	100	
Ag	107	2	115	34.882	ppb	34.882	3.81	73355	100	
Cd	111	2	115	36.880	ppb	36.880	5.19	10044	2000	
Sn	120	2	115	39.358	ppb	39.358	2.06	30024	2000	
Sb	121	2	115	40.416	ppb	40.416	1.86	28210	1000	
Ba	137	2	115	100.892	ppb	100.892	3.56	24276	5000	
W	182	2	165	12.831	ppb	12.831	0.49	39272	100	
Pt	195	2	165	0.022	ppb	0.022	101.47	80	100	
Tl	205	2	165	38.697	ppb	38.697	0.93	214308	2000	
Pb	208	2	165	40.221	ppb	40.221	1.29	297432	5000	
Th	232	2	165	32.353	ppb	32.353	0.32	370638	2000	
U	238	2	165	92.456	ppb	92.456	0.56	1113717	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	627893	0.68	1639580	38.30	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17958517	0.31	31715490	56.62	60	120	IS Failed
Sc (IS)	45	2	HMI He	593142	0.48	891522	66.53	60	120	
Sc (IS)	45	3	No Gas	28752709	0.39	54087154	53.16	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7205721	0.67	13102322	55.00	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	685169	0.46	1026205	66.77	60	120	
In Internal Standard	115	2	HMI He	2900164	1.33	4195206	69.13	60	120	
Ho-165	165	2	HMI He	13997554	0.75	20206547	69.27	60	120	

Sample Report

Sample Table

Sample Name	280-115720-b-2-f PDS
Data File Name	239SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:35:03-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	163.714	ppb	163.714	1.58	133167	500000	
Li	7	2	45	113.133	ppb	113.133	28.19	7519	500000	
Li	7	3	45	125.259	ppb	125.259	1.94	4133852	50000	
Be	9	1	6	256.876	ppb	256.876	1.92	40833	2000	
B	11	1	6	2474.564	ppb	2474.564	0.62	428802	2000	
Na	23	1	45	482675.746	ppb	482675.746	0.66	1020893531	2000	>LDR
Na	23	2	45	429453.739	ppb	429453.739	0.78	67379226	400000	
Mg	24	2	45	30580.146	ppb	30580.146	1.05	2274379	400000	
Al	27	2	45	2153.900	ppb	2153.900	1.64	36636	400000	
K	39	1	45	256.651	ppb	256.651	7.03	7224811	400000	
K	39	2	45	1481.283	ppb	1481.283	0.71	63884	400000	
Ca	40	1	45	77104.556	ppb	77104.556	0.35	248721830	400000	
Ca	44	2	45	84638.083	ppb	84638.083	0.60	165853	400000	
Ti	47	2	45	8.238	ppb	8.238	26.56	130	4000	
V	51	2	72	188.461	ppb	188.461	0.61	129578	2000	
Cr	52	2	72	185.126	ppb	185.126	0.85	160957	5000	
Mn	55	2	72	1797.668	ppb	1797.668	0.95	620334	10000	
Fe	57	2	72	2872.076	ppb	2872.076	1.06	46853	400000	
Co	59	2	72	182.804	ppb	182.804	0.32	272647	2000	
Ni	60	2	72	180.371	ppb	180.371	1.51	76338	5000	
Cu	63	2	72	179.126	ppb	179.126	0.44	208392	5000	
Zn	66	2	72	194.201	ppb	194.201	3.64	30356	5000	
As	75	2	72	223.745	ppb	223.745	1.57	25447	2000	
Se	78	1	72	183.836	ppb	183.836	1.70	27951	2000	
Sr	88	2	72	4029.454	ppb	4029.454	0.98	1547342	4000	
Zr	90	2	72	39847.980	ppb	39847.980	1.17	207964	1000	>LDR
Nb	93	2	72	3.300	ppb	3.300	3.61	8466	200	
Mo	95	2	115	197.543	ppb	197.543	1.48	125736	2000	
Pd	105	2	115	0.159	ppb	0.159	24.65	177	100	
Ag	107	2	115	36.661	ppb	36.661	1.32	76104	100	
Cd	111	2	115	187.025	ppb	187.025	1.23	50258	2000	
Sn	120	2	115	200.350	ppb	200.350	0.58	150392	2000	
Sb	121	2	115	199.479	ppb	199.479	0.30	137284	1000	
Ba	137	2	115	267.945	ppb	267.945	0.70	63624	5000	
W	182	2	165	190.621	ppb	190.621	0.52	569382	100	
Pt	195	2	165	0.098	ppb	0.098	34.04	263	100	
Tl	205	2	165	194.506	ppb	194.506	0.72	1079066	2000	
Pb	208	2	165	193.618	ppb	193.618	0.84	1432442	5000	
Th	232	2	165	13.258	ppb	13.258	15.60	152371	2000	
U	238	2	165	268.867	ppb	268.867	0.38	3245135	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	625144	0.76	1639580	38.13	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17820171	0.33	31715490	56.19	60	120	IS Failed
Sc (IS)	45	2	HMI He	594036	0.37	891522	66.63	60	120	
Sc (IS)	45	3	No Gas	28498022	0.58	54087154	52.69	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7132548	0.15	13102322	54.44	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	680023	0.62	1026205	66.27	60	120	
In Internal Standard	115	2	HMI He	2862221	1.06	4195206	68.23	60	120	
Ho-165	165	2	HMI He	14025645	0.40	20206547	69.41	60	120	

Sample Report

Sample Table

Sample Name	280-115766-d-1-c
Data File Name	240SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:38:52-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	435001 6020 Zn
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	53.369	ppb	53.369	19.67	99142	500000	
Li	7	2	45	-4.727	ppb	-4.727	-308.46	5418	500000	
Li	7	3	45	16.713	ppb	16.713	21.57	3027634	50000	
Be	9	1	6	10.243	ppb	10.243	4.69	1493	2000	
B	11	1	6	302.232	ppb	302.232	1.67	48352	2000	
Na	23	1	45	275823.764	ppb	275823.764	0.66	546951432	2000	>LDR
Na	23	2	45	244988.775	ppb	244988.775	0.17	35955348	400000	
Mg	24	2	45	244316.299	ppb	244316.299	0.70	16990149	400000	
Al	27	2	45	128041.794	ppb	128041.794	0.94	2035232	400000	
K	39	1	45	18674.878	ppb	18674.878	0.66	44386828	400000	
K	39	2	45	18934.481	ppb	18934.481	0.80	623270	400000	
Ca	40	1	45	832927.069	ppb	832927.069	0.37	2518072442	400000	
Ca	44	2	45	893740.512	ppb	893740.512	0.51	1637458	400000	
Ti	47	2	45	359.233	ppb	359.233	5.16	5301	4000	
V	51	2	72	334.405	ppb	334.405	1.57	210517	2000	
Cr	52	2	72	11155.317	ppb	11155.317	0.71	8933390	5000	
Mn	55	2	72	5892.999	ppb	5892.999	1.30	1874975	10000	
Fe	57	2	72	397091.003	ppb	397091.003	0.96	5960770	400000	
Co	59	2	72	121.113	ppb	121.113	0.54	166580	2000	
Ni	60	2	72	1132.339	ppb	1132.339	1.01	441359	5000	
Cu	63	2	72	519.620	ppb	519.620	0.87	555921	5000	
Zn	66	2	72	639.789	ppb	639.789	0.90	91821	5000	
As	75	2	72	66.751	ppb	66.751	1.82	7017	2000	
Se	78	1	72	34.196	ppb	34.196	3.21	4705	2000	
Sr	88	2	72	3414.366	ppb	3414.366	7.56	1209646	4000	
Zr	90	2	72	4430.269	ppb	4430.269	4.83	21357	1000	
Nb	93	2	72	1.202	ppb	1.202	12.27	3317	200	
Mo	95	2	115	174.996	ppb	174.996	1.15	101482	2000	
Pd	105	2	115	0.218	ppb	0.218	18.41	213	100	
Ag	107	2	115	1.526	ppb	1.526	7.17	2927	100	
Cd	111	2	115	3.608	ppb	3.608	19.11	883	2000	
Sn	120	2	115	7.852	ppb	7.852	2.67	5468	2000	
Sb	121	2	115	1.216	ppb	1.216	21.28	797	1000	
Ba	137	2	115	5157.430	ppb	5157.430	0.28	1115601	5000	
W	182	2	165	29.148	ppb	29.148	1.11	81990	100	
Pt	195	2	165	0.033	ppb	0.033	23.13	100	100	
Tl	205	2	165	1.613	ppb	1.613	5.39	8416	2000	
Pb	208	2	165	132.266	ppb	132.266	0.50	911943	5000	
Th	232	2	165	61.823	ppb	61.823	0.96	661073	2000	
U	238	2	165	26.346	ppb	26.346	0.52	296370	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	572035	0.46	1639580	34.89	60	120	IS Failed
Sc (IS)	45	1	HMI H2	16702784	0.13	31715490	52.66	60	120	IS Failed
Sc (IS)	45	2	HMI He	555504	0.87	891522	62.31	60	120	
Sc (IS)	45	3	No Gas	26703409	0.54	54087154	49.37	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6446310	0.65	13102322	49.20	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	627089	1.02	1026205	61.11	60	120	
In Internal Standard	115	2	HMI He	2607359	0.72	4195206	62.15	60	120	
Ho-165	165	2	HMI He	13068613	0.34	20206547	64.68	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	241_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:42:41-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	423.713	ppb	0.534	204087	500	84.7	90	110	>+\-10%
Li	7	2	45	362.899	ppb	8.496	11375	500	72.6	90	110	>+\-10%
Li	7	3	45	353.617	ppb	1.639	6252574	500	70.7	90	110	>+\-10%
Be	9	1	6	64.074	ppb	3.314	10971	50	128.1	90	110	>+\-10%
B	11	1	6	96.447	ppb	0.596	18552	50	192.9	90	110	>+\-10%
Na	23	1	45	5717.178	ppb	0.947	12835574	5000	114.3	90	110	>+\-10%
Na	23	2	45	4612.692	ppb	1.502	762920	5000	92.3	90	110	
Mg	24	2	45	4349.056	ppb	1.020	329328	5000	87.0	90	110	>+\-10%
Al	27	2	45	5381.501	ppb	1.961	93091	5000	107.6	90	110	
K	39	1	45	5666.905	ppb	1.533	19626629	5000	113.3	90	110	>+\-10%
K	39	2	45	5282.905	ppb	0.313	198541	5000	105.7	90	110	
Ca	40	1	45	5667.387	ppb	0.041	18902145	5000	113.3	90	110	>+\-10%
Ca	44	2	45	5389.110	ppb	3.583	10778	5000	107.8	90	110	
Ti	47	2	45	51.513	ppb	20.006	827	50	103.0	90	110	
V	51	2	72	46.135	ppb	1.507	34612	50	92.3	90	110	
Cr	52	2	72	49.089	ppb	0.841	44479	50	98.2	90	110	
Mn	55	2	72	51.035	ppb	1.728	18322	50	102.1	90	110	
Fe	57	2	72	4869.490	ppb	0.656	82417	5000	97.4	90	110	
Co	59	2	72	47.784	ppb	1.877	74013	50	95.6	90	110	
Ni	60	2	72	46.928	ppb	4.072	20702	50	93.9	90	110	
Cu	63	2	72	47.007	ppb	0.474	57445	50	94.0	90	110	
Zn	66	2	72	49.892	ppb	6.826	8249	50	99.8	90	110	
As	75	2	72	46.379	ppb	4.519	5498	50	92.8	90	110	
Se	78	1	72	48.184	ppb	3.939	7670	50	96.4	90	110	
Sr	88	2	72	55.169	ppb	1.867	22028	50	110.3	90	110	>+\-10%
Zr	90	2	72	168.999	ppb	12.395	970	50	338.0	90	110	>+\-10%
Nb	93	2	72	85.406	ppb	1.872	206533	100	85.4	90	110	>+\-10%
Mo	95	2	115	46.004	ppb	1.999	30621	50	92.0	90	110	
Pd	105	2	115	49.447	ppb	0.535	50107	50	98.9	90	110	
Ag	107	2	115	46.221	ppb	0.762	100236	50	92.4	90	110	
Cd	111	2	115	47.943	ppb	1.965	13461	50	95.9	90	110	
Sn	120	2	115	50.633	ppb	2.420	39798	50	101.3	90	110	
Sb	121	2	115	50.395	ppb	0.569	36265	50	100.8	90	110	
Ba	137	2	115	52.498	ppb	0.515	13027	50	105.0	90	110	
W	182	2	165	48.909	ppb	0.852	148794	50	97.8	90	110	
Pt	195	2	165	47.286	ppb	1.274	114870	50	94.6	90	110	
Tl	205	2	165	51.870	ppb	1.189	291524	50	103.7	90	110	
Pb	208	2	165	52.087	ppb	1.275	390741	50	104.2	90	110	
Th	232	2	165	40.283	ppb	0.573	468301	50	80.6	90	110	>+\-10%
U	238	2	165	41.302	ppb	0.108	504975	50	82.6	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	673092	0.42	1639580	41.05	60	120	IS Failed
Sc (IS)	45	1	HMI H2	18395933	0.69	31715490	58.00	60	120	IS Failed
Sc (IS)	45	2	HMI He	604381	0.17	891522	67.79	60	120	
Sc (IS)	45	3	No Gas	29537907	0.46	54087154	54.61	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7461813	0.31	13102322	56.95	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	706177	1.11	1026205	68.81	60	120	
In Internal Standard	115	2	HMI He	2990455	1.10	4195206	71.28	60	120	
Ho-165	165	2	HMI He	14205594	0.33	20206547	70.30	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	242_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:46:29-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-68.056	ppb	-11.6	2642178	10	
Be	9	1	6	0.144	ppb	102.8	30	0.5	
B	11	1	6	33.197	ppb	2.3	7065	0.5	>RL
Na	23	1	45	376.087	ppb	0.3	1209796	25	>RL
Na	23	2	45	267.761	ppb	2.4	72390	25	>RL
Mg	24	2	45	31.158	ppb	6.0	2734	25	>RL
Al	27	2	45	4.366	ppb	38.5	107	15	
K	39	1	45	280.307	ppb	9.9	7713305	50	>RL
K	39	2	45	36.442	ppb	67.0	14808	50	
Ca	40	1	45	30.303	ppb	1.7	136572	50	
Ca	44	2	45	18.860	ppb	38.8	77	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.718	ppb	-14.6	1777	1	
Cr	52	2	72	0.276	ppb	43.6	477	1	
Mn	55	2	72	0.486	ppb	43.6	220	0.5	
Fe	57	2	72	21.592	ppb	23.9	490	25	
Co	59	2	72	0.030	ppb	85.8	53	0.5	
Ni	60	2	72	0.035	ppb	127.5	133	1	
Cu	63	2	72	-0.101	ppb	-152.6	800	1	
Zn	66	2	72	-0.155	ppb	-310.4	180	5	
As	75	2	72	-0.047	ppb	-241.9	19	1	
Se	78	1	72	0.070	ppb	36.4	20	1	
Sr	88	2	72	0.071	ppb	106.2	63	0.5	
Zr	90	2	72	5.809	ppb	134.1	90	1	>RL
Nb	93	2	72	3.534	ppb	1.3	9754	2	>RL
Mo	95	2	115	0.106	ppb	21.0	107	0.5	
Pd	105	2	115	0.030	ppb	129.2	57	1	
Ag	107	2	115	-0.005	ppb	-446.7	40	1	
Cd	111	2	115	0.022	ppb	173.2	7	0.5	
Sn	120	2	115	0.120	ppb	48.5	223	1	
Sb	121	2	115	0.371	ppb	12.1	323	0.6	
Ba	137	2	115	0.144	ppb	27.9	40	0.5	
W	182	2	165	0.111	ppb	27.9	1487	1	
Pt	195	2	165	0.037	ppb	86.8	120	1	
Tl	205	2	165	0.014	ppb	31.5	167	0.1	
Pb	208	2	165	0.003	ppb	352.5	647	0.5	
Th	232	2	165	0.030	ppb	17.4	577	1	
U	238	2	165	0.013	ppb	28.8	253	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	702830	0.21	1639580	42.87	60	120	IS Failed
Sc (IS)	45	1	HMI H2	18890148	0.16	31715490	59.56	60	120	IS Failed
Sc (IS)	45	2	HMI He	628444	0.39	891522	70.49	60	120	
Sc (IS)	45	3	No Gas	29806825	0.45	54087154	55.11	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7650191	1.00	13102322	58.39	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	736202	0.91	1026205	71.74	60	120	
In Internal Standard	115	2	HMI He	3145787	1.30	4195206	74.99	60	120	
Ho-165	165	2	HMI He	14583384	0.34	20206547	72.17	60	120	

Blank Report

Sample Table

Sample Name	mb 280-434982/1-a
Data File Name	243_BLK_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:50:19-06:00
Sample Type	Blank
Dilution	1
Comment	434982 6020
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Li	7	1	45	-30.857	ppb	-2.421751528	89466	0.5
Li	7	2	45	-79.613	ppb	-9.859657656	4968	0.5
Li	7	3	45	-62.616	ppb	-6.401266689	2593357	10
Be	9	1	6	0.033	ppb	171.7412796	10	0.5
B	11	1	6	29.303	ppb	7.244645	6208	0.5
Na	23	1	45	431.681	ppb	1.536145672	1327020	25
Na	23	2	45	337.308	ppb	2.185942868	83954	25
Mg	24	2	45	29.961	ppb	4.596902956	2640	25
Al	27	2	45	10.683	ppb	26.89181946	220	15
K	39	1	45	-1236.960	ppb	-1.622661374	4185375	50
K	39	2	45	53.134	ppb	46.86438619	15419	50
Ca	40	1	45	49.724	ppb	2.082751269	201836	50
Ca	44	2	45	68.659	ppb	13.10617917	180	25
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5
V	51	2	72	-1.171	ppb	-16.91467687	1437	1
Cr	52	2	72	0.172	ppb	78.37490135	377	1
Mn	55	2	72	0.966	ppb	12.16160063	397	0.5
Fe	57	2	72	60.191	ppb	2.097177937	1163	25
Co	59	2	72	0.045	ppb	21.4001977	77	0.5
Ni	60	2	72	0.022	ppb	222.5731272	127	1
Cu	63	2	72	0.114	ppb	93.26518787	1063	1
Zn	66	2	72	1.849	ppb	10.90377181	513	5
As	75	2	72	-0.031	ppb	-181.1363106	21	1
Se	78	1	72	0.005	ppb	278.6848491	9	1
Sr	88	2	72	0.194	ppb	28.87875297	113	0.5
Zr	90	2	72	6.506	ppb	236.8698848	93	1
Nb	93	2	72	1.904	ppb	3.912700848	5625	2
Mo	95	2	115	-0.013	ppb	-242.4402745	23	0.5
Pd	105	2	115	-0.023	ppb	0	0	1
Ag	107	2	115	-0.008	ppb	-188.4683091	33	1
Cd	111	2	115	0.023	ppb	173.2050808	7	0.5
Sn	120	2	115	0.337	ppb	37.12563358	397	1
Sb	121	2	115	0.123	ppb	23.44840471	133	0.6
Ba	137	2	115	0.860	ppb	35.03853724	223	0.5
W	182	2	165	0.084	ppb	28.32571615	1383	1
Pt	195	2	165	0.028	ppb	22.18967789	97	1
Tl	205	2	165	-0.001	ppb	-806.4182683	80	0.1
Pb	208	2	165	0.030	ppb	86.96162847	843	0.5
Th	232	2	165	0.026	ppb	32.96131826	517	1
U	238	2	165	0.006	ppb	69.74804015	167	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	691695	0.19	1639580	42.19	60	120	IS Failed
Sc (IS)	45	1	HMI H2	18785217	0.55	31715490	59.23	60	120	IS Failed
Sc (IS)	45	2	HMI He	628590	0.75	891522	70.51	60	120	
Sc (IS)	45	3	No Gas	28739662	0.46	54087154	53.14	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7596453	0.49	13102322	57.98	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	731637	0.38	1026205	71.30	60	120	
In Internal Standard	115	2	HMI He	3101050	0.68	4195206	73.92	60	120	
Ho-165	165	2	HMI He	14381944	0.22	20206547	71.17	60	120	

Laboratory Control Sample (LCS) Report

Sample Table

Sample Name	lcs 280-434982/2-a
Data File Name	244_LCS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:54:07-06:00
Sample Type	LCS
Dilution	1
Analyst	Trudell, Lynn-Anne
Comment	434982 6020
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	FinalConc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	45	43.391	43.391	ppb	12.968	106955	400	10.8	80	120	>+/-20%
Li	7	2	45	-22.548	-22.548	ppb	-74.318	5798	400	-5.6	80	120	>+/-20%
Li	7	3	45	11.602	11.602	ppb	84.083	3173192	400	2.9	80	120	>+/-20%
Be	9	1	6	48.121	48.121	ppb	4.544	8479	40	120.3	80	120	>+/-20%
Na	23	2	45	374.039	374.039	ppb	4.825	89195	40	935.1	80	120	>+/-20%
Mg	24	2	45	32.554	32.554	ppb	14.161	2817	40	81.4	80	120	
Al	27	2	45	452.637	452.637	ppb	1.420	8093	40	1131.6	80	120	>+/-20%
K	39	2	45	53.807	53.807	ppb	26.388	15302	40	134.5	80	120	>+/-20%
Ca	44	2	45	230.241	230.241	ppb	22.309	510	40	575.6	80	120	>+/-20%
V	51	2	72	36.536	36.536	ppb	2.960	28743	40	91.3	80	120	
Cr	52	2	72	36.857	36.857	ppb	0.374	34496	40	92.1	80	120	
Mn	55	2	72	39.813	39.813	ppb	3.673	14752	40	99.5	80	120	
Fe	57	2	72	439.204	439.204	ppb	2.692	7766	40	1098.0	80	120	>+/-20%
Co	59	2	72	37.008	37.008	ppb	1.544	59122	40	92.5	80	120	
Ni	60	2	72	36.338	36.338	ppb	2.234	16564	40	90.8	80	120	
Cu	63	2	72	36.379	36.379	ppb	0.267	46061	40	90.9	80	120	
Zn	66	2	72	36.631	36.631	ppb	6.132	6298	40	91.6	80	120	
As	75	2	72	34.464	34.464	ppb	1.924	4219	40	86.2	80	120	
Se	78	1	72	38.898	38.898	ppb	1.578	6212	40	97.2	80	120	
Nb	93	2	72	0.986	0.986	ppb	14.055	3321	40	2.5	80	120	>+/-20%
Mo	95	2	115	33.398	33.398	ppb	3.898	23033	40	83.5	80	120	
Pd	105	2	115	-0.017	-0.017	ppb	-32.324	7	40	0.0	80	120	>+/-20%
Ag	107	2	115	37.425	37.425	ppb	0.734	84094	40	93.6	80	120	
Cd	111	2	115	37.830	37.830	ppb	5.055	11005	40	94.6	80	120	
Sn	120	2	115	38.919	38.919	ppb	0.662	31720	40	97.3	80	120	
Sb	121	2	115	37.630	37.630	ppb	1.767	28066	40	94.1	80	120	
Ba	137	2	115	40.601	40.601	ppb	3.153	10438	40	101.5	80	120	
W	182	2	165	11.820	11.820	ppb	4.114	37022	40	29.6	80	120	>+/-20%
Pt	195	2	165	0.010	0.010	ppb	100.154	53	40	0.0	80	120	>+/-20%
Tl	205	2	165	41.661	41.661	ppb	0.990	235559	40	104.2	80	120	
Pb	208	2	165	42.704	42.704	ppb	0.678	322384	40	106.8	80	120	
Th	232	2	165	31.920	31.920	ppb	0.449	373340	40	79.8	80	120	>+/-20%
U	238	2	165	32.665	32.665	ppb	0.057	401783	40	81.7	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	692825	0.96	1639580	42.26	60	120	IS Failed
Sc (IS)	45	1	HMI H2	18450362	0.39	31715490	58.17	60	120	IS Failed
Sc (IS)	45	2	HMI He	622674	0.08	891522	69.84	60	120	
Sc (IS)	45	3	No Gas	28358823	0.12	54087154	52.43	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7483544	0.52	13102322	57.12	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	728340	0.23	1026205	70.97	60	120	
In Internal Standard	115	2	HMI He	3098115	0.92	4195206	73.85	60	120	
Ho-165	165	2	HMI He	14290512	0.24	20206547	70.72	60	120	

Sample Report

Sample Table

Sample Name	280-116001-j-1-b
Data File Name	245SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T07:57:55-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	126.801	ppb	126.801	3.13	120328	500000	
Li	7	2	45	59.640	ppb	59.640	50.15	6552	500000	
Li	7	3	45	89.159	ppb	89.159	8.37	3585404	50000	
Be	9	1	6	0.060	ppb	0.060	159.60	13	2000	
B	11	1	6	1073.208	ppb	1073.208	1.32	187289	2000	
Na	23	1	45	373527.768	ppb	373527.768	0.15	766695669	2000	>LDR
Na	23	2	45	332258.455	ppb	332258.455	0.40	50720789	400000	
Mg	24	2	45	74586.880	ppb	74586.880	0.93	5396343	400000	
Al	27	2	45	13.754	ppb	13.754	12.36	253	400000	
K	39	1	45	45813.643	ppb	45813.643	0.14	103330878	400000	
K	39	2	45	51392.881	ppb	51392.881	1.63	1738522	400000	
Ca	40	1	45	41358.016	ppb	41358.016	0.30	129470571	400000	
Ca	44	2	45	41896.361	ppb	41896.361	0.18	79887	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-1.167	ppb	-1.167	-26.69	1320	2000	
Cr	52	2	72	0.423	ppb	0.423	10.51	560	5000	
Mn	55	2	72	71.425	ppb	71.425	0.91	24335	10000	
Fe	57	2	72	69.955	ppb	69.955	7.89	1223	400000	
Co	59	2	72	0.380	ppb	0.380	24.89	563	2000	
Ni	60	2	72	15.584	ppb	15.584	3.36	6602	5000	
Cu	63	2	72	0.285	ppb	0.285	36.42	1170	5000	
Zn	66	2	72	54.301	ppb	54.301	3.67	8506	5000	
As	75	2	72	1.937	ppb	1.937	20.43	240	2000	
Se	78	1	72	0.238	ppb	0.238	47.97	43	2000	
Sr	88	2	72	702.686	ppb	702.686	0.44	266083	4000	
Zr	90	2	72	208.159	ppb	208.159	9.85	1123	1000	
Nb	93	2	72	0.655	ppb	0.655	30.13	2300	200	
Mo	95	2	115	0.808	ppb	0.808	17.27	533	2000	
Pd	105	2	115	0.022	ppb	0.022	215.15	43	100	
Ag	107	2	115	-0.003	ppb	-0.003	-591.99	40	100	
Cd	111	2	115	0.013	ppb	0.013	173.21	3	2000	
Sn	120	2	115	0.365	ppb	0.365	7.98	380	2000	
Sb	121	2	115	0.566	ppb	0.566	26.81	420	1000	
Ba	137	2	115	40.732	ppb	40.732	1.43	9490	5000	
W	182	2	165	0.328	ppb	0.328	17.80	2010	100	
Pt	195	2	165	0.043	ppb	0.043	109.94	127	100	
Tl	205	2	165	0.008	ppb	0.008	27.95	123	2000	
Pb	208	2	165	0.087	ppb	0.087	11.98	1207	5000	
Th	232	2	165	0.121	ppb	0.121	9.30	1544	2000	
U	238	2	165	0.441	ppb	0.441	7.34	5238	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	628600	0.74	1639580	38.34	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17291789	0.21	31715490	54.52	60	120	IS Failed
Sc (IS)	45	2	HMI He	577908	0.74	891522	64.82	60	120	
Sc (IS)	45	3	No Gas	26652825	0.07	54087154	49.28	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6904354	0.33	13102322	52.70	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	670521	1.00	1026205	65.34	60	120	
In Internal Standard	115	2	HMI He	2808104	1.29	4195206	66.94	60	120	
Ho-165	165	2	HMI He	13572951	0.40	20206547	67.17	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-1-d
Data File Name	246SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:01:40-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	4.701	ppb	4.701	71.46	91534	500000	
Li	7	2	45	-43.814	ppb	-43.814	-59.62	5184	500000	
Li	7	3	45	-33.068	ppb	-33.068	-19.08	2685792	50000	
Be	9	1	6	0.037	ppb	0.037	164.65	10	2000	
B	11	1	6	191.782	ppb	191.782	2.09	35066	2000	
Na	23	1	45	23817.316	ppb	23817.316	0.74	49532778	2000	>LDR
Na	23	2	45	21258.213	ppb	21258.213	0.50	3337356	400000	
Mg	24	2	45	23719.026	ppb	23719.026	1.22	1752031	400000	
Al	27	2	45	6.530	ppb	6.530	53.11	137	400000	
K	39	1	45	1464.274	ppb	1464.274	2.79	9628345	400000	
K	39	2	45	2610.095	ppb	2610.095	0.70	102153	400000	
Ca	40	1	45	129846.593	ppb	129846.593	0.96	409151114	400000	
Ca	44	2	45	126041.086	ppb	126041.086	0.73	245279	400000	
Ti	47	2	45	0.213	ppb	0.213	173.21	3	4000	
V	51	2	72	2.237	ppb	2.237	12.25	3687	2000	
Cr	52	2	72	0.337	ppb	0.337	50.94	500	5000	
Mn	55	2	72	770.712	ppb	770.712	0.44	269444	10000	
Fe	57	2	72	824.340	ppb	824.340	2.85	13697	400000	
Co	59	2	72	0.535	ppb	0.535	5.83	813	2000	
Ni	60	2	72	1.402	ppb	1.402	7.62	710	5000	
Cu	63	2	72	-0.092	ppb	-0.092	-67.32	760	5000	
Zn	66	2	72	1.657	ppb	1.657	23.04	453	5000	
As	75	2	72	4.379	ppb	4.379	7.41	527	2000	
Se	78	1	72	0.107	ppb	0.107	124.17	24	2000	
Sr	88	2	72	1222.897	ppb	1222.897	0.58	475745	4000	
Zr	90	2	72	78.824	ppb	78.824	29.97	470	1000	
Nb	93	2	72	0.343	ppb	0.343	26.21	1630	200	
Mo	95	2	115	4.759	ppb	4.759	4.88	3164	2000	
Pd	105	2	115	0.019	ppb	0.019	176.33	43	100	
Ag	107	2	115	-0.001	ppb	-0.001	-1082.27	47	100	
Cd	111	2	115	0.024	ppb	0.024	173.21	7	2000	
Sn	120	2	115	0.146	ppb	0.146	56.11	230	2000	
Sb	121	2	115	0.202	ppb	0.202	16.05	183	1000	
Ba	137	2	115	1200.191	ppb	1200.191	1.79	294691	5000	
W	182	2	165	0.084	ppb	0.084	131.32	1337	100	
Pt	195	2	165	0.046	ppb	0.046	46.82	137	100	
Tl	205	2	165	0.004	ppb	0.004	146.20	103	2000	
Pb	208	2	165	0.040	ppb	0.040	18.16	887	5000	
Th	232	2	165	0.040	ppb	0.040	12.76	667	2000	
U	238	2	165	1.185	ppb	1.185	3.16	14255	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	649903	0.32	1639580	39.64	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17408680	0.53	31715490	54.89	60	120	IS Failed
Sc (IS)	45	2	HMI He	589954	0.46	891522	66.17	60	120	
Sc (IS)	45	3	No Gas	27171469	1.08	54087154	50.24	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7049662	0.13	13102322	53.80	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	688923	0.37	1026205	67.13	60	120	
In Internal Standard	115	2	HMI He	2960081	1.36	4195206	70.56	60	120	
Ho-165	165	2	HMI He	13889471	0.27	20206547	68.74	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-2-b
Data File Name	247SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:05:26-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	14.771	ppb	14.771	21.96	93312	500000	
Li	7	2	45	-46.484	ppb	-46.484	-46.30	5094	500000	
Li	7	3	45	-17.809	ppb	-17.809	-27.71	2752139	50000	
Be	9	1	6	-0.003	ppb	-0.003	-1243.41	3	2000	
B	11	1	6	321.688	ppb	321.688	1.27	56628	2000	
Na	23	1	45	87207.710	ppb	87207.710	0.43	179199304	2000	>LDR
Na	23	2	45	77602.288	ppb	77602.288	0.65	11996387	400000	
Mg	24	2	45	58556.455	ppb	58556.455	0.72	4283181	400000	
Al	27	2	45	34.133	ppb	34.133	8.48	597	400000	
K	39	1	45	2989.623	ppb	2989.623	0.81	12784555	400000	
K	39	2	45	4056.833	ppb	4056.833	0.84	150303	400000	
Ca	40	1	45	181064.062	ppb	181064.062	0.10	566528725	400000	
Ca	44	2	45	178857.434	ppb	178857.434	0.70	344675	400000	
Ti	47	2	45	0.859	ppb	0.859	43.33	13	4000	
V	51	2	72	-1.431	ppb	-1.431	-7.37	1150	2000	
Cr	52	2	72	0.338	ppb	0.338	31.17	490	5000	
Mn	55	2	72	1946.499	ppb	1946.499	0.55	666095	10000	
Fe	57	2	72	2910.638	ppb	2910.638	1.60	47084	400000	
Co	59	2	72	0.495	ppb	0.495	5.75	737	2000	
Ni	60	2	72	3.611	ppb	3.611	14.78	1620	5000	
Cu	63	2	72	0.023	ppb	0.023	69.03	877	5000	
Zn	66	2	72	2.932	ppb	2.932	15.04	640	5000	
As	75	2	72	0.152	ppb	0.152	16.46	40	2000	
Se	78	1	72	0.046	ppb	0.046	33.21	15	2000	
Sr	88	2	72	2236.644	ppb	2236.644	0.31	851779	4000	
Zr	90	2	72	75.458	ppb	75.458	18.09	443	1000	
Nb	93	2	72	0.236	ppb	0.236	14.01	1350	200	
Mo	95	2	115	1.845	ppb	1.845	21.99	1217	2000	
Pd	105	2	115	0.035	ppb	0.035	140.74	57	100	
Ag	107	2	115	-0.012	ppb	-0.012	-45.81	23	100	
Cd	111	2	115	0.012	ppb	0.012	173.21	3	2000	
Sn	120	2	115	0.173	ppb	0.173	56.30	247	2000	
Sb	121	2	115	0.016	ppb	0.016	184.91	50	1000	
Ba	137	2	115	1852.114	ppb	1852.114	1.63	444432	5000	
W	182	2	165	0.107	ppb	0.107	11.93	1397	100	
Pt	195	2	165	0.012	ppb	0.012	86.10	57	100	
Tl	205	2	165	0.010	ppb	0.010	56.63	137	2000	
Pb	208	2	165	0.067	ppb	0.067	44.25	1080	5000	
Th	232	2	165	0.040	ppb	0.040	18.91	660	2000	
U	238	2	165	0.727	ppb	0.727	3.82	8730	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	629778	0.42	1639580	38.41	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17286174	0.69	31715490	54.50	60	120	IS Failed
Sc (IS)	45	2	HMI He	584268	0.74	891522	65.54	60	120	
Sc (IS)	45	3	No Gas	26639635	0.26	54087154	49.25	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6977153	0.44	13102322	53.25	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	674404	0.76	1026205	65.72	60	120	
In Internal Standard	115	2	HMI He	2892788	1.41	4195206	68.95	60	120	
Ho-165	165	2	HMI He	13810396	0.40	20206547	68.35	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-2-bSD@5
Data File Name	248SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:09:12-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-9.963	ppb	-9.963	-10.33	90627	500000	
Li	7	2	45	-79.442	ppb	-79.442	-24.87	4801	500000	
Li	7	3	45	-50.896	ppb	-50.896	-14.14	2634964	50000	
Be	9	1	6	-0.024	ppb	-0.024	0.00	0	2000	
B	11	1	6	82.093	ppb	82.093	2.17	15999	2000	
Na	23	1	45	18410.248	ppb	18410.248	0.04	39521203	2000	>LDR
Na	23	2	45	16472.722	ppb	16472.722	1.41	2668177	400000	
Mg	24	2	45	10877.194	ppb	10877.194	1.24	827227	400000	
Al	27	2	45	10.746	ppb	10.746	38.97	213	400000	
K	39	1	45	829.027	ppb	829.027	3.97	8525746	400000	
K	39	2	45	872.734	ppb	872.734	3.19	43826	400000	
Ca	40	1	45	36825.029	ppb	36825.029	0.59	119559015	400000	
Ca	44	2	45	36200.242	ppb	36200.242	1.39	72540	400000	
Ti	47	2	45	0.826	ppb	0.826	43.18	13	4000	
V	51	2	72	-0.848	ppb	-0.848	-9.05	1617	2000	
Cr	52	2	72	0.271	ppb	0.271	21.24	453	5000	
Mn	55	2	72	395.350	ppb	395.350	0.77	141990	10000	
Fe	57	2	72	581.736	ppb	581.736	6.38	9957	400000	
Co	59	2	72	0.068	ppb	0.068	25.79	110	2000	
Ni	60	2	72	0.706	ppb	0.706	37.01	423	5000	
Cu	63	2	72	-0.156	ppb	-0.156	-29.69	703	5000	
Zn	66	2	72	1.973	ppb	1.973	12.94	517	5000	
As	75	2	72	0.014	ppb	0.014	322.01	25	2000	
Se	78	1	72	0.007	ppb	0.007	536.24	9	2000	
Sr	88	2	72	446.114	ppb	446.114	0.60	178292	4000	
Zr	90	2	72	27.867	ppb	27.867	36.74	207	1000	
Nb	93	2	72	-0.074	ppb	-0.074	-48.95	667	200	
Mo	95	2	115	0.274	ppb	0.274	16.22	213	2000	
Pd	105	2	115	0.016	ppb	0.016	104.68	40	100	
Ag	107	2	115	-0.020	ppb	-0.020	-13.38	7	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	-0.003	ppb	-0.003	-2276.45	117	2000	
Sb	121	2	115	0.027	ppb	0.027	152.31	60	1000	
Ba	137	2	115	370.408	ppb	370.408	1.07	92251	5000	
W	182	2	165	0.068	ppb	0.068	136.78	1317	100	
Pt	195	2	165	0.024	ppb	0.024	63.18	87	100	
Tl	205	2	165	-0.001	ppb	-0.001	-451.39	77	2000	
Pb	208	2	165	-0.006	ppb	-0.006	-97.94	567	5000	
Th	232	2	165	0.006	ppb	0.006	190.79	280	2000	
U	238	2	165	0.133	ppb	0.133	10.00	1710	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	678278	0.21	1639580	41.37	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17933112	0.08	31715490	56.54	60	120	IS Failed
Sc (IS)	45	2	HMI He	607351	1.21	891522	68.13	60	120	
Sc (IS)	45	3	No Gas	28136129	0.48	54087154	52.02	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7306577	0.70	13102322	55.77	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	707652	0.62	1026205	68.96	60	120	
In Internal Standard	115	2	HMI He	3002345	2.07	4195206	71.57	60	120	
Ho-165	165	2	HMI He	14166821	0.89	20206547	70.11	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-2-c ms
Data File Name	249SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:12:57-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	87.774	ppb	87.774	6.56	109862	500000	
Li	7	2	45	24.293	ppb	24.293	43.17	6065	500000	
Li	7	3	45	44.832	ppb	44.832	30.53	3209763	50000	
Be	9	1	6	50.669	ppb	50.669	0.85	7992	2000	
B	11	1	6	349.313	ppb	349.313	2.38	60493	2000	
Na	23	1	45	85629.959	ppb	85629.959	0.30	174325377	2000	>LDR
Na	23	2	45	75618.871	ppb	75618.871	0.73	11593933	400000	
Mg	24	2	45	57750.131	ppb	57750.131	0.97	4189380	400000	
Al	27	2	45	463.168	ppb	463.168	9.92	7706	400000	
K	39	1	45	2965.761	ppb	2965.761	1.46	12615586	400000	
K	39	2	45	3977.669	ppb	3977.669	2.37	146384	400000	
Ca	40	1	45	176329.827	ppb	176329.827	0.65	546578632	400000	
Ca	44	2	45	174801.556	ppb	174801.556	0.48	334079	400000	
Ti	47	2	45	2.597	ppb	2.597	49.83	40	4000	
V	51	2	72	37.022	ppb	37.022	1.12	26842	2000	
Cr	52	2	72	37.870	ppb	37.870	2.20	32695	5000	
Mn	55	2	72	1937.709	ppb	1937.709	0.23	660722	10000	
Fe	57	2	72	3139.382	ppb	3139.382	1.47	50599	400000	
Co	59	2	72	36.191	ppb	36.191	1.04	53342	2000	
Ni	60	2	72	38.059	ppb	38.059	4.79	16003	5000	
Cu	63	2	72	35.573	ppb	35.573	3.01	41577	5000	
Zn	66	2	72	37.961	ppb	37.961	3.89	6015	5000	
As	75	2	72	36.214	ppb	36.214	3.21	4089	2000	
Se	78	1	72	36.731	ppb	36.731	2.96	5409	2000	
Sr	88	2	72	2223.963	ppb	2223.963	0.80	843901	4000	
Zr	90	2	72	7753.743	ppb	7753.743	1.38	40028	1000	>LDR
Nb	93	2	72	0.085	ppb	0.085	61.37	997	200	
Mo	95	2	115	35.677	ppb	35.677	2.30	22542	2000	
Pd	105	2	115	0.046	ppb	0.046	83.93	67	100	
Ag	107	2	115	23.093	ppb	23.093	1.88	47535	100	
Cd	111	2	115	38.308	ppb	38.308	1.98	10204	2000	
Sn	120	2	115	41.341	ppb	41.341	3.39	30849	2000	
Sb	121	2	115	40.863	ppb	40.863	3.07	27903	1000	
Ba	137	2	115	1867.317	ppb	1867.317	1.64	439488	5000	
W	182	2	165	12.726	ppb	12.726	1.97	38302	100	
Pt	195	2	165	0.017	ppb	0.017	78.58	67	100	
Tl	205	2	165	40.410	ppb	40.410	1.28	220035	2000	
Pb	208	2	165	40.788	ppb	40.788	0.27	296563	5000	
Th	232	2	165	32.225	ppb	32.225	1.36	362971	2000	
U	238	2	165	34.030	ppb	34.030	1.51	403086	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	620048	0.61	1639580	37.82	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17125289	0.38	31715490	54.00	60	120	IS Failed
Sc (IS)	45	2	HMI He	579433	0.23	891522	64.99	60	120	
Sc (IS)	45	3	No Gas	26400955	0.48	54087154	48.81	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6900827	0.33	13102322	52.67	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	671982	0.43	1026205	65.48	60	120	
In Internal Standard	115	2	HMI He	2837481	1.81	4195206	67.64	60	120	
Ho-165	165	2	HMI He	13762648	0.72	20206547	68.11	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-2-d msd
Data File Name	250SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:16:44-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	85.797	ppb	85.797	8.29	109335	500000	
Li	7	2	45	12.194	ppb	12.194	217.64	5891	500000	
Li	7	3	45	33.966	ppb	33.966	4.98	3137078	50000	
Be	9	1	6	51.768	ppb	51.768	3.74	8159	2000	
B	11	1	6	349.546	ppb	349.546	0.73	60490	2000	
Na	23	1	45	83712.939	ppb	83712.939	0.95	170357077	2000	>LDR
Na	23	2	45	74029.823	ppb	74029.823	0.86	11353534	400000	
Mg	24	2	45	56338.220	ppb	56338.220	1.08	4088031	400000	
Al	27	2	45	506.453	ppb	506.453	5.32	8423	400000	
K	39	1	45	2900.746	ppb	2900.746	2.38	12474113	400000	
K	39	2	45	3833.917	ppb	3833.917	0.49	141587	400000	
Ca	40	1	45	174664.536	ppb	174664.536	1.35	541170605	400000	
Ca	44	2	45	171646.459	ppb	171646.459	1.17	328121	400000	
Ti	47	2	45	3.025	ppb	3.025	49.10	47	4000	
V	51	2	72	36.113	ppb	36.113	1.24	26248	2000	
Cr	52	2	72	37.478	ppb	37.478	2.05	32374	5000	
Mn	55	2	72	1912.286	ppb	1912.286	0.52	652416	10000	
Fe	57	2	72	3076.634	ppb	3076.634	1.00	49613	400000	
Co	59	2	72	36.059	ppb	36.059	0.86	53175	2000	
Ni	60	2	72	38.197	ppb	38.197	2.13	16066	5000	
Cu	63	2	72	35.314	ppb	35.314	1.50	41297	5000	
Zn	66	2	72	38.824	ppb	38.824	7.73	6152	5000	
As	75	2	72	35.915	ppb	35.915	1.41	4057	2000	
Se	78	1	72	37.780	ppb	37.780	3.36	5615	2000	
Sr	88	2	72	2190.175	ppb	2190.175	0.23	831515	4000	
Zr	90	2	72	7939.318	ppb	7939.318	0.83	41007	1000	>LDR
Nb	93	2	72	0.001	ppb	0.001	6343.28	807	200	
Mo	95	2	115	35.671	ppb	35.671	3.53	22723	2000	
Pd	105	2	115	0.039	ppb	0.039	71.52	60	100	
Ag	107	2	115	34.909	ppb	34.909	1.29	72454	100	
Cd	111	2	115	35.748	ppb	35.748	2.35	9604	2000	
Sn	120	2	115	39.946	ppb	39.946	1.84	30070	2000	
Sb	121	2	115	40.930	ppb	40.930	2.14	28189	1000	
Ba	137	2	115	1822.423	ppb	1822.423	0.47	432650	5000	
W	182	2	165	12.266	ppb	12.266	0.77	36688	100	
Pt	195	2	165	0.016	ppb	0.016	15.96	63	100	
Tl	205	2	165	40.708	ppb	40.708	0.50	220032	2000	
Pb	208	2	165	40.811	ppb	40.811	1.18	294540	5000	
Th	232	2	165	32.554	ppb	32.554	0.64	363979	2000	
U	238	2	165	33.869	ppb	33.869	0.24	398243	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	619601	0.39	1639580	37.79	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17118876	0.99	31715490	53.98	60	120	IS Failed
Sc (IS)	45	2	HMI He	579594	0.91	891522	65.01	60	120	
Sc (IS)	45	3	No Gas	26491699	0.20	54087154	48.98	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6964488	0.37	13102322	53.15	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	672338	0.71	1026205	65.52	60	120	
In Internal Standard	115	2	HMI He	2861623	0.82	4195206	68.21	60	120	
Ho-165	165	2	HMI He	13660928	0.33	20206547	67.61	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-2-b PDS
Data File Name	251SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:20:32-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	10.916	ppb	10.916	28.43	91296	500000	
Li	7	2	45	-48.342	ppb	-48.342	-15.04	5038	500000	
Li	7	3	45	-25.593	ppb	-25.593	-4.31	2671736	50000	
Be	9	1	6	255.288	ppb	255.288	0.33	39908	2000	
B	11	1	6	307.220	ppb	307.220	2.82	52807	2000	
Na	23	1	45	85037.751	ppb	85037.751	0.10	172688131	2000	>LDR
Na	23	2	45	74532.373	ppb	74532.373	0.39	11453624	400000	
Mg	24	2	45	56313.786	ppb	56313.786	0.22	4094349	400000	
Al	27	2	45	2135.802	ppb	2135.802	0.48	35517	400000	
K	39	1	45	2905.641	ppb	2905.641	1.06	12458662	400000	
K	39	2	45	3974.277	ppb	3974.277	1.56	146597	400000	
Ca	40	1	45	175275.145	ppb	175275.145	0.38	541950565	400000	
Ca	44	2	45	172549.575	ppb	172549.575	0.66	330520	400000	
Ti	47	2	45	7.563	ppb	7.563	65.61	117	4000	
V	51	2	72	188.547	ppb	188.547	0.81	128252	2000	
Cr	52	2	72	186.269	ppb	186.269	1.49	160200	5000	
Mn	55	2	72	2061.229	ppb	2061.229	0.44	703603	10000	
Fe	57	2	72	4730.827	ppb	4730.827	1.36	76278	400000	
Co	59	2	72	178.834	ppb	178.834	1.73	263836	2000	
Ni	60	2	72	178.066	ppb	178.066	2.27	74539	5000	
Cu	63	2	72	176.419	ppb	176.419	1.62	203031	5000	
Zn	66	2	72	192.219	ppb	192.219	1.93	29728	5000	
As	75	2	72	176.922	ppb	176.922	2.18	19914	2000	
Se	78	1	72	188.756	ppb	188.756	0.57	27636	2000	
Sr	88	2	72	2147.645	ppb	2147.645	0.98	815812	4000	
Zr	90	2	72	39886.589	ppb	39886.589	0.89	205931	1000	>LDR
Nb	93	2	72	2.957	ppb	2.957	2.43	7589	200	
Mo	95	2	115	183.171	ppb	183.171	1.44	115364	2000	
Pd	105	2	115	0.043	ppb	0.043	70.88	63	100	
Ag	107	2	115	37.100	ppb	37.100	1.15	76204	100	
Cd	111	2	115	189.952	ppb	189.952	3.55	50509	2000	
Sn	120	2	115	204.126	ppb	204.126	1.28	151600	2000	
Sb	121	2	115	193.122	ppb	193.122	1.55	131503	1000	
Ba	137	2	115	2016.969	ppb	2016.969	0.71	473866	5000	
W	182	2	165	193.477	ppb	193.477	1.24	564865	100	
Pt	195	2	165	0.081	ppb	0.081	10.82	217	100	
Tl	205	2	165	203.709	ppb	203.709	0.65	1104636	2000	
Pb	208	2	165	200.883	ppb	200.883	1.14	1452638	5000	
Th	232	2	165	12.563	ppb	12.563	1.00	141086	2000	
U	238	2	165	206.996	ppb	206.996	0.94	2442044	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	614719	0.43	1639580	37.49	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17082267	0.25	31715490	53.86	60	120	IS Failed
Sc (IS)	45	2	HMI He	580734	0.63	891522	65.14	60	120	
Sc (IS)	45	3	No Gas	26442340	0.78	54087154	48.89	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6868512	0.30	13102322	52.42	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	672733	1.24	1026205	65.56	60	120	
In Internal Standard	115	2	HMI He	2831883	0.20	4195206	67.50	60	120	
Ho-165	165	2	HMI He	13709333	0.24	20206547	67.85	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	252_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:24:18-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	435.898	ppb	4.403	201510	500	87.2	90	110	>+\-10%
Li	7	2	45	329.944	ppb	13.467	10771	500	66.0	90	110	>+\-10%
Li	7	3	45	358.954	ppb	3.319	5948468	500	71.8	90	110	>+\-10%
Be	9	1	6	63.253	ppb	5.503	10691	50	126.5	90	110	>+\-10%
B	11	1	6	77.056	ppb	5.464	14745	50	154.1	90	110	>+\-10%
Na	23	1	45	5814.941	ppb	0.652	12691155	5000	116.3	90	110	>+\-10%
Na	23	2	45	4660.137	ppb	0.254	762541	5000	93.2	90	110	
Mg	24	2	45	4384.340	ppb	0.477	328570	5000	87.7	90	110	>+\-10%
Al	27	2	45	5399.614	ppb	2.270	92447	5000	108.0	90	110	
K	39	1	45	5861.562	ppb	1.213	19514278	5000	117.2	90	110	>+\-10%
K	39	2	45	5417.633	ppb	0.449	201173	5000	108.4	90	110	
Ca	40	1	45	5540.015	ppb	0.988	17970487	5000	110.8	90	110	>+\-10%
Ca	44	2	45	5394.202	ppb	3.816	10678	5000	107.9	90	110	
Ti	47	2	45	55.190	ppb	16.196	877	50	110.4	90	110	>+\-10%
V	51	2	72	45.919	ppb	2.653	34345	50	91.8	90	110	
Cr	52	2	72	46.790	ppb	0.834	42262	50	93.6	90	110	
Mn	55	2	72	52.334	ppb	0.918	18726	50	104.7	90	110	
Fe	57	2	72	4898.725	ppb	1.393	82639	5000	98.0	90	110	
Co	59	2	72	46.703	ppb	1.105	72099	50	93.4	90	110	
Ni	60	2	72	45.054	ppb	3.034	19818	50	90.1	90	110	
Cu	63	2	72	46.792	ppb	3.565	56997	50	93.6	90	110	
Zn	66	2	72	48.203	ppb	6.938	7946	50	96.4	90	110	
As	75	2	72	47.255	ppb	2.288	5582	50	94.5	90	110	
Se	78	1	72	50.887	ppb	0.655	7936	50	101.8	90	110	
Sr	88	2	72	55.809	ppb	2.436	22211	50	111.6	90	110	>+\-10%
Zr	90	2	72	89.818	ppb	14.036	540	50	179.6	90	110	>+\-10%
Nb	93	2	72	83.535	ppb	1.181	201365	100	83.5	90	110	>+\-10%
Mo	95	2	115	44.972	ppb	2.482	30103	50	89.9	90	110	>+\-10%
Pd	105	2	115	47.252	ppb	2.152	48147	50	94.5	90	110	
Ag	107	2	115	45.805	ppb	1.061	99894	50	91.6	90	110	
Cd	111	2	115	49.495	ppb	7.128	13971	50	99.0	90	110	
Sn	120	2	115	49.873	ppb	1.540	39424	50	99.7	90	110	
Sb	121	2	115	50.537	ppb	2.420	36569	50	101.1	90	110	
Ba	137	2	115	51.698	ppb	6.015	12897	50	103.4	90	110	
W	182	2	165	47.766	ppb	1.199	144847	50	95.5	90	110	
Pt	195	2	165	46.959	ppb	2.281	113694	50	93.9	90	110	
Tl	205	2	165	52.174	ppb	0.475	292235	50	104.3	90	110	
Pb	208	2	165	52.329	ppb	1.038	391231	50	104.7	90	110	
Th	232	2	165	40.189	ppb	0.491	465626	50	80.4	90	110	>+\-10%
U	238	2	165	41.288	ppb	0.438	503100	50	82.6	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	664402	0.38	1639580	40.52	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17891103	0.53	31715490	56.41	60	120	IS Failed
Sc (IS)	45	2	HMI He	598142	0.38	891522	67.09	60	120	
Sc (IS)	45	3	No Gas	27895838	0.70	54087154	51.58	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7310262	0.06	13102322	55.79	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	703825	0.37	1026205	68.59	60	120	
In Internal Standard	115	2	HMI He	3007115	0.61	4195206	71.68	60	120	
Ho-165	165	2	HMI He	14157822	0.66	20206547	70.07	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	253_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:28:05-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-52.602	ppb	-8.2	2634385	10	
Be	9	1	6	0.131	ppb	92.3	27	0.5	
B	11	1	6	17.756	ppb	4.5	3924	0.5	>RL
Na	23	1	45	439.175	ppb	0.9	1281738	25	>RL
Na	23	2	45	321.726	ppb	2.5	78645	25	>RL
Mg	24	2	45	62.045	ppb	7.7	4994	25	>RL
Al	27	2	45	3.228	ppb	36.8	83	15	
K	39	1	45	317.831	ppb	8.6	7398950	50	>RL
K	39	2	45	33.094	ppb	59.5	14198	50	
Ca	40	1	45	21.545	ppb	6.0	101140	50	
Ca	44	2	45	10.151	ppb	173.5	57	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.255	ppb	-39.3	2020	1	
Cr	52	2	72	0.010	ppb	492.0	217	1	
Mn	55	2	72	0.655	ppb	19.0	270	0.5	>RL
Fe	57	2	72	14.958	ppb	7.4	357	25	
Co	59	2	72	0.034	ppb	10.8	57	0.5	
Ni	60	2	72	-0.035	ppb	-193.5	97	1	
Cu	63	2	72	0.007	ppb	1462.6	893	1	
Zn	66	2	72	-0.184	ppb	-143.6	167	5	
As	75	2	72	-0.040	ppb	-49.3	19	1	
Se	78	1	72	0.058	ppb	140.5	17	1	
Sr	88	2	72	0.289	ppb	42.6	147	0.5	
Zr	90	2	72	1.569	ppb	445.3	63	1	>RL
Nb	93	2	72	3.540	ppb	7.8	9327	2	>RL
Mo	95	2	115	0.057	ppb	78.8	70	0.5	
Pd	105	2	115	0.006	ppb	172.3	30	1	
Ag	107	2	115	0.009	ppb	137.3	70	1	
Cd	111	2	115	0.012	ppb	173.2	3	0.5	
Sn	120	2	115	0.237	ppb	25.0	310	1	
Sb	121	2	115	0.568	ppb	16.2	457	0.6	
Ba	137	2	115	0.162	ppb	62.1	43	0.5	
W	182	2	165	0.152	ppb	28.1	1580	1	
Pt	195	2	165	0.050	ppb	8.3	150	1	
Tl	205	2	165	0.027	ppb	12.7	240	0.1	
Pb	208	2	165	0.019	ppb	73.3	757	0.5	
Th	232	2	165	0.031	ppb	19.2	580	1	
U	238	2	165	0.030	ppb	5.6	467	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	679056	0.57	1639580	41.42	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17919186	0.46	31715490	56.50	60	120	IS Failed
Sc (IS)	45	2	HMI He	607610	0.92	891522	68.15	60	120	
Sc (IS)	45	3	No Gas	28276684	0.62	54087154	52.28	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7340259	1.03	13102322	56.02	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	702751	0.60	1026205	68.48	60	120	
In Internal Standard	115	2	HMI He	3047842	0.62	4195206	72.65	60	120	
Ho-165	165	2	HMI He	14276996	0.37	20206547	70.66	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-3-b
Data File Name	254SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:31:53-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-31.413	ppb	-31.413	-5.35	84075	500000	
Li	7	2	45	-85.662	ppb	-85.662	-10.20	4651	500000	
Li	7	3	45	-61.765	ppb	-61.765	-8.50	2474271	50000	
Be	9	1	6	0.075	ppb	0.075	164.21	17	2000	
B	11	1	6	16.172	ppb	16.172	12.66	3541	2000	
Na	23	1	45	795.588	ppb	795.588	2.29	2012500	2000	
Na	23	2	45	625.074	ppb	625.074	2.26	125667	400000	
Mg	24	2	45	61.425	ppb	61.425	6.86	4881	400000	
Al	27	2	45	3.289	ppb	3.289	44.15	83	400000	
K	39	1	45	-1205.461	ppb	-1205.461	-0.88	4007792	400000	
K	39	2	45	36.715	ppb	36.715	78.20	14144	400000	
Ca	40	1	45	106.163	ppb	106.163	0.56	370617	400000	
Ca	44	2	45	81.347	ppb	81.347	16.34	197	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-0.890	ppb	-0.890	-31.56	1567	2000	
Cr	52	2	72	0.199	ppb	0.199	25.69	383	5000	
Mn	55	2	72	0.669	ppb	0.669	26.95	273	10000	
Fe	57	2	72	10.903	ppb	10.903	32.17	287	400000	
Co	59	2	72	0.027	ppb	0.027	36.11	47	2000	
Ni	60	2	72	-0.033	ppb	-0.033	-288.91	97	5000	
Cu	63	2	72	0.325	ppb	0.325	48.21	1267	5000	
Zn	66	2	72	0.802	ppb	0.802	125.92	323	5000	
As	75	2	72	-0.017	ppb	-0.017	-98.77	22	2000	
Se	78	1	72	0.034	ppb	0.034	116.95	13	2000	
Sr	88	2	72	0.410	ppb	0.410	45.61	193	4000	
Zr	90	2	72	0.422	ppb	0.422	2229.76	57	1000	
Nb	93	2	72	2.106	ppb	2.106	6.51	5852	200	
Mo	95	2	115	0.038	ppb	0.038	91.19	57	2000	
Pd	105	2	115	-0.014	ppb	-0.014	-72.59	10	100	
Ag	107	2	115	0.000	ppb	0.000	-5409.86	50	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.100	ppb	0.100	176.42	200	2000	
Sb	121	2	115	0.256	ppb	0.256	7.10	227	1000	
Ba	137	2	115	0.244	ppb	0.244	67.66	63	5000	
W	182	2	165	0.050	ppb	0.050	112.16	1260	100	
Pt	195	2	165	0.053	ppb	0.053	12.16	157	100	
Tl	205	2	165	0.000	ppb	0.000	2227.66	87	2000	
Pb	208	2	165	0.000	ppb	0.000	-2680.36	607	5000	
Th	232	2	165	0.024	ppb	0.024	32.59	493	2000	
U	238	2	165	0.011	ppb	0.011	15.89	220	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	663078	0.28	1639580	40.44	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17681941	0.13	31715490	55.75	60	120	IS Failed
Sc (IS)	45	2	HMI He	599803	0.60	891522	67.28	60	120	
Sc (IS)	45	3	No Gas	27343960	0.14	54087154	50.56	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7227324	0.45	13102322	55.16	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	698572	0.20	1026205	68.07	60	120	
In Internal Standard	115	2	HMI He	3024099	1.23	4195206	72.08	60	120	
Ho-165	165	2	HMI He	14162226	0.31	20206547	70.09	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-4-b
Data File Name	255SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:35:41-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	3.418	ppb	3.418	188.82	89205	500000	
Li	7	2	45	-46.125	ppb	-46.125	-59.52	5011	500000	
Li	7	3	45	-33.877	ppb	-33.877	-21.31	2603692	50000	
Be	9	1	6	0.104	ppb	0.104	123.36	20	2000	
B	11	1	6	235.265	ppb	235.265	2.02	40740	2000	
Na	23	1	45	44956.034	ppb	44956.034	1.02	91126099	2000	>LDR
Na	23	2	45	40198.374	ppb	40198.374	0.86	6116431	400000	
Mg	24	2	45	51915.203	ppb	51915.203	0.24	3730223	400000	
Al	27	2	45	601.690	ppb	601.690	1.49	9907	400000	
K	39	1	45	1992.271	ppb	1992.271	2.24	10513579	400000	
K	39	2	45	3068.605	ppb	3068.605	1.92	114661	400000	
Ca	40	1	45	214425.010	ppb	214425.010	1.59	660640190	400000	
Ca	44	2	45	209179.912	ppb	209179.912	0.50	395959	400000	
Ti	47	2	45	11.396	ppb	11.396	53.89	173	4000	
V	51	2	72	-0.538	ppb	-0.538	-67.47	1727	2000	
Cr	52	2	72	0.514	ppb	0.514	22.60	633	5000	
Mn	55	2	72	2146.811	ppb	2146.811	0.31	725597	10000	
Fe	57	2	72	6272.632	ppb	6272.632	1.29	100110	400000	
Co	59	2	72	0.816	ppb	0.816	9.02	1197	2000	
Ni	60	2	72	1.387	ppb	1.387	15.45	680	5000	
Cu	63	2	72	0.203	ppb	0.203	60.04	1070	5000	
Zn	66	2	72	1.341	ppb	1.341	35.87	390	5000	
As	75	2	72	1.295	ppb	1.295	10.78	167	2000	
Se	78	1	72	0.103	ppb	0.103	81.45	23	2000	
Sr	88	2	72	1864.014	ppb	1864.014	0.27	701116	4000	
Zr	90	2	72	151.571	ppb	151.571	14.65	827	1000	
Nb	93	2	72	1.240	ppb	1.240	17.10	3614	200	
Mo	95	2	115	2.148	ppb	2.148	9.43	1380	2000	
Pd	105	2	115	0.025	ppb	0.025	22.53	47	100	
Ag	107	2	115	-0.012	ppb	-0.012	-25.12	23	100	
Cd	111	2	115	0.013	ppb	0.013	173.21	3	2000	
Sn	120	2	115	0.167	ppb	0.167	34.58	237	2000	
Sb	121	2	115	0.233	ppb	0.233	17.68	197	1000	
Ba	137	2	115	281.577	ppb	281.577	0.69	66120	5000	
W	182	2	165	0.146	ppb	0.146	14.56	1497	100	
Pt	195	2	165	0.067	ppb	0.067	25.82	183	100	
Tl	205	2	165	0.009	ppb	0.009	124.72	130	2000	
Pb	208	2	165	1.359	ppb	1.359	3.48	10396	5000	
Th	232	2	165	0.128	ppb	0.128	5.65	1640	2000	
U	238	2	165	0.061	ppb	0.061	32.11	803	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	617292	0.63	1639580	37.65	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17022571	0.67	31715490	53.67	60	120	IS Failed
Sc (IS)	45	2	HMI He	573909	0.62	891522	64.37	60	120	
Sc (IS)	45	3	No Gas	26401198	0.34	54087154	48.81	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6861049	0.91	13102322	52.37	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	666086	0.32	1026205	64.91	60	120	
In Internal Standard	115	2	HMI He	2830369	1.26	4195206	67.47	60	120	
Ho-165	165	2	HMI He	13687849	0.34	20206547	67.74	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-5-b
Data File Name	256SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:39:28-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-11.485	ppb	-11.485	-30.46	86880	500000	
Li	7	2	45	-62.943	ppb	-62.943	-23.62	4851	500000	
Li	7	3	45	-41.791	ppb	-41.791	-4.82	2576966	50000	
Be	9	1	6	0.144	ppb	0.144	91.78	27	2000	
B	11	1	6	86.281	ppb	86.281	0.86	15505	2000	
Na	23	1	45	17059.739	ppb	17059.739	1.18	35279044	2000	>LDR
Na	23	2	45	15584.017	ppb	15584.017	1.19	2426690	400000	
Mg	24	2	45	18609.134	ppb	18609.134	1.25	1359626	400000	
Al	27	2	45	527.059	ppb	527.059	1.72	8826	400000	
K	39	1	45	621.886	ppb	621.886	4.33	7770245	400000	
K	39	2	45	1818.920	ppb	1818.920	1.20	74201	400000	
Ca	40	1	45	98533.382	ppb	98533.382	0.52	307919415	400000	
Ca	44	2	45	95747.488	ppb	95747.488	1.26	184290	400000	
Ti	47	2	45	8.377	ppb	8.377	34.94	130	4000	
V	51	2	72	2.170	ppb	2.170	21.70	3584	2000	
Cr	52	2	72	0.697	ppb	0.697	5.97	803	5000	
Mn	55	2	72	677.955	ppb	677.955	0.33	233298	10000	
Fe	57	2	72	1222.549	ppb	1222.549	1.71	19945	400000	
Co	59	2	72	0.264	ppb	0.264	13.41	397	2000	
Ni	60	2	72	0.551	ppb	0.551	7.53	340	5000	
Cu	63	2	72	0.279	ppb	0.279	61.64	1177	5000	
Zn	66	2	72	2.392	ppb	2.392	25.90	560	5000	
As	75	2	72	4.621	ppb	4.621	14.28	546	2000	
Se	78	1	72	0.126	ppb	0.126	43.61	27	2000	
Sr	88	2	72	780.496	ppb	780.496	0.38	298883	4000	
Zr	90	2	72	103.883	ppb	103.883	5.63	593	1000	
Nb	93	2	72	0.799	ppb	0.799	16.44	2657	200	
Mo	95	2	115	4.129	ppb	4.129	9.90	2714	2000	
Pd	105	2	115	0.000	ppb	0.000	8797.68	23	100	
Ag	107	2	115	-0.007	ppb	-0.007	-74.30	33	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.192	ppb	0.192	37.76	263	2000	
Sb	121	2	115	0.144	ppb	0.144	35.92	140	1000	
Ba	137	2	115	600.893	ppb	600.893	0.32	145632	5000	
W	182	2	165	0.154	ppb	0.154	54.92	1530	100	
Pt	195	2	165	0.048	ppb	0.048	69.21	140	100	
Tl	205	2	165	0.006	ppb	0.006	109.17	117	2000	
Pb	208	2	165	0.325	ppb	0.325	1.98	2950	5000	
Th	232	2	165	0.116	ppb	0.116	8.31	1517	2000	
U	238	2	165	0.488	ppb	0.488	4.84	5875	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	626557	0.93	1639580	38.21	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17264616	1.07	31715490	54.44	60	120	IS Failed
Sc (IS)	45	2	HMI He	583537	1.28	891522	65.45	60	120	
Sc (IS)	45	3	No Gas	26755545	0.38	54087154	49.47	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6985933	0.56	13102322	53.32	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	678105	0.34	1026205	66.08	60	120	
In Internal Standard	115	2	HMI He	2921366	1.32	4195206	69.64	60	120	
Ho-165	165	2	HMI He	13775272	0.24	20206547	68.17	60	120	

Sample Report

Sample Table

Sample Name	280-116038-c-6-b
Data File Name	257SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:43:15-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	33.043	ppb	33.043	5.27	96378	500000	
Li	7	2	45	-54.414	ppb	-54.414	-21.94	4934	500000	
Li	7	3	45	-9.030	ppb	-9.030	-55.33	2803134	50000	
Be	9	1	6	0.061	ppb	0.061	241.16	13	2000	
B	11	1	6	247.005	ppb	247.005	1.48	43023	2000	
Na	23	1	45	27111.698	ppb	27111.698	0.69	55177053	2000	>LDR
Na	23	2	45	24185.138	ppb	24185.138	1.07	3721427	400000	
Mg	24	2	45	44158.822	ppb	44158.822	0.66	3199881	400000	
Al	27	2	45	15.948	ppb	15.948	19.66	290	400000	
K	39	1	45	1831.575	ppb	1831.575	1.92	10195718	400000	
K	39	2	45	2953.077	ppb	2953.077	2.36	111755	400000	
Ca	40	1	45	121642.663	ppb	121642.663	0.41	375413208	400000	
Ca	44	2	45	117873.575	ppb	117873.575	1.20	225036	400000	
Ti	47	2	45	0.434	ppb	0.434	173.21	7	4000	
V	51	2	72	-1.609	ppb	-1.609	-11.58	1023	2000	
Cr	52	2	72	0.209	ppb	0.209	24.96	377	5000	
Mn	55	2	72	1087.224	ppb	1087.224	0.65	369534	10000	
Fe	57	2	72	1704.600	ppb	1704.600	2.76	27434	400000	
Co	59	2	72	0.049	ppb	0.049	28.01	77	2000	
Ni	60	2	72	-0.024	ppb	-0.024	-246.91	97	5000	
Cu	63	2	72	-0.243	ppb	-0.243	-15.82	567	5000	
Zn	66	2	72	1.062	ppb	1.062	35.48	350	5000	
As	75	2	72	1.802	ppb	1.802	7.47	224	2000	
Se	78	1	72	0.038	ppb	0.038	110.00	13	2000	
Sr	88	2	72	1240.409	ppb	1240.409	0.32	469183	4000	
Zr	90	2	72	12.560	ppb	12.560	59.33	117	1000	
Nb	93	2	72	0.405	ppb	0.405	17.90	1727	200	
Mo	95	2	115	4.945	ppb	4.945	9.28	3147	2000	
Pd	105	2	115	0.032	ppb	0.032	68.80	53	100	
Ag	107	2	115	-0.016	ppb	-0.016	-45.45	13	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.118	ppb	0.118	64.90	200	2000	
Sb	121	2	115	0.085	ppb	0.085	70.58	97	1000	
Ba	137	2	115	260.058	ppb	260.058	1.98	61167	5000	
W	182	2	165	0.076	ppb	0.076	56.14	1280	100	
Pt	195	2	165	0.072	ppb	0.072	17.99	193	100	
Tl	205	2	165	0.001	ppb	0.001	417.81	87	2000	
Pb	208	2	165	0.001	ppb	0.001	1105.90	590	5000	
Th	232	2	165	0.017	ppb	0.017	33.98	397	2000	
U	238	2	165	2.368	ppb	2.368	2.56	27727	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	621342	0.19	1639580	37.90	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17049942	0.39	31715490	53.76	60	120	IS Failed
Sc (IS)	45	2	HMI He	578783	0.18	891522	64.92	60	120	
Sc (IS)	45	3	No Gas	26476136	0.17	54087154	48.95	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6922957	0.29	13102322	52.84	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	669816	0.70	1026205	65.27	60	120	
In Internal Standard	115	2	HMI He	2835265	1.05	4195206	67.58	60	120	
Ho-165	165	2	HMI He	13567431	1.07	20206547	67.14	60	120	

Sample Report

Sample Table

Sample Name	280-116039-c-2-b
Data File Name	258SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:47:02-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-19.358	ppb	-19.358	-32.73	84863	500000	
Li	7	2	45	-80.626	ppb	-80.626	-20.96	4574	500000	
Li	7	3	45	-41.727	ppb	-41.727	-33.75	2556917	50000	
Be	9	1	6	0.019	ppb	0.019	388.00	7	2000	
B	11	1	6	165.481	ppb	165.481	3.74	28518	2000	
Na	23	1	45	140468.249	ppb	140468.249	0.59	287634802	2000	>LDR
Na	23	2	45	124757.754	ppb	124757.754	0.44	19148263	400000	
Mg	24	2	45	28540.226	ppb	28540.226	1.50	2074373	400000	
Al	27	2	45	4.250	ppb	4.250	28.35	97	400000	
K	39	1	45	2627.351	ppb	2627.351	0.31	11985759	400000	
K	39	2	45	3543.323	ppb	3543.323	1.34	132007	400000	
Ca	40	1	45	78092.918	ppb	78092.918	0.50	243680843	400000	
Ca	44	2	45	77104.205	ppb	77104.205	1.00	147658	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-1.415	ppb	-1.415	-29.28	1153	2000	
Cr	52	2	72	0.232	ppb	0.232	78.61	397	5000	
Mn	55	2	72	951.586	ppb	951.586	1.00	323799	10000	
Fe	57	2	72	1208.669	ppb	1208.669	2.83	19501	400000	
Co	59	2	72	0.221	ppb	0.221	14.42	330	2000	
Ni	60	2	72	0.520	ppb	0.520	36.36	323	5000	
Cu	63	2	72	-0.063	ppb	-0.063	-59.74	773	5000	
Zn	66	2	72	0.824	ppb	0.824	113.25	313	5000	
As	75	2	72	1.082	ppb	1.082	15.29	144	2000	
Se	78	1	72	0.038	ppb	0.038	148.85	13	2000	
Sr	88	2	72	923.142	ppb	923.142	0.85	349568	4000	
Zr	90	2	72	6.026	ppb	6.026	112.74	83	1000	
Nb	93	2	72	0.117	ppb	0.117	31.42	1070	200	
Mo	95	2	115	1.633	ppb	1.633	9.92	1080	2000	
Pd	105	2	115	0.024	ppb	0.024	85.93	47	100	
Ag	107	2	115	-0.018	ppb	-0.018	-25.76	10	100	
Cd	111	2	115	0.049	ppb	0.049	44.26	13	2000	
Sn	120	2	115	0.118	ppb	0.118	84.53	203	2000	
Sb	121	2	115	0.073	ppb	0.073	34.52	90	1000	
Ba	137	2	115	385.211	ppb	385.211	2.19	92393	5000	
W	182	2	165	0.162	ppb	0.162	30.70	1540	100	
Pt	195	2	165	0.101	ppb	0.101	50.25	263	100	
Tl	205	2	165	-0.006	ppb	-0.006	-84.63	50	2000	
Pb	208	2	165	0.033	ppb	0.033	36.55	827	5000	
Th	232	2	165	0.004	ppb	0.004	159.77	247	2000	
U	238	2	165	0.234	ppb	0.234	1.85	2837	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	610943	0.65	1639580	37.26	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17238207	0.32	31715490	54.35	60	120	IS Failed
Sc (IS)	45	2	HMI He	580553	0.82	891522	65.12	60	120	
Sc (IS)	45	3	No Gas	26551707	1.20	54087154	49.09	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6902639	0.13	13102322	52.68	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	670559	0.34	1026205	65.34	60	120	
In Internal Standard	115	2	HMI He	2891333	1.15	4195206	68.92	60	120	
Ho-165	165	2	HMI He	13656136	0.21	20206547	67.58	60	120	

Sample Report

Sample Table

Sample Name	280-116039-c-3-b
Data File Name	259SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:50:49-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-6.831	ppb	-6.831	-154.98	87032	500000	
Li	7	2	45	-78.446	ppb	-78.446	-24.53	4561	500000	
Li	7	3	45	-47.163	ppb	-47.163	-5.17	2496123	50000	
Be	9	1	6	-0.003	ppb	-0.003	-1462.29	3	2000	
B	11	1	6	204.981	ppb	204.981	0.86	35300	2000	
Na	23	1	45	69448.665	ppb	69448.665	0.61	141039381	2000	>LDR
Na	23	2	45	61977.065	ppb	61977.065	0.85	9436205	400000	
Mg	24	2	45	35030.366	ppb	35030.366	0.50	2522535	400000	
Al	27	2	45	6.539	ppb	6.539	32.49	133	400000	
K	39	1	45	2717.737	ppb	2717.737	2.39	12061372	400000	
K	39	2	45	3773.784	ppb	3773.784	1.73	138480	400000	
Ca	40	1	45	139695.385	ppb	139695.385	0.29	431790394	400000	
Ca	44	2	45	136052.814	ppb	136052.814	0.77	258095	400000	
Ti	47	2	45	0.220	ppb	0.220	173.21	3	4000	
V	51	2	72	-1.510	ppb	-1.510	-7.50	1080	2000	
Cr	52	2	72	0.221	ppb	0.221	25.63	383	5000	
Mn	55	2	72	886.891	ppb	886.891	1.01	298893	10000	
Fe	57	2	72	1688.679	ppb	1688.679	2.06	26943	400000	
Co	59	2	72	0.279	ppb	0.279	18.05	410	2000	
Ni	60	2	72	3.620	ppb	3.620	12.25	1600	5000	
Cu	63	2	72	-0.151	ppb	-0.151	-81.99	667	5000	
Zn	66	2	72	1.106	ppb	1.106	83.73	353	5000	
As	75	2	72	15.553	ppb	15.553	3.25	1748	2000	
Se	78	1	72	0.057	ppb	0.057	0.23	16	2000	
Sr	88	2	72	1282.219	ppb	1282.219	0.60	480862	4000	
Zr	90	2	72	23.861	ppb	23.861	4.95	173	1000	
Nb	93	2	72	0.082	ppb	0.082	38.68	980	200	
Mo	95	2	115	2.763	ppb	2.763	7.65	1770	2000	
Pd	105	2	115	0.008	ppb	0.008	232.32	30	100	
Ag	107	2	115	-0.018	ppb	-0.018	-26.69	10	100	
Cd	111	2	115	0.025	ppb	0.025	173.21	7	2000	
Sn	120	2	115	0.302	ppb	0.302	44.62	337	2000	
Sb	121	2	115	0.017	ppb	0.017	225.08	50	1000	
Ba	137	2	115	457.058	ppb	457.058	1.85	107451	5000	
W	182	2	165	0.105	ppb	0.105	43.34	1363	100	
Pt	195	2	165	0.190	ppb	0.190	12.09	467	100	
Tl	205	2	165	0.002	ppb	0.002	5.26	90	2000	
Pb	208	2	165	0.005	ppb	0.005	437.09	617	5000	
Th	232	2	165	0.004	ppb	0.004	13.68	243	2000	
U	238	2	165	1.988	ppb	1.988	3.38	23282	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	612779	0.75	1639580	37.37	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17076301	0.64	31715490	53.84	60	120	IS Failed
Sc (IS)	45	2	HMI He	575135	0.71	891522	64.51	60	120	
Sc (IS)	45	3	No Gas	26345328	0.52	54087154	48.71	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6867227	0.12	13102322	52.41	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	664111	0.34	1026205	64.72	60	120	
In Internal Standard	115	2	HMI He	2833701	0.38	4195206	67.55	60	120	
Ho-165	165	2	HMI He	13557043	0.55	20206547	67.09	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	260_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:54:37-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	437.863	ppb	0.903	198742	500	87.6	90	110	>+\-10%
Li	7	2	45	330.913	ppb	4.634	10588	500	66.2	90	110	>+\-10%
Li	7	3	45	355.461	ppb	1.462	5849813	500	71.1	90	110	>+\-10%
Be	9	1	6	63.133	ppb	8.526	10387	50	126.3	90	110	>+\-10%
B	11	1	6	70.268	ppb	3.428	13143	50	140.5	90	110	>+\-10%
Na	23	1	45	5573.036	ppb	0.442	11980698	5000	111.5	90	110	>+\-10%
Na	23	2	45	4485.308	ppb	0.384	721423	5000	89.7	90	110	>+\-10%
Mg	24	2	45	4389.982	ppb	0.289	322947	5000	87.8	90	110	>+\-10%
Al	27	2	45	5389.973	ppb	2.113	90580	5000	107.8	90	110	
K	39	1	45	5830.628	ppb	0.222	19132073	5000	116.6	90	110	>+\-10%
K	39	2	45	5412.602	ppb	0.509	197304	5000	108.3	90	110	
Ca	40	1	45	5512.408	ppb	0.289	17591951	5000	110.2	90	110	>+\-10%
Ca	44	2	45	5244.374	ppb	0.510	10191	5000	104.9	90	110	
Ti	47	2	45	55.161	ppb	13.606	860	50	110.3	90	110	>+\-10%
V	51	2	72	47.226	ppb	2.243	34138	50	94.5	90	110	
Cr	52	2	72	48.180	ppb	2.684	42129	50	96.4	90	110	
Mn	55	2	72	53.623	ppb	3.432	18576	50	107.2	90	110	
Fe	57	2	72	4848.190	ppb	1.648	79190	5000	97.0	90	110	
Co	59	2	72	47.085	ppb	1.531	70381	50	94.2	90	110	
Ni	60	2	72	47.767	ppb	1.882	20338	50	95.5	90	110	
Cu	63	2	72	46.615	ppb	1.699	54983	50	93.2	90	110	
Zn	66	2	72	46.796	ppb	2.912	7476	50	93.6	90	110	
As	75	2	72	45.475	ppb	1.068	5202	50	91.0	90	110	
Se	78	1	72	49.148	ppb	3.104	7487	50	98.3	90	110	
Sr	88	2	72	56.508	ppb	4.099	21778	50	113.0	90	110	>+\-10%
Zr	90	2	72	80.983	ppb	26.340	477	50	162.0	90	110	>+\-10%
Nb	93	2	72	85.571	ppb	0.232	199701	100	85.6	90	110	>+\-10%
Mo	95	2	115	45.456	ppb	1.156	29502	50	90.9	90	110	
Pd	105	2	115	48.054	ppb	1.333	47481	50	96.1	90	110	
Ag	107	2	115	45.399	ppb	1.874	96001	50	90.8	90	110	
Cd	111	2	115	47.865	ppb	5.025	13103	50	95.7	90	110	
Sn	120	2	115	49.887	ppb	3.068	38244	50	99.8	90	110	
Sb	121	2	115	50.346	ppb	3.965	35326	50	100.7	90	110	
Ba	137	2	115	51.359	ppb	3.726	12426	50	102.7	90	110	
W	182	2	165	48.487	ppb	0.390	144194	50	97.0	90	110	
Pt	195	2	165	46.722	ppb	1.497	110941	50	93.4	90	110	
Tl	205	2	165	52.550	ppb	0.846	288688	50	105.1	90	110	
Pb	208	2	165	52.638	ppb	0.779	385967	50	105.3	90	110	
Th	232	2	165	40.882	ppb	0.560	464542	50	81.8	90	110	>+\-10%
U	238	2	165	41.506	ppb	0.841	496022	50	83.0	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	646847	0.82	1639580	39.45	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17601375	0.27	31715490	55.50	60	120	IS Failed
Sc (IS)	45	2	HMI He	587147	0.25	891522	65.86	60	120	
Sc (IS)	45	3	No Gas	27565041	0.50	54087154	50.96	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7140380	0.49	13102322	54.50	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	681486	0.35	1026205	66.41	60	120	
In Internal Standard	115	2	HMI He	2916066	0.68	4195206	69.51	60	120	
Ho-165	165	2	HMI He	13885429	0.62	20206547	68.72	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	261_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T08:58:23-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-54.898	ppb	-4.2	2556486	10	
Be	9	1	6	0.036	ppb	166.2	10	0.5	
B	11	1	6	13.211	ppb	5.5	2984	0.5	>RL
Na	23	1	45	209.172	ppb	1.5	782624	25	>RL
Na	23	2	45	177.983	ppb	4.0	53865	25	>RL
Mg	24	2	45	82.679	ppb	4.8	6358	25	>RL
Al	27	2	45	3.780	ppb	16.1	90	15	
K	39	1	45	262.157	ppb	10.6	7184506	50	>RL
K	39	2	45	51.849	ppb	42.6	14404	50	>RL
Ca	40	1	45	30.804	ppb	1.6	129503	50	
Ca	44	2	45	24.779	ppb	86.3	83	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.259	ppb	-122.1	1980	1	
Cr	52	2	72	0.072	ppb	106.8	267	1	
Mn	55	2	72	0.574	ppb	3.5	237	0.5	>RL
Fe	57	2	72	10.318	ppb	14.6	273	25	
Co	59	2	72	0.048	ppb	32.0	77	0.5	
Ni	60	2	72	-0.078	ppb	-149.9	77	1	
Cu	63	2	72	-0.081	ppb	-102.4	773	1	
Zn	66	2	72	-0.145	ppb	-226.3	170	5	
As	75	2	72	-0.054	ppb	-46.4	17	1	
Se	78	1	72	0.079	ppb	0.5	20	1	
Sr	88	2	72	0.381	ppb	34.9	180	0.5	
Zr	90	2	72	-0.080	ppb	-2721.4	53	1	
Nb	93	2	72	3.775	ppb	9.3	9704	2	>RL
Mo	95	2	115	0.024	ppb	193.3	47	0.5	
Pd	105	2	115	0.043	ppb	109.8	67	1	
Ag	107	2	115	0.005	ppb	197.2	60	1	
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5	
Sn	120	2	115	0.143	ppb	24.0	230	1	
Sb	121	2	115	0.396	ppb	10.5	323	0.6	
Ba	137	2	115	0.017	ppb	268.0	7	0.5	
W	182	2	165	0.141	ppb	53.8	1503	1	
Pt	195	2	165	0.147	ppb	26.1	377	1	
Tl	205	2	165	0.014	ppb	48.5	157	0.1	
Pb	208	2	165	-0.002	ppb	-585.6	580	0.5	
Th	232	2	165	0.025	ppb	43.7	490	1	
U	238	2	165	0.031	ppb	5.7	457	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	660141	0.23	1639580	40.26	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17691453	0.72	31715490	55.78	60	120	IS Failed
Sc (IS)	45	2	HMI He	588810	0.34	891522	66.05	60	120	
Sc (IS)	45	3	No Gas	27641952	1.36	54087154	51.11	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7149095	0.28	13102322	54.56	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	689501	0.59	1026205	67.19	60	120	
In Internal Standard	115	2	HMI He	2972486	1.38	4195206	70.85	60	120	
Ho-165	165	2	HMI He	13878006	0.60	20206547	68.68	60	120	

Sample Report

Sample Table

Sample Name	280-116039-c-4-b
Data File Name	262SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:02:11-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-18.456	ppb	-18.456	-15.91	84195	500000	
Li	7	2	45	-95.584	ppb	-95.584	-12.58	4338	500000	
Li	7	3	45	-45.702	ppb	-45.702	-10.30	2527201	50000	
Be	9	1	6	0.040	ppb	0.040	158.74	10	2000	
B	11	1	6	267.839	ppb	267.839	3.36	45868	2000	
Na	23	1	45	51631.843	ppb	51631.843	0.57	104840805	2000	>LDR
Na	23	2	45	45873.907	ppb	45873.907	0.77	7022720	400000	
Mg	24	2	45	25008.280	ppb	25008.280	1.28	1808885	400000	
Al	27	2	45	8.534	ppb	8.534	29.85	167	400000	
K	39	1	45	2750.994	ppb	2750.994	0.72	12119570	400000	
K	39	2	45	3828.253	ppb	3828.253	1.72	140927	400000	
Ca	40	1	45	159255.893	ppb	159255.893	0.11	491769166	400000	
Ca	44	2	45	152806.233	ppb	152806.233	1.02	291182	400000	
Ti	47	2	45	1.091	ppb	1.091	70.36	17	4000	
V	51	2	72	6.936	ppb	6.936	1.96	6692	2000	
Cr	52	2	72	0.257	ppb	0.257	34.49	417	5000	
Mn	55	2	72	146.491	ppb	146.491	3.69	49640	10000	
Fe	57	2	72	41.353	ppb	41.353	8.79	760	400000	
Co	59	2	72	0.370	ppb	0.370	23.21	547	2000	
Ni	60	2	72	2.894	ppb	2.894	10.60	1307	5000	
Cu	63	2	72	1.265	ppb	1.265	8.42	2280	5000	
Zn	66	2	72	1.032	ppb	1.032	66.26	343	5000	
As	75	2	72	3.504	ppb	3.504	9.45	413	2000	
Se	78	1	72	1.328	ppb	1.328	16.69	203	2000	
Sr	88	2	72	958.474	ppb	958.474	0.84	361221	4000	
Zr	90	2	72	25.708	ppb	25.708	42.86	183	1000	
Nb	93	2	72	2.473	ppb	2.473	7.29	6428	200	
Mo	95	2	115	3.673	ppb	3.673	8.45	2370	2000	
Pd	105	2	115	0.042	ppb	0.042	13.80	63	100	
Ag	107	2	115	-0.010	ppb	-0.010	-26.23	27	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.114	ppb	0.114	103.68	200	2000	
Sb	121	2	115	0.378	ppb	0.378	29.53	300	1000	
Ba	137	2	115	639.165	ppb	639.165	1.11	152032	5000	
W	182	2	165	0.057	ppb	0.057	80.86	1237	100	
Pt	195	2	165	0.105	ppb	0.105	29.53	273	100	
Tl	205	2	165	0.015	ppb	0.015	77.99	160	2000	
Pb	208	2	165	0.026	ppb	0.026	34.71	777	5000	
Th	232	2	165	0.035	ppb	0.035	34.21	593	2000	
U	238	2	165	4.521	ppb	4.521	1.60	53291	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	611468	0.33	1639580	37.29	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17059677	0.33	31715490	53.79	60	120	IS Failed
Sc (IS)	45	2	HMI He	577737	1.00	891522	64.80	60	120	
Sc (IS)	45	3	No Gas	26553352	0.58	54087154	49.09	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6890274	0.28	13102322	52.59	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	667398	0.92	1026205	65.04	60	120	
In Internal Standard	115	2	HMI He	2866907	0.90	4195206	68.34	60	120	
Ho-165	165	2	HMI He	13677374	0.74	20206547	67.69	60	120	

Sample Report

Sample Table

Sample Name	280-116039-c-5-b
Data File Name	263SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:05:58-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-5.445	ppb	-5.445	-100.64	87116	500000	
Li	7	2	45	-54.184	ppb	-54.184	-74.47	4878	500000	
Li	7	3	45	-39.262	ppb	-39.262	-18.89	2539733	50000	
Be	9	1	6	0.063	ppb	0.063	157.55	13	2000	
B	11	1	6	209.743	ppb	209.743	1.56	35727	2000	
Na	23	1	45	63049.951	ppb	63049.951	0.93	127703005	2000	>LDR
Na	23	2	45	56240.275	ppb	56240.275	0.51	8515359	400000	
Mg	24	2	45	41957.490	ppb	41957.490	0.33	3003563	400000	
Al	27	2	45	22.895	ppb	22.895	22.18	400	400000	
K	39	1	45	1710.039	ppb	1710.039	3.52	9928483	400000	
K	39	2	45	2829.160	ppb	2829.160	1.39	106281	400000	
Ca	40	1	45	133571.047	ppb	133571.047	0.45	411670781	400000	
Ca	44	2	45	131577.342	ppb	131577.342	0.20	248155	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-1.584	ppb	-1.584	-21.38	1027	2000	
Cr	52	2	72	0.279	ppb	0.279	15.46	430	5000	
Mn	55	2	72	1199.490	ppb	1199.490	0.87	401868	10000	
Fe	57	2	72	2128.716	ppb	2128.716	1.40	33744	400000	
Co	59	2	72	0.250	ppb	0.250	19.40	367	2000	
Ni	60	2	72	3.400	ppb	3.400	10.29	1500	5000	
Cu	63	2	72	-0.152	ppb	-0.152	-67.33	660	5000	
Zn	66	2	72	1.274	ppb	1.274	51.75	377	5000	
As	75	2	72	4.190	ppb	4.190	15.56	485	2000	
Se	78	1	72	0.039	ppb	0.039	82.04	13	2000	
Sr	88	2	72	1491.873	ppb	1491.873	0.78	556208	4000	
Zr	90	2	72	16.854	ppb	16.854	35.35	137	1000	
Nb	93	2	72	1.409	ppb	1.409	7.55	3964	200	
Mo	95	2	115	5.111	ppb	5.111	2.96	3234	2000	
Pd	105	2	115	0.050	ppb	0.050	75.63	70	100	
Ag	107	2	115	0.001	ppb	0.001	1353.32	50	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.137	ppb	0.137	22.75	213	2000	
Sb	121	2	115	0.018	ppb	0.018	291.15	50	1000	
Ba	137	2	115	675.503	ppb	675.503	0.30	158058	5000	
W	182	2	165	0.141	ppb	0.141	31.96	1460	100	
Pt	195	2	165	0.054	ppb	0.054	7.85	150	100	
Tl	205	2	165	-0.004	ppb	-0.004	-212.79	57	2000	
Pb	208	2	165	0.011	ppb	0.011	202.73	657	5000	
Th	232	2	165	0.029	ppb	0.029	13.98	527	2000	
U	238	2	165	0.353	ppb	0.353	6.69	4178	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	606325	0.49	1639580	36.98	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17027442	1.12	31715490	53.69	60	120	IS Failed
Sc (IS)	45	2	HMI He	571776	0.50	891522	64.13	60	120	
Sc (IS)	45	3	No Gas	26168506	0.43	54087154	48.38	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6828734	0.53	13102322	52.12	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	660249	0.87	1026205	64.34	60	120	
In Internal Standard	115	2	HMI He	2820366	0.15	4195206	67.23	60	120	
Ho-165	165	2	HMI He	13471090	0.46	20206547	66.67	60	120	

Sample Report

Sample Table

Sample Name	280-116039-c-6-b
Data File Name	264SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:09:44-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-10.069	ppb	-10.069	-72.08	85932	500000	
Li	7	2	45	-52.745	ppb	-52.745	-61.42	4951	500000	
Li	7	3	45	-44.023	ppb	-44.023	-14.00	2529937	50000	
Be	9	1	6	-0.024	ppb	-0.024	0.00	0	2000	
B	11	1	6	267.115	ppb	267.115	3.34	45323	2000	
Na	23	1	45	56390.901	ppb	56390.901	0.35	114136578	2000	>LDR
Na	23	2	45	49675.409	ppb	49675.409	0.37	7609294	400000	
Mg	24	2	45	34900.394	ppb	34900.394	1.01	2526539	400000	
Al	27	2	45	7.109	ppb	7.109	44.10	143	400000	
K	39	1	45	2821.929	ppb	2821.929	0.77	12231325	400000	
K	39	2	45	3907.025	ppb	3907.025	1.80	143708	400000	
Ca	40	1	45	94629.113	ppb	94629.113	0.30	291359189	400000	
Ca	44	2	45	93022.245	ppb	93022.245	1.35	177427	400000	
Ti	47	2	45	0.000	ppb	0.000	#DIV/0!	0	4000	
V	51	2	72	-1.522	ppb	-1.522	-24.46	1080	2000	
Cr	52	2	72	0.331	ppb	0.331	18.65	480	5000	
Mn	55	2	72	1113.067	ppb	1113.067	0.30	377568	10000	
Fe	57	2	72	2235.619	ppb	2235.619	1.11	35872	400000	
Co	59	2	72	0.443	ppb	0.443	17.47	653	2000	
Ni	60	2	72	1.003	ppb	1.003	26.23	523	5000	
Cu	63	2	72	-0.137	ppb	-0.137	-11.50	687	5000	
Zn	66	2	72	0.829	ppb	0.829	83.05	313	5000	
As	75	2	72	12.074	ppb	12.074	2.20	1371	2000	
Se	78	1	72	0.002	ppb	0.002	3095.47	8	2000	
Sr	88	2	72	997.938	ppb	997.938	0.25	376717	4000	
Zr	90	2	72	15.841	ppb	15.841	31.03	133	1000	
Nb	93	2	72	0.782	ppb	0.782	27.93	2584	200	
Mo	95	2	115	4.354	ppb	4.354	7.29	2784	2000	
Pd	105	2	115	0.015	ppb	0.015	80.50	37	100	
Ag	107	2	115	-0.021	ppb	-0.021	-12.96	3	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.175	ppb	0.175	42.93	243	2000	
Sb	121	2	115	-0.008	ppb	-0.008	-222.11	33	1000	
Ba	137	2	115	1001.893	ppb	1001.893	1.18	236531	5000	
W	182	2	165	0.097	ppb	0.097	78.60	1347	100	
Pt	195	2	165	0.089	ppb	0.089	14.64	233	100	
Tl	205	2	165	-0.001	ppb	-0.001	-507.02	77	2000	
Pb	208	2	165	0.000	ppb	0.000	-6437.07	583	5000	
Th	232	2	165	0.017	ppb	0.017	24.97	390	2000	
U	238	2	165	0.054	ppb	0.054	12.22	723	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	605921	0.68	1639580	36.96	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17009434	0.36	31715490	53.63	60	120	IS Failed
Sc (IS)	45	2	HMI He	578236	0.77	891522	64.86	60	120	
Sc (IS)	45	3	No Gas	26447773	0.53	54087154	48.90	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6885878	1.29	13102322	52.55	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	668471	0.50	1026205	65.14	60	120	
In Internal Standard	115	2	HMI He	2845811	0.68	4195206	67.83	60	120	
Ho-165	165	2	HMI He	13613556	0.79	20206547	67.37	60	120	

Sample Report

Sample Table

Sample Name	280-116039-c-7-b
Data File Name	265SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:13:31-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-18.853	ppb	-18.853	-22.09	82680	500000	
Li	7	2	45	-90.932	ppb	-90.932	-15.03	4348	500000	
Li	7	3	45	-47.506	ppb	-47.506	-16.14	2458765	50000	
Be	9	1	6	-0.002	ppb	-0.002	-2033.87	3	2000	
B	11	1	6	241.192	ppb	241.192	0.81	40793	2000	
Na	23	1	45	52470.253	ppb	52470.253	0.43	104737895	2000	>LDR
Na	23	2	45	46605.453	ppb	46605.453	0.84	7042676	400000	
Mg	24	2	45	32669.509	ppb	32669.509	0.60	2332709	400000	
Al	27	2	45	15.579	ppb	15.579	26.88	280	400000	
K	39	1	45	1402.659	ppb	1402.659	1.69	9149648	400000	
K	39	2	45	2524.572	ppb	2524.572	0.94	95908	400000	
Ca	40	1	45	188848.271	ppb	188848.271	0.53	573280058	400000	
Ca	44	2	45	182653.685	ppb	182653.685	0.94	343564	400000	
Ti	47	2	45	0.220	ppb	0.220	173.21	3	4000	
V	51	2	72	-1.559	ppb	-1.559	-20.32	1040	2000	
Cr	52	2	72	0.319	ppb	0.319	19.95	463	5000	
Mn	55	2	72	2876.064	ppb	2876.064	0.40	963205	10000	
Fe	57	2	72	3447.613	ppb	3447.613	0.95	54567	400000	
Co	59	2	72	1.788	ppb	1.788	4.11	2594	2000	
Ni	60	2	72	2.624	ppb	2.624	25.30	1180	5000	
Cu	63	2	72	-0.093	ppb	-0.093	-138.61	727	5000	
Zn	66	2	72	1.429	ppb	1.429	34.73	400	5000	
As	75	2	72	29.964	ppb	29.964	3.08	3327	2000	
Se	78	1	72	0.086	ppb	0.086	85.92	20	2000	
Sr	88	2	72	1547.866	ppb	1547.866	1.27	576881	4000	
Zr	90	2	72	37.834	ppb	37.834	43.56	243	1000	
Nb	93	2	72	0.364	ppb	0.364	23.34	1607	200	
Mo	95	2	115	2.894	ppb	2.894	4.27	1860	2000	
Pd	105	2	115	0.042	ppb	0.042	50.13	63	100	
Ag	107	2	115	-0.015	ppb	-0.015	-18.57	17	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.103	ppb	0.103	57.88	190	2000	
Sb	121	2	115	0.027	ppb	0.027	115.03	57	1000	
Ba	137	2	115	1031.570	ppb	1031.570	1.57	243556	5000	
W	182	2	165	0.140	ppb	0.140	31.75	1460	100	
Pt	195	2	165	0.072	ppb	0.072	34.00	193	100	
Tl	205	2	165	0.004	ppb	0.004	49.41	103	2000	
Pb	208	2	165	-0.006	ppb	-0.006	-298.95	540	5000	
Th	232	2	165	0.007	ppb	0.007	169.16	283	2000	
U	238	2	165	1.370	ppb	1.370	2.95	16001	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	603180	0.86	1639580	36.79	60	120	IS Failed
Sc (IS)	45	1	HMI H2	16771422	0.45	31715490	52.88	60	120	IS Failed
Sc (IS)	45	2	HMI He	570285	0.63	891522	63.97	60	120	
Sc (IS)	45	3	No Gas	25981632	0.79	54087154	48.04	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	6802071	0.58	13102322	51.91	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	660028	0.75	1026205	64.32	60	120	
In Internal Standard	115	2	HMI He	2846187	1.47	4195206	67.84	60	120	
Ho-165	165	2	HMI He	13499300	0.20	20206547	66.81	60	120	

Sample Report

Sample Table

Sample Name	280-116039-c-8-b
Data File Name	266SMPL_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:17:21-06:00
Analyst	Trudell, Lynn-Anne
Sample Type	Sample
Dilution	1
Comment	434982 6020
ISTD Ref FileName	158CALB_li110218.D
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	units	FinalConc	Conc %RSD	CPS	LDR	QC Flag
Li	7	1	45	-41.686	ppb	-41.686	-18.67	79722	500000	
Li	7	2	45	-100.349	ppb	-100.349	-17.23	4308	500000	
Li	7	3	45	-69.746	ppb	-69.746	-3.87	2346262	50000	
Be	9	1	6	0.018	ppb	0.018	202.09	7	2000	
B	11	1	6	15.146	ppb	15.146	3.40	3197	2000	
Na	23	1	45	587.400	ppb	587.400	3.15	1540525	2000	
Na	23	2	45	419.141	ppb	419.141	2.03	90404	400000	
Mg	24	2	45	131.817	ppb	131.817	6.67	9877	400000	
Al	27	2	45	20.846	ppb	20.846	14.36	373	400000	
K	39	1	45	-1289.939	ppb	-1289.939	-2.48	3739182	400000	
K	39	2	45	47.866	ppb	47.866	34.73	14114	400000	
Ca	40	1	45	252.090	ppb	252.090	4.63	818969	400000	
Ca	44	2	45	212.753	ppb	212.753	22.78	443	400000	
Ti	47	2	45	0.217	ppb	0.217	173.21	3	4000	
V	51	2	72	-1.369	ppb	-1.369	-6.85	1200	2000	
Cr	52	2	72	0.326	ppb	0.326	10.48	483	5000	
Mn	55	2	72	1.541	ppb	1.541	21.13	567	10000	
Fe	57	2	72	11.153	ppb	11.153	72.45	283	400000	
Co	59	2	72	0.031	ppb	0.031	79.17	50	2000	
Ni	60	2	72	0.138	ppb	0.138	41.28	167	5000	
Cu	63	2	72	0.093	ppb	0.093	56.54	963	5000	
Zn	66	2	72	0.515	ppb	0.515	31.14	270	5000	
As	75	2	72	-0.080	ppb	-0.080	-99.39	14	2000	
Se	78	1	72	0.001	ppb	0.001	8348.86	8	2000	
Sr	88	2	72	0.554	ppb	0.554	38.52	243	4000	
Zr	90	2	72	4.561	ppb	4.561	148.42	77	1000	
Nb	93	2	72	0.176	ppb	0.176	16.21	1220	200	
Mo	95	2	115	0.165	ppb	0.165	67.78	137	2000	
Pd	105	2	115	-0.003	ppb	-0.003	-650.95	20	100	
Ag	107	2	115	-0.020	ppb	-0.020	-27.32	7	100	
Cd	111	2	115	0.000	ppb	0.000	#DIV/0!	0	2000	
Sn	120	2	115	0.068	ppb	0.068	214.15	167	2000	
Sb	121	2	115	0.058	ppb	0.058	84.02	80	1000	
Ba	137	2	115	1.385	ppb	1.385	25.91	337	5000	
W	182	2	165	0.106	ppb	0.106	30.02	1380	100	
Pt	195	2	165	0.109	ppb	0.109	9.18	283	100	
Tl	205	2	165	-0.004	ppb	-0.004	-215.68	60	2000	
Pb	208	2	165	-0.002	ppb	-0.002	-535.04	570	5000	
Th	232	2	165	0.006	ppb	0.006	32.13	270	2000	
U	238	2	165	-0.001	ppb	-0.001	-426.25	77	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	632493	0.52	1639580	38.58	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17285369	0.57	31715490	54.50	60	120	IS Failed
Sc (IS)	45	2	HMI He	582630	0.77	891522	65.35	60	120	
Sc (IS)	45	3	No Gas	26613746	0.75	54087154	49.21	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7015330	1.00	13102322	53.54	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	679576	0.64	1026205	66.22	60	120	
In Internal Standard	115	2	HMI He	2911399	0.72	4195206	69.40	60	120	
Ho-165	165	2	HMI He	13694587	0.37	20206547	67.77	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	267_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:21:08-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	416.039	ppb	1.840	193364	500	83.2	90	110	>+\-10%
Li	7	2	45	337.580	ppb	13.276	10728	500	67.5	90	110	>+\-10%
Li	7	3	45	347.438	ppb	1.939	5753901	500	69.5	90	110	>+\-10%
Be	9	1	6	63.464	ppb	4.412	10417	50	126.9	90	110	>+\-10%
B	11	1	6	56.125	ppb	6.778	10581	50	112.3	90	110	>+\-10%
Na	23	1	45	5270.096	ppb	0.580	11345828	5000	105.4	90	110	
Na	23	2	45	4275.499	ppb	1.135	691866	5000	85.5	90	110	>+\-10%
Mg	24	2	45	4280.704	ppb	0.365	316285	5000	85.6	90	110	>+\-10%
Al	27	2	45	5190.096	ppb	0.419	87601	5000	103.8	90	110	
K	39	1	45	5594.417	ppb	1.490	18620504	5000	111.9	90	110	>+\-10%
K	39	2	45	5263.592	ppb	0.662	193059	5000	105.3	90	110	
Ca	40	1	45	5286.827	ppb	0.825	16870251	5000	105.7	90	110	
Ca	44	2	45	5177.510	ppb	3.472	10104	5000	103.6	90	110	
Ti	47	2	45	44.876	ppb	14.772	703	50	89.8	90	110	>+\-10%
V	51	2	72	44.790	ppb	2.515	32928	50	89.6	90	110	>+\-10%
Cr	52	2	72	46.758	ppb	1.942	41450	50	93.5	90	110	
Mn	55	2	72	48.843	ppb	2.263	17154	50	97.7	90	110	
Fe	57	2	72	4641.776	ppb	1.591	76856	5000	92.8	90	110	
Co	59	2	72	45.656	ppb	0.287	69176	50	91.3	90	110	
Ni	60	2	72	45.002	ppb	3.319	19431	50	90.0	90	110	
Cu	63	2	72	44.738	ppb	2.262	53527	50	89.5	90	110	>+\-10%
Zn	66	2	72	47.146	ppb	1.860	7632	50	94.3	90	110	
As	75	2	72	43.617	ppb	2.611	5058	50	87.2	90	110	>+\-10%
Se	78	1	72	48.653	ppb	2.806	7445	50	97.3	90	110	
Sr	88	2	72	55.570	ppb	2.593	21707	50	111.1	90	110	>+\-10%
Zr	90	2	72	27.567	ppb	47.728	200	50	55.1	90	110	>+\-10%
Nb	93	2	72	84.096	ppb	0.692	198951	100	84.1	90	110	>+\-10%
Mo	95	2	115	44.716	ppb	2.544	29224	50	89.4	90	110	>+\-10%
Pd	105	2	115	46.825	ppb	2.065	46591	50	93.6	90	110	
Ag	107	2	115	44.673	ppb	0.491	95144	50	89.3	90	110	>+\-10%
Cd	111	2	115	46.755	ppb	3.324	12893	50	93.5	90	110	
Sn	120	2	115	49.195	ppb	2.435	37980	50	98.4	90	110	
Sb	121	2	115	48.990	ppb	2.063	34618	50	98.0	90	110	
Ba	137	2	115	50.612	ppb	1.322	12333	50	101.2	90	110	
W	182	2	165	47.323	ppb	1.170	140505	50	94.6	90	110	
Pt	195	2	165	46.349	ppb	1.962	109859	50	92.7	90	110	
Tl	205	2	165	51.323	ppb	0.268	281445	50	102.6	90	110	
Pb	208	2	165	51.778	ppb	1.645	378983	50	103.6	90	110	
Th	232	2	165	39.908	ppb	0.539	452683	50	79.8	90	110	>+\-10%
U	238	2	165	40.643	ppb	0.468	484851	50	81.3	90	110	>+\-10%

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	645223	0.82	1639580	39.35	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17598309	0.45	31715490	55.49	60	120	IS Failed
Sc (IS)	45	2	HMI He	589702	0.80	891522	66.15	60	120	
Sc (IS)	45	3	No Gas	27416010	0.69	54087154	50.69	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7172352	0.28	13102322	54.74	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	690780	0.43	1026205	67.31	60	120	
In Internal Standard	115	2	HMI He	2936609	0.74	4195206	70.00	60	120	
Ho-165	165	2	HMI He	13860821	0.54	20206547	68.60	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	268_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:24:55-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	-61.996	ppb	-6.6	2512435	10	
Be	9	1	6	0.175	ppb	20.0	33	0.5	
B	11	1	6	10.308	ppb	13.3	2450	0.5	>RL
Na	23	1	45	142.779	ppb	2.1	641659	25	>RL
Na	23	2	45	120.168	ppb	5.7	45043	25	>RL
Mg	24	2	45	114.871	ppb	2.9	8763	25	>RL
Al	27	2	45	5.926	ppb	24.9	127	15	
K	39	1	45	282.624	ppb	9.7	7210808	50	>RL
K	39	2	45	40.389	ppb	28.6	14061	50	
Ca	40	1	45	21.262	ppb	2.9	98703	50	
Ca	44	2	45	12.673	ppb	214.3	60	25	
Ti	47	2	45	0.000	ppb	#DIV/0!	0	0.5	
V	51	2	72	-0.092	ppb	-53.9	2104	1	
Cr	52	2	72	0.021	ppb	150.8	223	1	
Mn	55	2	72	0.695	ppb	39.9	280	0.5	>RL
Fe	57	2	72	16.466	ppb	18.3	377	25	
Co	59	2	72	0.034	ppb	44.6	57	0.5	
Ni	60	2	72	0.000	ppb	-19332.9	110	1	
Cu	63	2	72	-0.132	ppb	-31.1	717	1	
Zn	66	2	72	0.041	ppb	628.4	200	5	
As	75	2	72	-0.044	ppb	-23.5	18	1	
Se	78	1	72	0.017	ppb	175.2	11	1	
Sr	88	2	72	0.141	ppb	57.9	87	0.5	
Zr	90	2	72	1.745	ppb	161.1	63	1	>RL
Nb	93	2	72	3.623	ppb	10.8	9390	2	>RL
Mo	95	2	115	0.049	ppb	72.0	63	0.5	
Pd	105	2	115	0.016	ppb	281.7	40	1	
Ag	107	2	115	0.006	ppb	155.0	63	1	
Cd	111	2	115	0.072	ppb	87.1	20	0.5	
Sn	120	2	115	0.177	ppb	41.4	257	1	
Sb	121	2	115	0.312	ppb	37.9	263	0.6	
Ba	137	2	115	0.031	ppb	130.4	10	0.5	
W	182	2	165	0.095	ppb	85.8	1370	1	
Pt	195	2	165	0.100	ppb	31.0	267	1	
Tl	205	2	165	0.016	ppb	41.2	170	0.1	
Pb	208	2	165	0.000	ppb	-14363.1	597	0.5	
Th	232	2	165	0.036	ppb	23.5	613	1	
U	238	2	165	0.026	ppb	40.6	397	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	659289	0.28	1639580	40.21	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17647723	0.92	31715490	55.64	60	120	IS Failed
Sc (IS)	45	2	HMI He	590934	0.22	891522	66.28	60	120	
Sc (IS)	45	3	No Gas	27786853	0.54	54087154	51.37	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7177044	0.33	13102322	54.78	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	692792	0.49	1026205	67.51	60	120	
In Internal Standard	115	2	HMI He	2981659	0.78	4195206	71.07	60	120	
Ho-165	165	2	HMI He	13917292	1.07	20206547	68.88	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	269LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:28:43-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	-47.425	ppb	-21.695	2625076	50	-94.8	70	130	>+/-30%
Be	9	1	6	1.321	ppb	49.570	227	1	132.1	70	130	>+/-30%
Na	23	2	45	170.422	ppb	5.045	53120	50	340.8	70	130	>+/-30%
Mg	24	2	45	152.116	ppb	4.241	11572	50	304.2	70	130	>+/-30%
Al	27	2	45	33.771	ppb	15.113	600	30	112.6	70	130	
K	39	2	45	160.566	ppb	9.952	18272	100	160.6	70	130	>+/-30%
Ca	44	2	45	84.098	ppb	34.124	200	50	168.2	70	130	>+/-30%
V	51	2	72	4.411	ppb	14.295	5211	5	88.2	70	130	
Cr	52	2	72	1.979	ppb	15.404	1957	2	98.9	70	130	
Mn	55	2	72	1.366	ppb	20.528	517	1	136.6	70	130	>+/-30%
Fe	57	2	72	63.652	ppb	14.732	1160	50	127.3	70	130	
Co	59	2	72	0.904	ppb	7.563	1380	1	90.4	70	130	
Ni	60	2	72	2.049	ppb	9.500	993	2	102.5	70	130	
Cu	63	2	72	1.622	ppb	18.490	2790	2	81.1	70	130	
Zn	66	2	72	11.384	ppb	6.883	1997	10	113.8	70	130	
As	75	2	72	4.215	ppb	14.439	512	5	84.3	70	130	
Se	78	1	72	5.003	ppb	7.267	779	5	100.1	70	130	
Sr	88	2	72	1.214	ppb	33.717	507	1	121.4	70	130	
Zr	90	2	72	21.168	ppb	87.618	167	0.5	4233.6	70	130	>+/-30%
Nb	93	2	72	6.500	ppb	2.108	16200	2	325.0	70	130	>+/-30%
Mo	95	2	115	1.658	ppb	15.339	1137	2	82.9	70	130	
Pd	105	2	115	0.013	ppb	43.498	37	1	1.3	70	130	>+/-30%
Ag	107	2	115	4.484	ppb	4.159	9794	5	89.7	70	130	
Cd	111	2	115	0.818	ppb	9.024	230	1	81.8	70	130	
Sn	120	2	115	9.914	ppb	2.689	7903	10	99.1	70	130	
Sb	121	2	115	2.187	ppb	16.825	1614	2	109.3	70	130	
Ba	137	2	115	0.944	ppb	50.724	237	1	94.4	70	130	
W	182	2	165	4.762	ppb	2.784	15233	1	476.2	70	130	>+/-30%
Pt	195	2	165	0.166	ppb	38.662	423	1	16.6	70	130	>+/-30%
Tl	205	2	165	1.051	ppb	4.798	5892	1	105.1	70	130	
Pb	208	2	165	1.071	ppb	2.980	8488	1	107.1	70	130	
Th	232	2	165	1.703	ppb	1.933	19662	2	85.1	70	130	
U	238	2	165	0.844	ppb	3.028	10231	1	84.4	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	663397	0.13	1639580	40.46	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17797663	0.41	31715490	56.12	60	120	IS Failed
Sc (IS)	45	2	HMI He	593621	0.45	891522	66.59	60	120	
Sc (IS)	45	3	No Gas	27731151	0.44	54087154	51.27	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7227521	0.04	13102322	55.16	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	693423	0.03	1026205	67.57	60	120	
In Internal Standard	115	2	HMI He	2996786	1.59	4195206	71.43	60	120	
Ho-165	165	2	HMI He	13966877	0.97	20206547	69.12	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	270WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:32:31-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.004	ppb	-824.6162479	3	0.5
Na	23	2	45	119.870	ppb	4.186917009	45367	25
Mg	24	2	45	107.563	ppb	3.797642894	8289	25
Al	27	2	45	0.786	ppb	77.69737935	40	15
K	39	2	45	44.664	ppb	10.74684921	14328	50
Ca	44	2	45	19.315	ppb	87.43551334	73	25
V	51	2	72	-0.231	ppb	-192.9512688	2010	1
Cr	52	2	72	0.021	ppb	306.1163835	223	1
Mn	55	2	72	0.399	ppb	43.18759234	177	0.5
Fe	57	2	72	9.824	ppb	34.09279995	267	25
Co	59	2	72	0.023	ppb	28.45224543	40	0.5
Ni	60	2	72	-0.008	ppb	-640.5252386	107	1
Cu	63	2	72	-0.190	ppb	-36.004431	650	1
Zn	66	2	72	0.186	ppb	102.0871661	223	5
As	75	2	72	-0.055	ppb	-64.36456614	17	1
Se	78	1	72	0.008	ppb	189.5725417	9	1
Nb	93	2	72	0.326	ppb	20.66279389	1600	2
Mo	95	2	115	-0.011	ppb	-272.0959688	23	0.5
Pd	105	2	115	-0.010	ppb	-147.1485449	13	1
Ag	107	2	115	-0.017	ppb	-63.34926793	13	1
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5
Sn	120	2	115	0.086	ppb	74.26572978	187	1
Sb	121	2	115	0.041	ppb	102.5831806	70	0.6
Ba	137	2	115	0.112	ppb	96.20677607	30	0.5
W	182	2	165	0.034	ppb	95.79890522	1197	1
Pt	195	2	165	0.143	ppb	20.06817328	370	1
Tl	205	2	165	0.000	ppb	5970.976027	83	0.1
Pb	208	2	165	-0.015	ppb	-118.0545079	490	0.5
Th	232	2	165	0.004	ppb	82.03260935	253	1
U	238	2	165	0.001	ppb	355.0880591	100	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	668210	0.52	1639580	40.75	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17739862	0.59	31715490	55.93	60	120	IS Failed
Sc (IS)	45	2	HMI He	595897	1.17	891522	66.84	60	120	
Sc (IS)	45	3	No Gas	27833784	0.59	54087154	51.46	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7242749	0.20	13102322	55.28	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	693602	0.27	1026205	67.59	60	120	
In Internal Standard	115	2	HMI He	2996189	0.94	4195206	71.42	60	120	
Ho-165	165	2	HMI He	13991029	0.61	20206547	69.24	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	271WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:36:20-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	0.036	ppb	167.0745428	10	0.5
Na	23	2	45	128.920	ppb	2.196861769	46474	25
Mg	24	2	45	113.940	ppb	8.168851248	8706	25
Al	27	2	45	1.585	ppb	119.6253445	53	15
K	39	2	45	45.130	ppb	35.37906637	14244	50
Ca	44	2	45	2.431	ppb	1119.847841	40	25
V	51	2	72	-0.214	ppb	-255.8566606	2017	1
Cr	52	2	72	0.037	ppb	236.2834325	237	1
Mn	55	2	72	0.657	ppb	7.276365864	267	0.5
Fe	57	2	72	7.213	ppb	77.60346034	223	25
Co	59	2	72	0.010	ppb	129.6079272	20	0.5
Ni	60	2	72	-0.179	ppb	-19.70546737	33	1
Cu	63	2	72	-0.157	ppb	-60.88759988	687	1
Zn	66	2	72	-0.021	ppb	-836.6911115	190	5
As	75	2	72	-0.066	ppb	-74.75941607	16	1
Se	78	1	72	-0.001	ppb	-2649.406626	8	1
Nb	93	2	72	0.078	ppb	90.37254146	1013	2
Mo	95	2	115	0.004	ppb	888.2215814	33	0.5
Pd	105	2	115	0.006	ppb	589.3758373	30	1
Ag	107	2	115	-0.012	ppb	-77.73526054	23	1
Cd	111	2	115	0.023	ppb	173.2050808	7	0.5
Sn	120	2	115	0.067	ppb	155.4429107	170	1
Sb	121	2	115	0.014	ppb	103.1024594	50	0.6
Ba	137	2	115	0.045	ppb	209.9186397	13	0.5
W	182	2	165	0.028	ppb	80.41448234	1177	1
Pt	195	2	165	0.107	ppb	14.98600797	283	1
Tl	205	2	165	-0.002	ppb	-555.5551546	73	0.1
Pb	208	2	165	-0.014	ppb	-53.10871731	497	0.5
Th	232	2	165	0.002	ppb	127.4694282	237	1
U	238	2	165	0.000	ppb	1286.398652	93	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	667368	0.93	1639580	40.70	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17776574	0.43	31715490	56.05	60	120	IS Failed
Sc (IS)	45	2	HMI He	591780	0.34	891522	66.38	60	120	
Sc (IS)	45	3	No Gas	27805139	0.40	54087154	51.41	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7256524	0.62	13102322	55.38	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	692358	0.96	1026205	67.47	60	120	
In Internal Standard	115	2	HMI He	2971355	1.75	4195206	70.83	60	120	
Ho-165	165	2	HMI He	13958496	0.97	20206547	69.08	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	272WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:40:08-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.024	ppb	0	0	0.5
Na	23	2	45	124.413	ppb	3.628730424	45661	25
Mg	24	2	45	117.776	ppb	5.596552955	8973	25
Al	27	2	45	0.613	ppb	281.5656594	37	15
K	39	2	45	52.930	ppb	30.0445675	14481	50
Ca	44	2	45	9.193	ppb	223.7729795	53	25
V	51	2	72	-0.261	ppb	-82.38019303	1980	1
Cr	52	2	72	0.026	ppb	369.7310926	227	1
Mn	55	2	72	0.221	ppb	64.54522634	113	0.5
Fe	57	2	72	9.299	ppb	26.93774577	257	25
Co	59	2	72	0.017	ppb	38.65522775	30	0.5
Ni	60	2	72	-0.070	ppb	-114.438496	80	1
Cu	63	2	72	-0.176	ppb	-12.45286672	663	1
Zn	66	2	72	0.002	ppb	9965.38328	193	5
As	75	2	72	-0.066	ppb	-90.14303734	16	1
Se	78	1	72	-0.035	ppb	-42.18967337	3	1
Nb	93	2	72	-0.018	ppb	-223.2350654	783	2
Mo	95	2	115	-0.036	ppb	-23.99386782	7	0.5
Pd	105	2	115	-0.010	ppb	-57.65877933	13	1
Ag	107	2	115	-0.008	ppb	-92.68409547	33	1
Cd	111	2	115	0.012	ppb	173.2050808	3	0.5
Sn	120	2	115	0.105	ppb	78.38416427	200	1
Sb	121	2	115	0.023	ppb	38.09885244	57	0.6
Ba	137	2	115	0.031	ppb	131.4650683	10	0.5
W	182	2	165	0.051	ppb	98.33496292	1247	1
Pt	195	2	165	0.107	ppb	23.31488468	283	1
Tl	205	2	165	-0.005	ppb	-71.30245887	53	0.1
Pb	208	2	165	-0.013	ppb	-51.56101446	503	0.5
Th	232	2	165	0.002	ppb	538.4676182	227	1
U	238	2	165	0.004	ppb	109.6066149	133	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	671738	0.25	1639580	40.97	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17731461	0.47	31715490	55.91	60	120	IS Failed
Sc (IS)	45	2	HMI He	590429	0.84	891522	66.23	60	120	
Sc (IS)	45	3	No Gas	28082506	0.04	54087154	51.92	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7254827	0.19	13102322	55.37	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	690283	0.62	1026205	67.27	60	120	
In Internal Standard	115	2	HMI He	2976717	1.11	4195206	70.96	60	120	
Ho-165	165	2	HMI He	13962273	0.56	20206547	69.10	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	273WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:43:55-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.004	ppb	-764.0839353	3	0.5
Na	23	2	45	109.325	ppb	4.048200003	43625	25
Mg	24	2	45	101.438	ppb	3.443000407	7819	25
Al	27	2	45	1.377	ppb	154.0761672	50	15
K	39	2	45	48.599	ppb	16.19372592	14434	50
Ca	44	2	45	-11.330	ppb	-51.94963394	13	25
V	51	2	72	-0.642	ppb	-2.598032874	1734	1
Cr	52	2	72	0.024	ppb	341.1273656	227	1
Mn	55	2	72	0.285	ppb	11.54004293	137	0.5
Fe	57	2	72	6.758	ppb	62.76390092	217	25
Co	59	2	72	0.014	ppb	51.95652778	27	0.5
Ni	60	2	72	-0.117	ppb	-19.95064759	60	1
Cu	63	2	72	-0.200	ppb	-48.50907483	640	1
Zn	66	2	72	-0.217	ppb	-58.8789483	160	5
As	75	2	72	-0.044	ppb	-79.88244119	18	1
Se	78	1	72	-0.001	ppb	-2157.556377	8	1
Nb	93	2	72	-0.074	ppb	-79.65470588	657	2
Mo	95	2	115	0.004	ppb	552.5790774	33	0.5
Pd	105	2	115	-0.014	ppb	-127.2374666	10	1
Ag	107	2	115	-0.017	ppb	-42.16183434	13	1
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5
Sn	120	2	115	0.068	ppb	32.16352406	170	1
Sb	121	2	115	0.000	ppb	56002.50872	40	0.6
Ba	137	2	115	0.018	ppb	133.6798071	7	0.5
W	182	2	165	0.066	ppb	106.0123757	1293	1
Pt	195	2	165	0.117	ppb	19.81150795	307	1
Tl	205	2	165	-0.003	ppb	-34.80119727	67	0.1
Pb	208	2	165	-0.021	ppb	-98.77328584	447	0.5
Th	232	2	165	0.000	ppb	-96896.32489	210	1
U	238	2	165	-0.001	ppb	-154.8073231	77	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	674026	0.44	1639580	41.11	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17843820	0.41	31715490	56.26	60	120	IS Failed
Sc (IS)	45	2	HMI He	594697	0.16	891522	66.71	60	120	
Sc (IS)	45	3	No Gas	28018034	0.62	54087154	51.80	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7321338	0.72	13102322	55.88	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	696158	0.22	1026205	67.84	60	120	
In Internal Standard	115	2	HMI He	2960541	0.26	4195206	70.57	60	120	
Ho-165	165	2	HMI He	14001047	0.25	20206547	69.29	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	274WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:47:42-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	-0.005	ppb	-736.4943824	3	0.5
Na	23	2	45	100.282	ppb	1.486788303	42161	25
Mg	24	2	45	113.577	ppb	2.089042669	8713	25
Al	27	2	45	1.970	ppb	52.79590399	60	15
K	39	2	45	45.681	ppb	24.82418287	14318	50
Ca	44	2	45	22.819	ppb	137.373956	80	25
V	51	2	72	-0.112	ppb	-140.551948	2087	1
Cr	52	2	72	0.041	ppb	158.3113019	240	1
Mn	55	2	72	0.429	ppb	40.09756739	187	0.5
Fe	57	2	72	5.036	ppb	31.26790719	187	25
Co	59	2	72	0.021	ppb	78.15985005	37	0.5
Ni	60	2	72	0.023	ppb	437.7557425	120	1
Cu	63	2	72	-0.115	ppb	-66.04241008	737	1
Zn	66	2	72	-0.064	ppb	-391.3921571	183	5
As	75	2	72	-0.055	ppb	-153.9484687	17	1
Se	78	1	72	0.042	ppb	94.00589079	15	1
Nb	93	2	72	-0.123	ppb	-25.67187817	537	2
Mo	95	2	115	-0.026	ppb	-67.04820898	13	0.5
Pd	105	2	115	-0.007	ppb	-167.3907165	17	1
Ag	107	2	115	-0.018	ppb	-25.33193769	10	1
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5
Sn	120	2	115	0.042	ppb	164.087152	150	1
Sb	121	2	115	0.023	ppb	174.5159311	57	0.6
Ba	137	2	115	0.018	ppb	133.7271624	7	0.5
W	182	2	165	0.032	ppb	130.372711	1187	1
Pt	195	2	165	0.131	ppb	28.70568857	340	1
Tl	205	2	165	0.004	ppb	253.9646015	107	0.1
Pb	208	2	165	-0.008	ppb	-189.9007035	540	0.5
Th	232	2	165	-0.005	ppb	-64.29733222	153	1
U	238	2	165	0.001	ppb	282.454059	103	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	680827	0.50	1639580	41.52	60	120	IS Failed
Sc (IS)	45	1	HMI H2	17821234	0.21	31715490	56.19	60	120	IS Failed
Sc (IS)	45	2	HMI He	594062	0.62	891522	66.63	60	120	
Sc (IS)	45	3	No Gas	28172027	0.86	54087154	52.09	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7288028	0.20	13102322	55.62	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	691765	0.54	1026205	67.41	60	120	
In Internal Standard	115	2	HMI He	2964640	0.40	4195206	70.67	60	120	
Ho-165	165	2	HMI He	13947979	0.47	20206547	69.03	60	120	

Blank Report

Sample Table

Sample Name	rinse-5381155
Data File Name	275WASH_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:51:30-06:00
Sample Type	WASH
Dilution	1
Comment	
ISTD Ref File Name	158CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit
Be	9	1	6	0.015	ppb	455.293294	7	0.5
Na	23	2	45	103.337	ppb	6.060510856	42833	25
Mg	24	2	45	122.834	ppb	6.482156168	9440	25
Al	27	2	45	-0.204	ppb	-429.5333282	23	15
K	39	2	45	33.984	ppb	77.36691322	13977	50
Ca	44	2	45	7.313	ppb	72.58538368	50	25
V	51	2	72	-0.204	ppb	-52.68276547	2027	1
Cr	52	2	72	0.006	ppb	1171.411731	210	1
Mn	55	2	72	0.391	ppb	14.9168965	173	0.5
Fe	57	2	72	7.623	ppb	7.17528964	230	25
Co	59	2	72	0.008	ppb	125.8386764	17	0.5
Ni	60	2	72	-0.086	ppb	-40.60223608	73	1
Cu	63	2	72	-0.248	ppb	-35.06056862	580	1
Zn	66	2	72	-0.192	ppb	-106.2939696	163	5
As	75	2	72	-0.038	ppb	-247.4836691	19	1
Se	78	1	72	0.024	ppb	210.9482201	12	1
Nb	93	2	72	-0.128	ppb	-38.26499234	527	2
Mo	95	2	115	-0.011	ppb	-353.1935364	23	0.5
Pd	105	2	115	-0.007	ppb	-78.64052365	17	1
Ag	107	2	115	-0.020	ppb	-13.44573289	7	1
Cd	111	2	115	0.000	ppb	#DIV/0!	0	0.5
Sn	120	2	115	0.007	ppb	975.4780755	123	1
Sb	121	2	115	-0.029	ppb	-97.13590698	20	0.6
Ba	137	2	115	0.004	ppb	572.6837244	3	0.5
W	182	2	165	0.036	ppb	63.18442019	1207	1
Pt	195	2	165	0.108	ppb	39.28330172	287	1
Tl	205	2	165	-0.002	ppb	-264.5053436	70	0.1
Pb	208	2	165	-0.021	ppb	-11.42630854	450	0.5
Th	232	2	165	-0.009	ppb	-39.70321058	107	1
U	238	2	165	-0.001	ppb	-538.7704327	77	0.5

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	683501	0.17	1639580	41.69	60	120	IS Failed
Sc (IS)	45	1	HMI H2	18041015	0.52	31715490	56.88	60	120	IS Failed
Sc (IS)	45	2	HMI He	596774	1.22	891522	66.94	60	120	
Sc (IS)	45	3	No Gas	28203952	0.81	54087154	52.15	60	120	IS Failed
Ge Internal Standard	72	1	HMI H2	7337597	0.99	13102322	56.00	60	120	IS Failed
Ge Internal Standard	72	2	HMI He	692943	0.41	1026205	67.52	60	120	
In Internal Standard	115	2	HMI He	2982857	1.39	4195206	71.10	60	120	
Ho-165	165	2	HMI He	14028516	0.65	20206547	69.43	60	120	

Calibration Blank Report

Sample Table

Sample Name	ICIS-5408711
Data File Name	276CALB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:55:15-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	86421	0.00
Li	7	2	HMI He	4836	0.09
Li	7	3	No Gas	2597268	0.00
Be	9	1	HMI H2	0	#VALUE!
B	11	1	HMI H2	1864	0.31
Na	23	1	HMI H2	607121	0.00
Na	23	2	HMI He	41790	0.01
Mg	24	2	HMI He	9887	0.02
Al	27	2	HMI He	33	289.31
K	39	2	HMI He	13921	0.01
Ca	44	2	HMI He	60	48.11
Ti	47	2	HMI He	7	2598.08
V	51	2	HMI He	2000	0.43
Cr	52	2	HMI He	220	10.74
Mn	55	2	HMI He	137	34.83
Fe	57	2	HMI He	240	13.78
Co	59	2	HMI He	17	549.91
Ni	60	2	HMI He	97	77.42
Cu	63	2	HMI He	567	2.12
Zn	66	2	HMI He	160	7.81
As	75	2	HMI He	20	385.05
Se	78	1	HMI H2	7	1374.77
Sr	88	2	HMI He	83	22.00
Zr	90	2	HMI He	57	95.14
Nb	93	2	HMI He	553	0.50
Mo	95	2	HMI He	3	5196.15
Pd	105	2	HMI He	10	1000.00
Ag	107	2	HMI He	20	500.00
Cd	111	2	HMI He	7	2598.08
Sn	120	2	HMI He	183	24.95
Sb	121	2	HMI He	43	81.35
Ba	137	2	HMI He	7	2598.08
W	182	2	HMI He	1080	1.42
Pt	195	2	HMI He	257	3.82
Tl	205	2	HMI He	60	27.78
Pb	208	2	HMI He	470	4.59
Th	232	2	HMI He	143	29.74
U	238	2	HMI He	137	21.63

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li-6 Internal Standard	6	1	HMI H2	678837	0.28
Sc (IS)	45	1	HMI H2	17918823	0.42
Sc (IS)	45	2	HMI He	594643	0.97
Sc (IS)	45	3	No Gas	28108541	0.22
Ge Internal Standard	72	1	HMI H2	7308569	0.44
Ge Internal Standard	72	2	HMI He	693703	0.48
In Internal Standard	115	2	HMI He	2985402	0.73
Ho-165	165	2	HMI He	14001897	1.12

Calibration Standard Report

Sample Table

Sample Name	IC-5408712
Data File Name	277CALS_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T09:59:04-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	276CALB_li110218.D
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	HMI H2	312043	0.00
Li	7	2	HMI He	17294	0.02
Li	7	3	No Gas	9502162	0.00
Be	9	1	HMI H2	21079	0.02
B	11	1	HMI H2	23863	0.01
Na	23	1	HMI H2	22305156	0.00
Na	23	2	HMI He	1518834	0.00
Mg	24	2	HMI He	636925	0.00
Al	27	2	HMI He	175805	0.00
K	39	1	HMI H2	30678977	0.00
K	39	2	HMI He	368846	0.00
Ca	40	1	HMI H2	33982771	0.00
Ca	44	2	HMI He	19354	0.01
Ti	47	2	HMI He	1837	0.45
V	51	2	HMI He	66563	0.00
Cr	52	2	HMI He	82168	0.00
Mn	55	2	HMI He	34956	0.00
Fe	57	2	HMI He	156022	0.00
Co	59	2	HMI He	138105	0.00
Ni	60	2	HMI He	39412	0.01
Cu	63	2	HMI He	108385	0.00
Zn	66	2	HMI He	15038	0.01
As	75	2	HMI He	10717	0.00
Se	78	1	HMI H2	15147	0.01
Sr	88	2	HMI He	42622	0.01
Zr	90	2	HMI He	750	0.62
Nb	93	2	HMI He	441369	0.00
Mo	95	2	HMI He	58505	0.00
Pd	105	2	HMI He	88998	0.00
Ag	107	2	HMI He	194153	0.00
Cd	111	2	HMI He	26216	0.00
Sn	120	2	HMI He	76242	0.00
Sb	121	2	HMI He	69206	0.00
Ba	137	2	HMI He	24854	0.02
Nd	146	2	HMI He	85751	0.00
Sm	147	2	HMI He	75254	0.00
Sm	150	2	HMI He	72148	0.00
Gd	156	1	HMI H2	330572	0.00
Gd	157	1	HMI H2	253181	0.00
W	182	2	HMI He	287172	0.00
Pt	195	2	HMI He	227418	0.00
Tl	205	2	HMI He	569117	0.00
Pb	208	2	HMI He	760766	0.00
Th	232	2	HMI He	923628	0.00
U	238	2	HMI He	985768	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	659957	0.43	678837	97.22	60	120	
Sc (IS)	45	1	HMI H2	17737900	0.29	17918823	98.99	60	120	
Sc (IS)	45	2	HMI He	592781	1.03	594643	99.69	60	120	
Sc (IS)	45	3	No Gas	27999588	0.35	28108541	99.61	60	120	
Ge Internal Standard	72	1	HMI H2	7248439	0.93	7308569	99.18	60	120	
Ge Internal Standard	72	2	HMI He	689006	0.45	693703	99.32	60	120	
In Internal Standard	115	2	HMI He	2907767	0.33	2985402	97.40	60	120	
Ho-165	165	2	HMI He	13926167	0.04	14001897	99.46	60	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV-5408713
Data File Name	278_CCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T10:02:50-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	276CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	45	502.672	ppb	1.913	201479	500	100.5	90	110	
Li	7	2	45	525.567	ppb	9.824	11365	500	105.1	90	110	
Li	7	3	45	489.183	ppb	2.070	6008081	500	97.8	90	110	
Be	9	1	6	49.085	ppb	3.635	10534	50	98.2	90	110	
B	11	1	6	37.082	ppb	2.615	10171	50	74.2	90	110	>+\-10%
Na	23	1	45	4958.943	ppb	0.372	11482439	5000	99.2	90	110	
Na	23	2	45	4436.715	ppb	0.127	696460	5000	88.7	90	110	>+\-10%
Mg	24	2	45	4937.581	ppb	0.783	319183	5000	98.8	90	110	
Al	27	2	45	4879.320	ppb	1.012	85724	5000	97.6	90	110	
K	39	1	45	4906.528	ppb	1.018	18962986	5000	98.1	90	110	
K	39	2	45	4978.295	ppb	0.922	190414	5000	99.6	90	110	
Ca	40	1	45	4947.987	ppb	0.624	17030713	5000	99.0	90	110	
Ca	44	2	45	5051.837	ppb	1.592	9800	5000	101.0	90	110	
Ti	47	2	45	39.386	ppb	9.380	727	50	78.8	90	110	>+\-10%
V	51	2	72	47.750	ppb	2.615	32995	50	95.5	90	110	
Cr	52	2	72	48.626	ppb	3.235	40280	50	97.3	90	110	
Mn	55	2	72	49.306	ppb	5.116	17394	50	98.6	90	110	
Fe	57	2	72	4967.087	ppb	0.828	78033	5000	99.3	90	110	
Co	59	2	72	51.283	ppb	2.062	71222	50	102.6	90	110	
Ni	60	2	72	49.148	ppb	0.490	19524	50	98.3	90	110	
Cu	63	2	72	49.865	ppb	0.827	54621	50	99.7	90	110	
Zn	66	2	72	51.058	ppb	8.767	7799	50	102.1	90	110	
As	75	2	72	47.087	ppb	4.099	5083	50	94.2	90	110	
Se	78	1	72	49.018	ppb	3.055	7489	50	98.0	90	110	
Sr	88	2	72	50.193	ppb	1.750	21554	50	100.4	90	110	
Zr	90	2	72	7.169	ppb	80.604	107	50	14.3	90	110	>+\-10%
Nb	93	2	72	100.583	ppb	1.900	223440	100	100.6	90	110	
Mo	95	2	115	50.129	ppb	1.756	29505	50	100.3	90	110	
Pd	105	2	115	53.140	ppb	0.514	47588	50	106.3	90	110	
Ag	107	2	115	49.537	ppb	1.018	96771	50	99.1	90	110	
Cd	111	2	115	48.829	ppb	1.842	12883	50	97.7	90	110	
Sn	120	2	115	49.566	ppb	2.758	38110	50	99.1	90	110	
Sb	121	2	115	50.696	ppb	0.568	35323	50	101.4	90	110	
Ba	137	2	115	49.486	ppb	3.448	12379	50	99.0	90	110	
W	182	2	165	49.878	ppb	0.992	144565	50	99.8	90	110	
Pt	195	2	165	49.492	ppb	0.530	113300	50	99.0	90	110	
Tl	205	2	165	49.631	ppb	1.425	284037	50	99.3	90	110	
Pb	208	2	165	49.981	ppb	0.344	382565	50	100.0	90	110	
Th	232	2	165	49.500	ppb	0.714	459779	50	99.0	90	110	
U	238	2	165	49.416	ppb	0.165	489876	50	98.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	671934	0.30	678837	98.98	60	120	
Sc (IS)	45	1	HMI H2	17923193	0.77	17918823	100.02	60	120	
Sc (IS)	45	2	HMI He	592225	0.85	594643	99.59	60	120	
Sc (IS)	45	3	No Gas	28178620	0.15	28108541	100.25	60	120	
Ge Internal Standard	72	1	HMI H2	7306967	0.40	7308569	99.98	60	120	
Ge Internal Standard	72	2	HMI He	692734	0.68	693703	99.86	60	120	
In Internal Standard	115	2	HMI He	2925542	0.95	2985402	97.99	60	120	
Ho-165	165	2	HMI He	14002665	0.15	14001897	100.01	60	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB-5408711
Data File Name	279_CCB_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T10:06:36-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	276CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Upper Limit	QC Flag
Li	7	3	45	7.671	ppb	68.7	2681818	10	
Be	9	1	6	0.167	ppb	16.4	37	0.5	
B	11	1	6	-0.200	ppb	-373.3	1840	0.5	
Na	23	1	45	-8.445	ppb	-21.2	588940	25	
Na	23	2	45	-2.971	ppb	-155.4	41616	25	
Mg	24	2	45	-19.198	ppb	-31.0	8733	25	
Al	27	2	45	5.639	ppb	101.1	133	15	
K	39	1	45	13.274	ppb	288.6	7402901	50	
K	39	2	45	15.229	ppb	7.2	14555	50	
Ca	40	1	45	1.532	ppb	16.1	85952	50	
Ca	44	2	45	-20.786	ppb	-24.3	20	25	
Ti	47	2	45	-0.365	ppb	0.0	0	0.5	
V	51	2	72	0.139	ppb	82.7	2097	1	
Cr	52	2	72	0.016	ppb	384.7	233	1	
Mn	55	2	72	0.113	ppb	143.3	177	0.5	
Fe	57	2	72	1.871	ppb	237.2	270	25	
Co	59	2	72	0.029	ppb	38.2	57	0.5	
Ni	60	2	72	-0.034	ppb	-185.8	83	1	
Cu	63	2	72	0.112	ppb	77.9	690	1	
Zn	66	2	72	0.086	ppb	247.2	173	5	
As	75	2	72	-0.073	ppb	-66.0	12	1	
Se	78	1	72	0.043	ppb	91.7	13	1	
Sr	88	2	72	0.054	ppb	89.4	107	0.5	
Zr	90	2	72	-1.942	ppb	-112.1	43	1	
Nb	93	2	72	5.156	ppb	9.7	12029	2	>RL
Mo	95	2	115	0.089	ppb	10.3	57	0.5	
Pd	105	2	115	0.088	ppb	62.4	90	1	
Ag	107	2	115	0.005	ppb	101.3	30	1	
Cd	111	2	115	0.012	ppb	525.0	10	0.5	
Sn	120	2	115	0.074	ppb	153.0	240	1	
Sb	121	2	115	0.457	ppb	9.9	367	0.6	
Ba	137	2	115	-0.026	ppb	0.0	0	0.5	
W	182	2	165	0.160	ppb	34.6	1534	1	
Pt	195	2	165	-0.032	ppb	-28.3	183	1	
Tl	205	2	165	0.019	ppb	27.5	167	0.1	
Pb	208	2	165	0.019	ppb	42.7	610	0.5	
Th	232	2	165	0.057	ppb	30.0	667	1	
U	238	2	165	0.018	ppb	31.1	317	0.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	686782	0.78	678837	101.17	60	120	
Sc (IS)	45	1	HMI H2	17928799	0.08	17918823	100.06	60	120	
Sc (IS)	45	2	HMI He	598376	0.75	594643	100.63	60	120	
Sc (IS)	45	3	No Gas	28440503	0.41	28108541	101.18	60	120	
Ge Internal Standard	72	1	HMI H2	7350246	0.49	7308569	100.57	60	120	
Ge Internal Standard	72	2	HMI He	695628	0.16	693703	100.28	60	120	
In Internal Standard	115	2	HMI He	2975554	0.58	2985402	99.67	60	120	
Ho-165	165	2	HMI He	13951751	0.41	14001897	99.64	60	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	CCVL-5408715
Data File Name	280LCCV_li110218.D
Data Path Name	D:\MassHunter Data\li110218x.b
Acq Date Time	2018-11-03T10:10:24-06:00
Sample Type	LLCCV
Dilution	1
Comment	
ISTD Ref File Name	276CALB_li110218.D
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	IS	Conc	Units	Conc %RSD	CPS	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	3	45	9.380	ppb	96.675	2696219	50	18.8	70	130	>+/-30%
Be	9	1	6	1.039	ppb	22.376	230	1	103.9	70	130	
Na	23	2	45	42.073	ppb	8.646	48293	50	84.1	70	130	
Mg	24	2	45	30.604	ppb	31.814	11875	50	61.2	70	130	>+/-30%
Al	27	2	45	32.359	ppb	15.551	607	30	107.9	70	130	
K	39	2	45	97.051	ppb	13.663	17471	100	97.1	70	130	
Ca	44	2	45	63.216	ppb	45.044	183	50	126.4	70	130	
V	51	2	72	5.237	ppb	9.545	5428	5	104.7	70	130	
Cr	52	2	72	1.881	ppb	8.687	1780	2	94.0	70	130	
Mn	55	2	72	0.965	ppb	8.562	477	1	96.5	70	130	
Fe	57	2	72	50.037	ppb	20.551	1030	50	100.1	70	130	
Co	59	2	72	1.139	ppb	12.586	1607	1	113.9	70	130	
Ni	60	2	72	1.968	ppb	18.423	880	2	98.4	70	130	
Cu	63	2	72	2.092	ppb	7.397	2850	2	104.6	70	130	
Zn	66	2	72	11.230	ppb	4.137	1850	10	112.3	70	130	
As	75	2	72	4.762	ppb	9.924	535	5	95.2	70	130	
Se	78	1	72	5.003	ppb	3.938	772	5	100.1	70	130	
Sr	88	2	72	0.983	ppb	9.909	507	1	98.3	70	130	
Zr	90	2	72	6.614	ppb	26.580	103	0.5	1322.7	70	130	>+/-30%
Nb	93	2	72	9.520	ppb	4.537	21771	2	476.0	70	130	>+/-30%
Mo	95	2	115	2.248	ppb	5.256	1350	2	112.4	70	130	
Pd	105	2	115	0.037	ppb	96.134	43	1	3.7	70	130	>+/-30%
Ag	107	2	115	5.281	ppb	2.676	10518	5	105.6	70	130	
Cd	111	2	115	0.956	ppb	19.122	263	1	95.6	70	130	
Sn	120	2	115	10.485	ppb	9.347	8343	10	104.8	70	130	
Sb	121	2	115	2.313	ppb	7.777	1680	2	115.6	70	130	
Ba	137	2	115	0.906	ppb	29.227	237	1	90.6	70	130	
W	182	2	165	5.086	ppb	2.915	15777	1	508.6	70	130	>+/-30%
Pt	195	2	165	-0.006	ppb	-625.410	243	1	-0.6	70	130	>+/-30%
Tl	205	2	165	1.022	ppb	3.557	5932	1	102.2	70	130	
Pb	208	2	165	1.037	ppb	5.300	8432	1	103.7	70	130	
Th	232	2	165	2.129	ppb	3.237	19996	2	106.5	70	130	
U	238	2	165	1.055	ppb	2.118	10642	1	105.5	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li-6 Internal Standard	6	1	HMI H2	692798	0.20	678837	102.06	60	120	
Sc (IS)	45	1	HMI H2	18047083	0.70	17918823	100.72	60	120	
Sc (IS)	45	2	HMI He	597874	0.50	594643	100.54	60	120	
Sc (IS)	45	3	No Gas	28467851	0.56	28108541	101.28	60	120	
Ge Internal Standard	72	1	HMI H2	7325138	0.74	7308569	100.23	60	120	
Ge Internal Standard	72	2	HMI He	696759	0.84	693703	100.44	60	120	
In Internal Standard	115	2	HMI He	2977387	1.26	2985402	99.73	60	120	
Ho-165	165	2	HMI He	14061719	0.38	14001897	100.43	60	120	

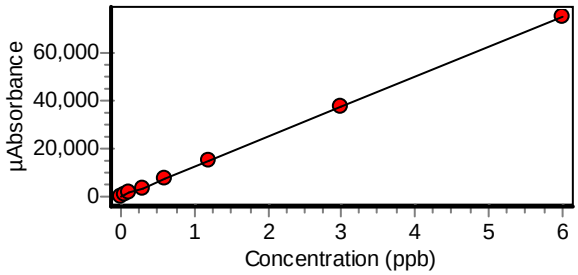
Report Generated By CETAC QuickTrace
Analyst: bacat
Worksheet file: C:\Program Files\QuickTrace\Worksheets\2018\11-Nov\181103aa.wsz
Date Started: 11/3/2018 2:11:57 PM
Comment:

Results

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
IC 280-436183/1-A	STD	11/03/18 04:07:01 pm	0.000	229	1.24		1.00	1.00	1.00
IC 280-436183/2-A	STD	11/03/18 04:09:14 pm	0.060	913	1.67		1.00	1.00	1.00
IC 280-436183/3-A	STD	11/03/18 04:11:28 pm	0.120	1753	1.67		1.00	1.00	1.00
IC 280-436183/4-A	STD	11/03/18 04:13:41 pm	0.300	3926	1.13		1.00	1.00	1.00
IC 280-436183/5-A	STD	11/03/18 04:15:56 pm	0.600	7635	1.86		1.00	1.00	1.00
IC 280-436183/6-A	STD	11/03/18 04:18:11 pm	1.200	15082	1.44		1.00	1.00	1.00
IC 280-436183/7-A	STD	11/03/18 04:20:26 pm	3.000	37352	1.89		1.00	1.00	1.00
IC 280-436183/8-A	STD	11/03/18 04:22:42 pm	6.000	74563	1.91		1.00	1.00	1.00

Calibration

Equation: A = 212.797 + 12389.250C
R2: 1.00000
SEE: 32.0618
Flags:



ICV 280-436183/9-A	ICV	11/03/18 04:25:16 pm	2.399	29933	1.87		1.00	1.00	1.00
% Recovery 99.95									
ICB 280-436183/10-A	ICB	11/03/18 04:27:28 pm	-0.012	68	12.18		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol. ODF
CRA 280-436183/11-A	CRDL	11/03/18 04:29:41 pm	0.125	1766	1.69		1.00	1.00
% Recovery 104.47							1.00	
CCV 280-436183/12-A	CCV	11/03/18 04:31:57 pm	3.026	37705	0.96		1.00	1.00
% Recovery 100.87							1.00	
CCB 280-436183/13-A	CCB	11/03/18 04:34:09 pm	-0.010	87	56.69		1.00	1.00
							1.00	
MB 280-436184/1-A	UNK	11/03/18 04:36:21 pm	-0.021	-41	16.41		1.00	1.00
							1.00	
LCS 280-436184/2-A	UNK	11/03/18 04:38:34 pm	2.938	36610	2.11		1.00	1.00
							1.00	
280-115924-E-1-E	UNK	11/03/18 04:40:47 pm	-0.027	-122	34.78		1.00	1.00
							1.00	
280-115924-E-2-C	UNK	11/03/18 04:43:00 pm	-0.023	-67	18.33		1.00	1.00
							1.00	
280-115924-E-2-D MS	UNK	11/03/18 04:45:13 pm	2.933	36544	3.34		1.00	1.00
							1.00	
280-115924-E-2-E MSD	UNK	11/03/18 04:47:27 pm	3.009	37497	1.60		1.00	1.00
							1.00	
280-115924-E-3-C	UNK	11/03/18 04:49:40 pm	-0.039	-274	2.20		1.00	1.00
							1.00	
280-115924-E-4-C	UNK	11/03/18 04:51:54 pm	-0.021	-45	7.36		1.00	1.00
							1.00	
280-115924-E-5-C	UNK	11/03/18 04:54:09 pm	-0.014	35	51.74		1.00	1.00
							1.00	
280-115924-E-6-C	UNK	11/03/18 04:56:23 pm	-0.014	36	3.05		1.00	1.00
							1.00	
CCV 280-436183/12-A	CCV	11/03/18 04:58:39 pm	2.999	37373	2.61		1.00	1.00
% Recovery 99.98							1.00	
CCB 280-436183/13-A	CCB	11/03/18 05:00:51 pm	-0.011	77	6.10		1.00	1.00
							1.00	
280-115924-E-7-C	UNK	11/03/18 05:03:06 pm	-0.017	1	132.51		1.00	1.00
							1.00	
280-115924-E-8-C	UNK	11/03/18 05:05:21 pm	-0.016	15	23.22		1.00	1.00
							1.00	

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
280-115924-E-9-C	UNK	11/03/18 05:07:33 pm	-0.013	46	4.50		1.00	1.00	1.00
280-115924-E-10-C	UNK	11/03/18 05:09:46 pm	-0.011	75	1.06		1.00	1.00	1.00
280-115924-E-11-C	UNK	11/03/18 05:11:58 pm	-0.013	55	4.01		1.00	1.00	1.00
280-115924-E-12-C	UNK	11/03/18 05:14:10 pm	-0.010	91	18.58		1.00	1.00	1.00
280-115924-E-13-C	UNK	11/03/18 05:16:23 pm	-0.013	52	3.65		1.00	1.00	1.00
280-115924-E-14-C	UNK	11/03/18 05:18:36 pm	-0.010	91	3.46		1.00	1.00	1.00
280-115924-E-15-C	UNK	11/03/18 05:20:50 pm	-0.015	24	10.78		1.00	1.00	1.00
280-115924-E-16-C	UNK	11/03/18 05:23:03 pm	-0.016	12	20.72		1.00	1.00	1.00
CCV 280-436183/12-A	CCV	11/03/18 05:25:19 pm	2.880	35892	3.45		1.00	1.00	1.00
% Recovery 95.99									
CCB 280-436183/13-A	CCB	11/03/18 05:27:32 pm	-0.008	111	1.54		1.00	1.00	1.00
280-115924-E-17-C	UNK	11/03/18 05:29:46 pm	-0.017	1	780.65		1.00	1.00	1.00
MB 280-436185/1-A	UNK	11/03/18 05:32:00 pm	-0.015	22	3.42		1.00	1.00	1.00
LCS 280-436185/2-A	UNK	11/03/18 05:34:14 pm	2.999	37371	0.78		1.00	1.00	1.00
280-116007-D-1-C	UNK	11/03/18 05:36:29 pm	-0.034	-215	6.83		1.00	1.00	1.00
280-116007-D-2-C	UNK	11/03/18 05:38:41 pm	-0.020	-33	2.77		1.00	1.00	1.00
280-116007-D-2-D MS	UNK	11/03/18 05:40:54 pm	2.959	36875	2.01		1.00	1.00	1.00
280-116007-D-2-E MSD	UNK	11/03/18 05:43:07 pm	2.945	36698	1.96		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
280-116007-D-3-C	UNK	11/03/18 05:45:19 pm	-0.042	-311	3.19		1.00	1.00	1.00
280-116007-D-4-C	UNK	11/03/18 05:47:32 pm	-0.021	-54	43.16		1.00	1.00	1.00
280-116007-D-5-C	UNK	11/03/18 05:49:45 pm	-0.021	-45	9.27		1.00	1.00	1.00
CCV 280-436183/12-A	CCV	11/03/18 05:52:01 pm	3.010	37506	1.34		1.00	1.00	1.00
% Recovery 100.34									
CCB 280-436183/13-A	CCB	11/03/18 05:54:14 pm	-0.014	41	20.89		1.00	1.00	1.00
280-116007-D-6-C	UNK	11/03/18 05:56:27 pm	-0.019	-25	29.06		1.00	1.00	1.00
280-116007-D-7-C	UNK	11/03/18 05:58:41 pm	-0.018	-4	176.42		1.00	1.00	1.00
280-116007-D-8-C	UNK	11/03/18 06:00:55 pm	-0.013	50	52.19		1.00	1.00	1.00
280-116007-D-9-C	UNK	11/03/18 06:03:09 pm	-0.014	41	5.39		1.00	1.00	1.00
280-116007-D-10-C	UNK	11/03/18 06:05:24 pm	-0.012	63	18.43		1.00	1.00	1.00
280-116007-D-11-C	UNK	11/03/18 06:07:39 pm	-0.014	35	14.83		1.00	1.00	1.00
280-116007-D-12-C	UNK	11/03/18 06:09:51 pm	-0.013	52	17.11		1.00	1.00	1.00
280-116007-D-13-C	UNK	11/03/18 06:12:04 pm	-0.015	32	1.00		1.00	1.00	1.00
280-116007-D-14-C	UNK	11/03/18 06:14:17 pm	-0.019	-22	36.08		1.00	1.00	1.00
280-116007-D-15-C	UNK	11/03/18 06:16:29 pm	-0.016	9	72.42		1.00	1.00	1.00
CCV 280-436183/12-A	CCV	11/03/18 06:18:45 pm	2.973	37045	1.43		1.00	1.00	1.00
% Recovery 99.10									
CCB 280-436183/13-A	CCB	11/03/18 06:20:57 pm	0.001	231	4.21		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
280-116007-D-16-C	UNK	11/03/18 06:23:10 pm	-0.018	-10	73.73		1.00	1.00	1.00
280-116007-D-17-C	UNK	11/03/18 06:25:23 pm	-0.016	17	22.78		1.00	1.00	1.00
MB 280-436187/1-A	UNK	11/03/18 06:27:36 pm	-0.019	-27	13.54		1.00	1.00	1.00
LCS 280-436187/2-A	UNK	11/03/18 06:29:50 pm	2.994	37311	1.28		1.00	1.00	1.00
LCSD 280-436187/3-A	UNK	11/03/18 06:32:04 pm	3.062	38154	1.11		1.00	1.00	1.00
280-115712-G-1-G	UNK	11/03/18 06:34:18 pm	-0.037	-244	3.68		1.00	1.00	1.00
280-115712-G-1-G SD@5	UNK	11/03/18 06:36:33 pm	-0.018	-5	92.15		1.00	1.00	1.00
280-115712-G-1-H MS	UNK	11/03/18 06:38:48 pm	3.007	37467	1.12		1.00	1.00	1.00
280-115712-G-1-I MSD	UNK	11/03/18 06:41:00 pm	2.978	37110	1.53		1.00	1.00	1.00
280-115712-G-1-G PDS	UNK	11/03/18 06:43:14 pm	2.672	33319	3.03		1.00	1.00	1.00
CCV 280-436183/12-A	CCV	11/03/18 06:45:29 pm	2.984	37180	0.62		1.00	1.00	1.00
% Recovery 99.46									
CCB 280-436183/13-A	CCB	11/03/18 06:47:41 pm	-0.029	-147	7.81		1.00	1.00	1.00
280-115712-G-2-C	UNK	11/03/18 06:49:54 pm	-0.021	-45	10.39		1.00	1.00	1.00
280-115712-G-3-C	UNK	11/03/18 06:52:06 pm	0.103	1483	0.69		1.00	1.00	1.00
280-115712-G-4-C	UNK	11/03/18 06:54:19 pm	-0.015	31	28.33		1.00	1.00	1.00
280-115712-G-5-C	UNK	11/03/18 06:56:32 pm	-0.015	23	28.46		1.00	1.00	1.00
280-115712-G-6-C	UNK	11/03/18 06:58:46 pm	-0.014	39	43.37		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
280-115712-G-7-C	UNK	11/03/18 07:01:00 pm	-0.015	32	11.13		1.00	1.00	1.00
280-115950-C-1-C	UNK	11/03/18 07:03:14 pm	-0.015	27	17.86		1.00	1.00	1.00
280-115950-G-2-G	UNK	11/03/18 07:05:28 pm	-0.015	27	27.53		1.00	1.00	1.00
280-115950-A-2-A MS	UNK	11/03/18 07:07:43 pm	3.005	37442	1.52		1.00	1.00	1.00
280-115950-A-2-B MSD	UNK	11/03/18 07:09:57 pm	3.035	37815	1.17		1.00	1.00	1.00
CCV 280-436183/12-A	CCV	11/03/18 07:12:14 pm	2.596	32377	1.35		1.00	1.00	1.00
% Recovery 86.54									
CCB 280-436183/13-A	CCB	11/03/18 07:14:28 pm	-0.028	-128	11.61		1.00	1.00	1.00
280-115950-G-3-C	UNK	11/03/18 07:16:41 pm	-0.027	-118	13.11		1.00	1.00	1.00
280-115950-G-4-C	UNK	11/03/18 07:18:54 pm	-0.009	97	58.04		1.00	1.00	1.00
280-115950-G-5-C	UNK	11/03/18 07:21:07 pm	0.624	7939	3.49		1.00	1.00	1.00
280-115932-B-3-D	UNK	11/03/18 07:23:20 pm	-0.032	-188	3.17		1.00	1.00	1.00
280-115932-B-4-B	UNK	11/03/18 07:25:33 pm	-0.017	3	182.77		1.00	1.00	1.00
280-115932-B-5-B	UNK	11/03/18 07:27:46 pm	-0.014	38	6.54		1.00	1.00	1.00
280-115932-B-6-B	UNK	11/03/18 07:29:59 pm	-0.011	71	6.92		1.00	1.00	1.00
280-115944-B-1-C	UNK	11/03/18 07:32:13 pm	-0.012	67	11.33		1.00	1.00	1.00
280-115944-B-2-C	UNK	11/03/18 07:34:27 pm	-0.001	202	5.50	s	1.00	1.00	1.00
280-115944-B-3-C	UNK	11/03/18 07:36:42 pm	-0.010	90	1.23		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol. ODF
CCV 280-436183/12-A	CCV	11/03/18 07:38:58 pm	2.961	36897	0.92		1.00	1.00
% Recovery 98.70							1.00	
CCB 280-436183/13-A	CCB	11/03/18 07:41:11 pm	-0.007	128	4.50		1.00	1.00
							1.00	
280-115944-B-4-C	UNK	11/03/18 07:43:25 pm	-0.016	15	64.95		1.00	1.00
							1.00	
MB 280-436188/1-A	UNK	11/03/18 07:45:41 pm	-0.015	26	19.15		1.00	1.00
							1.00	
LCS 280-436188/2-A	UNK	11/03/18 07:47:54 pm	2.999	37373	0.93		1.00	1.00
							1.00	
LCSD 280-436188/3-A	UNK	11/03/18 07:50:08 pm	2.986	37206	1.20		1.00	1.00
							1.00	
280-115983-A-1-B @10	UNK	11/03/18 07:52:21 pm	0.019	445	9.76	s	1.00	1.00
							1.00	
280-115983-A-2-B @10	UNK	11/03/18 07:54:34 pm	0.073	1112	2.40		1.00	1.00
							1.00	
280-115983-A-3-B @10	UNK	11/03/18 07:56:48 pm	0.056	901	12.73	s	1.00	1.00
							1.00	
280-115983-A-4-B @10	UNK	11/03/18 07:59:01 pm	1.280	16074	9.33	s	1.00	1.00
							1.00	
280-115983-A-5-A @10	UNK	11/03/18 08:01:15 pm	0.089	1316	4.21		1.00	1.00
							1.00	
280-115983-A-6-B @10	UNK	11/03/18 08:03:28 pm	0.040	706	16.79	s	1.00	1.00
							1.00	
CCV 280-436183/12-A	CCV	11/03/18 08:05:45 pm	2.954	36804	0.83		1.00	1.00
% Recovery 98.45							1.00	
CCB 280-436183/13-A	CCB	11/03/18 08:07:58 pm	-0.001	205	9.04	s	1.00	1.00
							1.00	
280-115983-A-7-B @10	UNK	11/03/18 08:10:12 pm	0.046	777	0.57		1.00	1.00
							1.00	
280-115983-A-8-B @10	UNK	11/03/18 08:12:26 pm	0.016	414	0.54		1.00	1.00
							1.00	
280-115983-A-9-B @10	UNK	11/03/18 08:14:41 pm	0.012	362	1.42		1.00	1.00
							1.00	

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
280-115983-A-10-B@10	UNK	11/03/18 08:16:57 pm	0.020	467	2.37		1.00	1.00	1.00
280-115983-A-11-B @10	UNK	11/03/18 08:19:10 pm	3.198	39836	1.11		1.00	1.00	1.00
280-115983-A-1-B	UNK	11/03/18 08:21:24 pm	0.315	4111	12.50	s	1.00	1.00	1.00
280-115983-A-2-B	UNK	11/03/18 08:23:37 pm	0.781	9885	5.27	s	1.00	1.00	1.00
280-115983-A-3-B	UNK	11/03/18 08:25:51 pm	0.396	5121	17.15	s	1.00	1.00	1.00
280-115983-A-4-B	UNK	11/03/18 08:28:05 pm	0.481	6168	4.99		1.00	1.00	1.00
280-115983-A-5-A	UNK	11/03/18 08:30:18 pm	0.996	12547	1.81		1.00	1.00	1.00
CCV 280-436183/12-A	CCV	11/03/18 08:32:34 pm	2.880	35893	1.34		1.00	1.00	1.00
% Recovery 96.00									
CCB 280-436183/13-A	CCB	11/03/18 08:34:47 pm	0.008	312	0.45		1.00	1.00	1.00
280-115983-A-6-B	UNK	11/03/18 08:37:01 pm	0.647	8225	2.16		1.00	1.00	1.00
280-115983-A-7-B	UNK	11/03/18 08:39:15 pm	0.539	6894	2.81		1.00	1.00	1.00
280-115983-A-8-B	UNK	11/03/18 08:41:29 pm	0.198	2671	4.31		1.00	1.00	1.00
280-115983-A-9-B	UNK	11/03/18 08:43:43 pm	0.192	2589	3.59		1.00	1.00	1.00
280-115983-A-10-B	UNK	11/03/18 08:45:58 pm	0.185	2506	0.30		1.00	1.00	1.00
280-115983-A-11-B	UNK	11/03/18 08:48:16 pm	7.560	93876	1.75	O	1.00	1.00	1.00
CCV 280-436183/12-A	CCV	11/03/18 08:50:32 pm	2.589	32283	0.73		1.00	1.00	1.00
% Recovery 86.29									
CCB 280-436183/13-A	CCB	11/03/18 08:52:45 pm	-0.029	-146	4.40		1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
CCV 280-436183/12-A	CCV	11/04/18 08:31:47 am	3.177	39578	0.29		1.00	1.00	1.00
% Recovery 105.91									
CCB 280-436183/13-A	CCB	11/04/18 08:34:00 am	-0.008	110	3.52		1.00	1.00	1.00
280-115712-G-2-C	UNK	11/04/18 08:36:12 am	-0.009	107	2.34		1.00	1.00	1.00
280-115712-G-3-C	UNK	11/04/18 08:38:25 am	0.024	508	4.72		1.00	1.00	1.00
280-115712-G-4-C	UNK	11/04/18 08:40:38 am	-0.011	81	2.83		1.00	1.00	1.00
280-115712-G-5-C	UNK	11/04/18 08:42:51 am	-0.010	94	2.94		1.00	1.00	1.00
280-115712-G-6-C	UNK	11/04/18 08:45:05 am	-0.010	89	3.81		1.00	1.00	1.00
280-115712-G-7-C	UNK	11/04/18 08:47:18 am	-0.010	93	1.93		1.00	1.00	1.00
280-115950-C-1-C	UNK	11/04/18 08:49:32 am	-0.011	82	3.20		1.00	1.00	1.00
280-115950-G-2-G	UNK	11/04/18 08:51:47 am	-0.009	97	3.61		1.00	1.00	1.00
280-115950-A-2-A MS	UNK	11/04/18 08:54:01 am	3.168	39461	1.14		1.00	1.00	1.00
280-115950-A-2-B MSD	UNK	11/04/18 08:56:16 am	3.185	39668	1.02		1.00	1.00	1.00
CCV 280-436183/12-A	CCV	11/04/18 08:58:32 am	3.122	38896	1.53		1.00	1.00	1.00
% Recovery 104.08									
CCB 280-436183/13-A	CCB	11/04/18 09:00:46 am	-0.026	-104	1.51		1.00	1.00	1.00
280-115950-G-3-C	UNK	11/04/18 09:02:59 am	-0.016	15	13.49		1.00	1.00	1.00
280-115950-G-4-C	UNK	11/04/18 09:05:12 am	-0.004	168	27.16	s	1.00	1.00	1.00
280-115950-G-5-C	UNK	11/04/18 09:07:25 am	0.184	2491	12.86	s	1.00	1.00	1.00

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags	Wt.	Vol.	ODF
280-115932-B-3-D	UNK	11/04/18 09:09:38 am	-0.016	10	62.30		1.00	1.00	1.00
280-115932-B-4-B	UNK	11/04/18 09:11:51 am	-0.009	96	3.52		1.00	1.00	1.00
280-115932-B-5-B	UNK	11/04/18 09:14:05 am	-0.010	90	2.33		1.00	1.00	1.00
280-115932-B-6-B	UNK	11/04/18 09:16:18 am	-0.009	104	3.31		1.00	1.00	1.00
280-115944-B-1-C	UNK	11/04/18 09:18:32 am	-0.009	100	3.18		1.00	1.00	1.00
280-115944-B-2-C	UNK	11/04/18 09:20:46 am	0.004	257	2.06		1.00	1.00	1.00
280-115944-B-3-C	UNK	11/04/18 09:23:00 am	-0.007	127	3.85		1.00	1.00	1.00
CCV 280-436183/12-A	CCV	11/04/18 09:25:16 am	2.957	36848	1.61		1.00	1.00	1.00
% Recovery 98.57									
CCB 280-436183/13-A	CCB	11/04/18 09:27:29 am	-0.015	33	7.48		1.00	1.00	1.00

Analysis Parameters

Instrument M-7500 Mercury Analyzer

Conditions

Gas flow (mL/min)	Sample Uptake (s)	Rinse (s)	Read delay (s)	Replicates (#)	Replicate time (s)	Pump speed (%)	Wavelength (nm)
100	35.00	90.00	55.00	4	1.50	50	253.65

ASX Pump Rate (%)
100

Instrumental Zero

Zero before first sample: No

Zero periodically: Yes

Before each calibration.

Baseline Correction

#1 Start time (s)	#1 End time (s)	#2 Start time (s)	#2 End time (s)
20.00	24.00		

Standby Mode

Enabled: Yes

Standby Options: pump off, gas off, lamp off

Autodilution

Enabled: No

Condition:

Tube # range:

If no autodilution tubes remaining

Calibration

Settings

Algorithm	Through blank	Weighted fit	Cal. Type	Racalibration rate	Reslope rate	Reslope standard
Linear	No	No	Normal	0	0	N/A

Limits

Calibration slope		Reslope		Coeff. of Determination
Lower (%)	Upper (%)	Lower (%)	Upper (%)	
20	150	75	125	0.99500

Error action: Flag and continue

QC

GLP Override: Yes

QC Tests

CCB

Concentration (ppb)
0.0600

Failure flag: Q

Error action for manually inserted QC: Stop analysis

ICB

Concentration (ppb)
0.0600

Failure flag: Z

Error action for manually inserted QC: Stop analysis

CCV

Concentration (ppb)	Low Limit %	High Limit %
3.0000	80.0000	120.0000

Failure flag: Q

Error action for manually inserted QC: Stop analysis

ICV

Concentration (ppb)	Low Limit %	High Limit %
2.4000	94.6000	105.4000

Failure flag: Q

Error action for manually inserted QC: Stop analysis

CRDL

Concentration (ppb)	Low Limit %	High Limit %
0.1200	50.0000	150.0000

Failure flag: Y

Error action for manually inserted QC: Stop analysis

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG No.:

Project: Leidos RFP# 001088 - Ravenna AAP-66

Client Sample ID	Lab Sample ID
LL1mw-088-181001-GW	280-115950-2
RQLmw-007-181001-GW	280-115950-4
RQLmw-008-181001-GW	280-115950-5

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: LL1mw-088-181001-GW
Lab Sample ID: 280-115950-2
Lab Name: TestAmerica Denver
Job No.: 280-115950-1
SDG ID.:
Matrix: Water
Date Sampled: 10/22/2018 10:40
Reporting Basis: WET
Date Received: 10/23/2018 08:50

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Alkalinity	280	5.0	5.0	1.1	mg/L			1	SM 2320B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: RQLmw-007-181001-GW
Lab Sample ID: 280-115950-4
Lab Name: TestAmerica Denver
Job No.: 280-115950-1
SDG ID.:
Matrix: Water
Date Sampled: 10/22/2018 12:50
Reporting Basis: WET
Date Received: 10/23/2018 08:50

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Cyanide, Total	0.0046	0.010	0.0050	0.0020	mg/L	J		1	9012B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: RQLmw-008-181001-GW
Lab Sample ID: 280-115950-5
Lab Name: TestAmerica Denver
Job No.: 280-115950-1
SDG ID.:
Matrix: Water
Date Sampled: 10/22/2018 10:05
Reporting Basis: WET
Date Received: 10/23/2018 08:50

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Cyanide, Total	0.0050	0.010	0.0050	0.0020	mg/L	U		1	9012B

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Analyst: RK Batch Start Date: 11/05/2018

Reporting Units: mg/L Analytical Batch No.: 436413

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
14	ICV	16:53	Cyanide, Total	0.105	0.100	105	90-110		CN ICV Daily_01218
15	ICB	16:54	Cyanide, Total	0.0050				U	
29	CCV	17:15	Cyanide, Total	0.202	0.200	101	90-110		CN CAL 1 ppm_01451
30	CCB	17:17	Cyanide, Total	0.0050				U	
44	CCV	17:38	Cyanide, Total	0.204	0.200	102	90-110		CN CAL 1 ppm_01451
45	CCB	17:39	Cyanide, Total	0.0050				U	

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

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Analyst: SGB Batch Start Date: 10/26/2018

Reporting Units: mg/L Analytical Batch No.: 435318

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
16	CCV	21:24	Alkalinity	191	200	96	90-110		Alk daily lcs 00781
17	CCB	21:31	Alkalinity	5.0				U	

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

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	LOQ	Dil
Batch ID: 436413	Date: 11/05/2018 17:02	Prep Batch: 436064	Date: 11/02/2018 11:32				
9012B	MB 280-436064/4-A	Cyanide, Total	0.0050	U	mg/L	0.010	1
Batch ID: 435318	Date: 10/26/2018 19:43						
SM 2320B	MB 280-435318/5	Alkalinity	5.0	U	mg/L	5.0	1

FORM III-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 436413	Date: 11/05/2018 17:00		Prep Batch: 436064			Date: 11/02/2018 11:32					
						LCS Source: CN ICV Int_00509					
9012B	LCS 280-436064/3-A	Cyanide, Total	0.108		mg/L	0.100	108	83-116			
Batch ID: 435318	Date: 10/26/2018 19:36										
						LCS Source: Alk daily lcs_00781					
SM 2320B	LCS 280-435318/4	Alkalinity	191		mg/L	200	96	90-110			

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

FORM VIIA-IN

7A-IN
LOW LEVEL CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 436413	Date: 11/05/2018 16:59		Prep Batch: 436064			Date: 11/02/2018 11:32					
						LCS Source: CN 10ppm_00319					
9012B	LLCS 280-436064/2-A	Cyanide, Total	0.0995		mg/L	0.100	100	44-167			

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

FORM VIIA-IN

7A-IN
HIGH LEVEL CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 436413	Date: 11/05/2018 16:57		Prep Batch: 436064			Date: 11/02/2018 11:32					
						LCS Source: CN 10ppm_00319					
9012B	HLCS 280-436064/1-A	Cyanide, Total	0.352		mg/L	0.350	101	90-110			

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

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG Number:

Matrix: Water Instrument ID: WC_Alp 1

Method: 9012B DL Date: 08/01/2018 00:00

Prep Method: 9012B

Analyte	Wavelength/ Mass	LOQ (mg/L)	DL (mg/L)
Cyanide, Total		0.01	0.002

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG Number:

Matrix: Water Instrument ID: WC_Alp 1

Method: 9012B XMDL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Cyanide, Total		0.01	0.002

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG Number:

Matrix: Water Instrument ID: WC_AT2

Method: SM 2320B DL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	LOQ (mg/L)	DL (mg/L)
Alkalinity		5	1.07

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-115950-1

SDG Number:

Matrix: Water Instrument ID: WC_AT2

Method: SM 2320B XMDL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Alkalinity		5	1.07

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Prep Method: 9012B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
HLCS 280-436064/1-A	11/02/2018 11:32	436064		50	50
LLCS 280-436064/2-A	11/02/2018 11:32	436064		50	50
LCS 280-436064/3-A	11/02/2018 11:32	436064		50	50
MB 280-436064/4-A	11/02/2018 11:32	436064		50	50
280-115950-4	11/02/2018 11:32	436064		50	50
280-115950-5	11/02/2018 11:32	436064		50	50

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: WC_Alp 1 Analysis Method: 9012B

Start Date: 11/05/2018 16:33 End Date: 11/05/2018 18:22

Lab Sample Id	D/F	Type	Time	Analytes
				CN
ZZZZZZ			16:33	
ZZZZZZ			16:35	
ZZZZZZ			16:36	
ZZZZZZ			16:38	
IC 280-436413/5			16:39	X
IC 280-436413/6			16:41	X
IC 280-436413/7			16:42	X
IC 280-436413/8			16:44	X
IC 280-436413/9			16:45	X
IC 280-436413/10			16:47	X
IC 280-436413/11			16:48	X
ZZZZZZ			16:50	
ZZZZZZ			16:51	
ICV 280-436413/14	1		16:53	X
ICB 280-436413/15	1		16:54	X
ZZZZZZ			16:56	
HLCS 280-436064/1-A	1	T	16:57	X
LLCS 280-436064/2-A	1	T	16:59	X
LCS 280-436064/3-A	1	T	17:00	X
MB 280-436064/4-A	1	T	17:02	X
ZZZZZZ			17:03	
ZZZZZZ			17:05	
ZZZZZZ			17:06	
ZZZZZZ			17:08	
ZZZZZZ			17:09	
ZZZZZZ			17:11	
ZZZZZZ			17:12	
ZZZZZZ			17:14	
CCV 280-436413/29	1		17:15	X
CCB 280-436413/30	1		17:17	X
ZZZZZZ			17:18	
ZZZZZZ			17:20	
ZZZZZZ			17:21	
ZZZZZZ			17:23	
ZZZZZZ			17:24	
280-115950-4	1	T	17:26	X
280-115950-5	1	T	17:27	X
ZZZZZZ			17:29	
ZZZZZZ			17:30	
ZZZZZZ			17:32	
ZZZZZZ			17:33	
ZZZZZZ			17:35	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: WC_Alp 1 Analysis Method: 9012B

Start Date: 11/05/2018 16:33 End Date: 11/05/2018 18:22

Lab Sample Id	D/F	Type	Time	Analytes																								
				CN																								
ZZZZZZ			17:36																									
CCV 280-436413/44	1		17:38	X																								
CCB 280-436413/45	1		17:39	X																								
ZZZZZZ			17:41																									
ZZZZZZ			17:46																									
ZZZZZZ			17:48																									
ZZZZZZ			17:49																									
ZZZZZZ			17:51																									
ZZZZZZ			17:52																									
ZZZZZZ			17:54																									
ZZZZZZ			17:55																									
ZZZZZZ			17:57																									
ZZZZZZ			17:58																									
ZZZZZZ			18:00																									
ZZZZZZ			18:01																									
ZZZZZZ			18:03																									
CCV 280-436413/59			18:04																									
CCB 280-436413/60			18:06																									
ZZZZZZ			18:07																									
ZZZZZZ			18:09																									
ZZZZZZ			18:10																									
ZZZZZZ			18:12																									
ZZZZZZ			18:13																									
ZZZZZZ			18:15																									
ZZZZZZ			18:16																									
ZZZZZZ			18:18																									
CCV 280-436413/69			18:19																									
CCB 280-436413/70			18:21																									
ZZZZZZ			18:22																									

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: WC_AT2 Analysis Method: SM 2320B

Start Date: 10/26/2018 19:14 End Date: 10/27/2018 01:33

Lab Sample Id	D/F	Type	Time	Analytes																								
				Alk																								
ZZZZZZ			19:14																									
ZZZZZZ			19:24																									
ZZZZZZ			19:27																									
LCS 280-435318/4	1	T	19:36	X																								
MB 280-435318/5	1	T	19:43	X																								
ZZZZZZ			19:51																									
ZZZZZZ			19:59																									
ZZZZZZ			20:07																									
ZZZZZZ			20:14																									
ZZZZZZ			20:24																									
280-115950-2	1	T	20:32	X																								
ZZZZZZ			20:46																									
ZZZZZZ			20:55																									
ZZZZZZ			21:05																									
ZZZZZZ			21:15																									
CCV 280-435318/16	1		21:24	X																								
CCB 280-435318/17	1		21:31	X																								
ZZZZZZ			21:39																									
ZZZZZZ			21:48																									
ZZZZZZ			21:56																									
ZZZZZZ			22:07																									
ZZZZZZ			22:12																									
ZZZZZZ			22:15																									
ZZZZZZ			22:19																									
ZZZZZZ			22:23																									
ZZZZZZ			22:28																									
ZZZZZZ			22:36																									
CCV 280-435318/28			22:45																									
CCB 280-435318/29			22:52																									
ZZZZZZ			23:02																									
ZZZZZZ			23:09																									
ZZZZZZ			23:18																									
ZZZZZZ			23:26																									
ZZZZZZ			23:34																									
ZZZZZZ			23:43																									
ZZZZZZ			23:53																									
ZZZZZZ			00:00																									
ZZZZZZ			00:07																									
ZZZZZZ			00:14																									
ZZZZZZ			00:21																									
ZZZZZZ			00:29																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Instrument ID: WC_AT2 Analysis Method: SM 2320B

Start Date: 10/26/2018 19:14 End Date: 10/27/2018 01:33

Lab Sample Id	D/F	Type	Time	Analytes																								
				Alk																								
CCV 280-435318/42			00:38																									
CCB 280-435318/43			00:45																									
ZZZZZZ			00:53																									
ZZZZZZ			01:00																									
ZZZZZZ			01:04																									
ZZZZZZ			01:09																									
ZZZZZZ			01:16																									
CCV 280-435318/49			01:26																									
CCB 280-435318/50			01:33																									

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 436064 Batch Start Date: 11/02/18 12:53 Batch Analyst: Kurniadi, Richard

Batch Method: 9012B Batch End Date: 11/02/18 14:23

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	SulfideCheck	ChlorineCheck	DistillpHCheck	CN 10ppm 00319
HLCS 280-436064/1		9012B, 9012B		50 mL	50 mL				1.75 mL
LLCS 280-436064/2		9012B, 9012B		50 mL	50 mL				0.5 mL
LCS 280-436064/3		9012B, 9012B		50 mL	50 mL				
MB 280-436064/4		9012B, 9012B		50 mL	50 mL				
280-115950-J-4	RQLmw-007-181001-GW	9012B, 9012B	T	50 mL	50 mL	N	N	>12	
280-115950-J-5	RQLmw-008-181001-GW	9012B, 9012B	T	50 mL	50 mL	N	N	>12	

Lab Sample ID	Client Sample ID	Method Chain	Basis	CN ICV Int 00509					
HLCS 280-436064/1		9012B, 9012B							
LLCS 280-436064/2		9012B, 9012B							
LCS 280-436064/3		9012B, 9012B		0.5 mL					
MB 280-436064/4		9012B, 9012B							
280-115950-J-4	RQLmw-007-181001-GW	9012B, 9012B	T						
280-115950-J-5	RQLmw-008-181001-GW	9012B, 9012B	T						

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

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 436064 Batch Start Date: 11/02/18 12:53 Batch Analyst: Kurniadi, Richard

Batch Method: 9012B Batch End Date: 11/02/18 14:23

Batch Notes	
Acetate Buffer ID	Acetate Buffer_00005
Balance ID	M19170
Batch Comment	DA training RK
Cadmium Carbonate ID	CAD CHL CN_00004
Distillation End Time	11/02/2018 14:23
Distillation Start Time	11/02/2018 12:53
Indicator Reagent ID	METHYL RED_00016
Magnesium Chloride Reagent ID Number	CN Mag Chl_00083
Sodium Hydroxide ID	2% NaOH_00352
Pipette/Syringe/Dispenser ID	1000nxn, 5000elj
Sulfamic Acid ID	CN SULFAMIC_00093
Sulfuric Acid Reagent ID Number	SulfuricAcid_00223
WAD Releasing Agent ID	10% Acetic_00019

Basis	Basis Description
T	Total/NA

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

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 436413 Batch Start Date: 11/05/18 16:33 Batch Analyst: Kurniadi, Richard

Batch Method: 9012B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CN CAL 1 ppm 01451	CN ICV Daily 01218		
ICV 280-436413/14		9012B		50 mL	50 mL		50 mL		
ICB 280-436413/15		9012B		50 mL	50 mL				
HLCS 280-436064/1-A		9012B		50 mL	50 mL				
LLCS 280-436064/2-A		9012B		50 mL	50 mL				
LCS 280-436064/3-A		9012B		50 mL	50 mL				
MB 280-436064/4-A		9012B		50 mL	50 mL				
CCV 280-436413/29		9012B		50 mL	50 mL	10 mL			
CCB 280-436413/30		9012B		50 mL	50 mL				
280-115950-J-4-A	RQLmw-007-181001-GW	9012B	T	50 mL	50 mL				
280-115950-J-5-A	RQLmw-008-181001-GW	9012B	T	50 mL	50 mL				
CCV 280-436413/44		9012B		50 mL	50 mL	10 mL			
CCB 280-436413/45		9012B		50 mL	50 mL				

Batch Notes	
Batch Comment	DA trained RK
Buffer Reagent ID	CN Buffer_00118
Chloramine-T ID	CN Chlor-T_01005
Sodium Hydroxide ID	1% NaOH_00361
Pipette/Syringe/Dispenser ID	1000nxn, 5000elj
Pyridine-Barbituric Acid ID	CN Pyr/Barb_00203

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-115950-1

SDG No.:

Batch Number: 435318 Batch Start Date: 10/26/18 19:14 Batch Analyst: Barker, Scott G

Batch Method: SM 2320B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	CalcMsg	Alk daily lcs 00781				
LCS 280-435318/4		SM 2320B		InitialAmount is blank	10 mL				
MB 280-435318/5		SM 2320B		InitialAmount is blank					
280-115950-H-2	LL1mw-088-181001 -GW	SM 2320B	T	InitialAmount is blank					
CCV 280-435318/16		SM 2320B		InitialAmount is blank	25 mL				
CCB 280-435318/17		SM 2320B		InitialAmount is blank					

Batch Notes	
Acid ID	0.02NH2SO4_00015
Batch Comment	SGB trained by LL
pH Buffer 1 ID	pH2.0buffer_00073
pH Buffer 2 ID	pH4.0buffer_00171
pH Buffer 3 ID	pH7.0buffer_00248
pH Buffer 4 ID	pH10.0buffer_00139
pH Buffer 5 ID	pH12.0buffer_00139
pH Buffer 6 ID	pH7.0buffer_00247
Sodium Carbonate ID	Sodium Carbon_00015
Nominal Amount Used	25 mL
Pipette/Syringe/Dispenser ID	5000 LL
Probe ID	PCE 86 pH 1105 5241
Normality of First Titrant	0.02 N

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Run Results Report

Facility Name
Facility Location
Department
Operator Name RK
Operator ID RK
Platform FS III/IV/3100
Software Rev Code 222
Data system ID 57

Result path C:\FLOW_4\C110518.RST
Sample table path C:\FLOW_4\c110518.tbl
Method path C:\FLOW_4\cyanide.mth
Date acquired 05-Nov-18
Time acquired 18:27

				Cyanide, Total		
Date	Time	Cup	Name	Response	Calc [ppb]	Flags
05-Nov-18	16:33	107	Sync	376618	401.174	
05-Nov-18	16:35	0	Carryover	443	-0.619	LO
05-Nov-18	16:36	0	Carryover	143	-0.940	LO
05-Nov-18	16:38	0	Baseline	0	-1.092	BL
05-Nov-18	16:39	101	CAL 0.00 ppb	111	-0.974	LO
05-Nov-18	16:41	102	CAL 10.0 ppb	9909	9.491	
05-Nov-18	16:42	103	CAL 20.0 ppb	19158	19.370	
05-Nov-18	16:44	104	CAL 50.0 ppb	48481	50.691	
05-Nov-18	16:45	105	CAL 100 ppb	96050	101.499	
05-Nov-18	16:47	106	Cal 200 ppb	188908	200.681	
05-Nov-18	16:48	107	Cal 400 ppb	374810	399.243	
05-Nov-18	16:50	0	BLK	-25	-1.119	LO
05-Nov-18	16:51	0	Baseline	0	-1.092	BL
05-Nov-18	16:53	108	ICV 100 ppb	99566	105.254	
05-Nov-18	16:54	0	ICB	69	-1.019	LO
05-Nov-18	16:56	0	Baseline	0	-1.092	BL
05-Nov-18	16:57	113	HLCS 280-436064/1-A	330608	352.030	
05-Nov-18	16:59	114	LLCS 280-436064/2-A	94193	99.515	
05-Nov-18	17:00	115	LCS 280-436064/3-A	102185	108.052	
05-Nov-18	17:02	116	MB 280-436064/4-A	604	-0.447	LO
05-Nov-18	17:03	117	280-115924-F-13-A	918	-0.112	LO
05-Nov-18	17:05	118	280-115924-F-13-B MS	101142	106.937	
05-Nov-18	17:06	119	280-115924-F-13-C MS	96185	101.643	
05-Nov-18	17:08	120	280-115924-F-14-A	5961	5.275	
05-Nov-18	17:09	121	280-115924-F-15-A	2437	1.511	
05-Nov-18	17:11	122	280-115924-F-16-A	1083	0.064	
05-Nov-18	17:12	0	BLK	21	-1.071	LO
05-Nov-18	17:14	0	baseline	0	-1.092	BL
05-Nov-18	17:15	109	CCV 200PPB	190293	202.160	
05-Nov-18	17:17	0	CCB	-53	-1.149	LO
05-Nov-18	17:18	0	Baseline	0	-1.092	BL
05-Nov-18	17:20	123	280-115924-F-17-A	1100	0.083	
05-Nov-18	17:21	124	280-115958-E-1-A	2058	1.105	
05-Nov-18	17:23	125	280-115958-E-2-A	1210	0.200	
05-Nov-18	17:24	126	280-115958-E-3-A	1329	0.327	
05-Nov-18	17:26	127	280-115950-J-4-A	5348	4.620	
05-Nov-18	17:27	128	280-115950-J-5-A	1123	0.107	
05-Nov-18	17:29	129	280-116053-A-2-A	845	-0.190	LO
05-Nov-18	17:30	130	280-115958-E-5-A	1153	0.139	
05-Nov-18	17:32	131	280-115958-E-5-B MS	71772	75.567	
05-Nov-18	17:33	132	280-115958-E-5-C MSD	99320	104.991	
05-Nov-18	17:35	0	BLK	-1	-1.094	LO
05-Nov-18	17:36	0	baseline	0	-1.092	BL
05-Nov-18	17:38	109	CCV 200PPB	191815	203.785	
05-Nov-18	17:39	0	CCB	-21	-1.115	LO
05-Nov-18	17:41	0	Baseline	0	-1.092	BL

Result path	C:\FLOW_4\C110518.RST
Sample table path	C:\FLOW_4\c110518.tbl
Method path	C:\FLOW_4\cyanide.mth
Date acquired	05-Nov-18
Time acquired	18:27

				Cyanide, Total		
Date	Time	Cup	Name	Response	Calc [ppb]	Flags
05-Nov-18	17:46	133	HLCS 280-436336/1-A	322332	343.191	
05-Nov-18	17:48	134	LLCS 280-436336/2-A	89631	94.642	
05-Nov-18	17:49	135	LCS 280-436336/3-A	93339	98.603	
05-Nov-18	17:51	136	MB 280-436336/4-A	1014	-0.010	LO
05-Nov-18	17:52	137	280-116000-A-1-C	1578	0.592	
05-Nov-18	17:54	138	280-116000-A-1-D MS	1623	0.641	
05-Nov-18	17:55	139	280-116000-A-1-E MSD	1378	0.380	
05-Nov-18	17:57	140	280-116000-A-2-B	2222	1.281	
05-Nov-18	17:58	141	280-116000-A-3-B	1310	0.307	
05-Nov-18	18:00	142	280-116000-A-4-B	2677	1.767	
05-Nov-18	18:01	0	BLK	2	-1.091	LO
05-Nov-18	18:03	0	baseline	0	-1.092	BL
05-Nov-18	18:04	109	CCV 200PPB	191988	203.970	
05-Nov-18	18:06	0	CCB	-27	-1.121	LO
05-Nov-18	18:07	0	Baseline	0	-1.092	BL
05-Nov-18	18:09	143	280-116000-A-5-B	1476	0.484	
05-Nov-18	18:10	144	280-116000-A-6-B	4142	3.331	
05-Nov-18	18:12	145	280-116000-A-7-B	3057	2.173	
05-Nov-18	18:13	146	280-116000-A-8-B	4893	4.134	
05-Nov-18	18:15	147	580-81369-B-1-A	4978	4.225	
05-Nov-18	18:16	0	BLK	23	-1.068	LO
05-Nov-18	18:18	0	baseline	0	-1.092	BL
05-Nov-18	18:19	109	CCV 200PPB	193970	206.087	
05-Nov-18	18:21	0	CCB	-22	-1.116	LO
05-Nov-18	18:22	0	Baseline	0	-1.092	BL

Peak Table:Cyanide, Total

File name: C:\FLOW_4\C110518.RST
Date: 05-Nov-18
Operator: RK

Peak	Cup	Name	R	Type	Dil	Wt	Height	Calc. (ppb)	Flags
1	107	Sync	1	SYNC	1	1	376618	401.173706	
2	0	Carryover	1	CO	1	1	443	-0.618948	LO
3	0	Carryover	2	CO	1	1	143	-0.940187	LO
B	0	Baseline	1	RB	1	1	0	-1.092464	BL
5	101	CAL 0.00 ppb	1	C	1	1	111	-0.974239	LO
6	102	CAL 10.0 ppb	1	C	1	1	9909	9.491292	
7	103	CAL 20.0 ppb	1	C	1	1	19158	19.370182	
8	104	CAL 50.0 ppb	1	C	1	1	48481	50.690655	
9	105	CAL 100 ppb	1	C	1	1	96050	101.498505	
10	106	Cal 200 ppb	1	C	1	1	188908	200.680695	
11	107	Cal 400 ppb	1	C	1	1	374810	399.242889	
12	0	BLK	1	BLNK	1	1	-25	-1.119370	LO
B	0	Baseline	1	RB	1	1	0	-1.092464	BL
14	108	ICV 100 ppb	1	CCV	1	1	99566	105.253998	
15	0	ICB	1	U	1	1	69	-1.019252	LO
B	0	Baseline	1	RB	1	1	0	-1.092464	BL
17	113	HLCS 280-436064/1-A 1	U		1	1	330608	352.030304	
18	114	LLCS 280-436064/2-A 1	U		1	1	94193	99.514748	
19	115	LCS 280-436064/3-A 1	U		1	1	102185	108.051903	
20	116	MB 280-436064/4-A 1	U		1	1	604	-0.447276	LO
21	117	280-115924-F-13-A 1	U		1	1	918	-0.111800	LO
22	118	280-115924-F-13-B MS 1	U		1	1	101142	106.937408	
23	119	280-115924-F-13-C MS 1	U		1	1	96185	101.642929	
24	120	280-115924-F-14-A 1	U		1	1	5961	5.274624	
25	121	280-115924-F-15-A 1	U		1	1	2437	1.510792	
26	122	280-115924-F-16-A 1	U		1	1	1083	0.064417	
27	0	BLK	1	BLNK	1	1	21	-1.070515	LO
B	0	baseline	1	RB	1	1	0	-1.092464	BL
29	109	CCV 200PPB	1	CCV	1	1	190293	202.160126	
30	0	CCB	1	U	1	1	-53	-1.149353	LO
B	0	Baseline	1	RB	1	1	0	-1.092464	BL
32	123	280-115924-F-17-A 1	U		1	1	1100	0.082614	
33	124	280-115958-E-1-A 1	U		1	1	2058	1.105456	
34	125	280-115958-E-2-A 1	U		1	1	1210	0.200013	
35	126	280-115958-E-3-A 1	U		1	1	1329	0.326670	
36	127	280-115950-J-4-A 1	U		1	1	5348	4.619780	
37	128	280-115950-J-5-A 1	U		1	1	1123	0.106539	
38	129	280-116053-A-2-A 1	U		1	1	845	-0.190109	LO
39	130	280-115958-E-5-A 1	U		1	1	1153	0.139495	
40	131	280-115958-E-5-B MS 1	U		1	1	71772	75.566742	
41	132	280-115958-E-5-C MSD 1	U		1	1	99320	104.991318	
42	0	BLK	1	BLNK	1	1	-1	-1.093624	LO
B	0	baseline	1	RB	1	1	0	-1.092464	BL
44	109	CCV 200PPB	1	CCV	1	1	191815	203.785065	
45	0	CCB	1	U	1	1	-21	-1.114709	LO
B	0	Baseline	1	RB	1	1	0	-1.092464	BL
47	133	HLCS 280-436336/1-A 1	U		1	1	322332	343.190918	
48	134	LLCS 280-436336/2-A 1	U		1	1	89631	94.642212	
49	135	LCS 280-436336/3-A 1	U		1	1	93339	98.603218	
50	136	MB 280-436336/4-A 1	U		1	1	1014	-0.009672	LO
51	137	280-116000-A-1-C 1	U		1	1	1578	0.592475	
52	138	280-116000-A-1-D MS 1	U		1	1	1623	0.641113	
53	139	280-116000-A-1-E MSD 1	U		1	1	1378	0.379734	
54	140	280-116000-A-2-B 1	U		1	1	2222	1.280907	
55	141	280-116000-A-3-B 1	U		1	1	1310	0.306523	
56	142	280-116000-A-4-B 1	U		1	1	2677	1.767055	
57	0	BLK	1	BLNK	1	1	2	-1.090742	LO
B	0	baseline	1	RB	1	1	0	-1.092464	BL
59	109	CCV 200PPB	1	CCV	1	1	191988	203.970276	
60	0	CCB	1	U	1	1	-27	-1.120780	LO
B	0	Baseline	1	RB	1	1	0	-1.092464	BL
62	143	280-116000-A-5-B 1	U		1	1	1476	0.483828	
63	144	280-116000-A-6-B 1	U		1	1	4142	3.331282	
64	145	280-116000-A-7-B 1	U		1	1	3057	2.172883	
65	146	280-116000-A-8-B 1	U		1	1	4893	4.133729	
66	147	580-81369-B-1-A 1	U		1	1	4978	4.224802	
67	0	BLK	1	BLNK	1	1	23	-1.067764	LO
B	0	baseline	1	RB	1	1	0	-1.092464	BL
69	109	CCV 200PPB	1	CCV	1	1	193970	206.087006	
70	0	CCB	1	U	1	1	-22	-1.115963	LO

Peak	Cup	Name	R	Type	Dil	Wt	Height	Calc. (ppb)	Flags
B	0	Baseline	1	RB	1	1	0	-1.092464	BL

Cyanide, Total:Calibration 1: Peak 5-71

File name: C:\FLOW_4\C110518.RST
Date: 05-Nov-18
Operator: RK

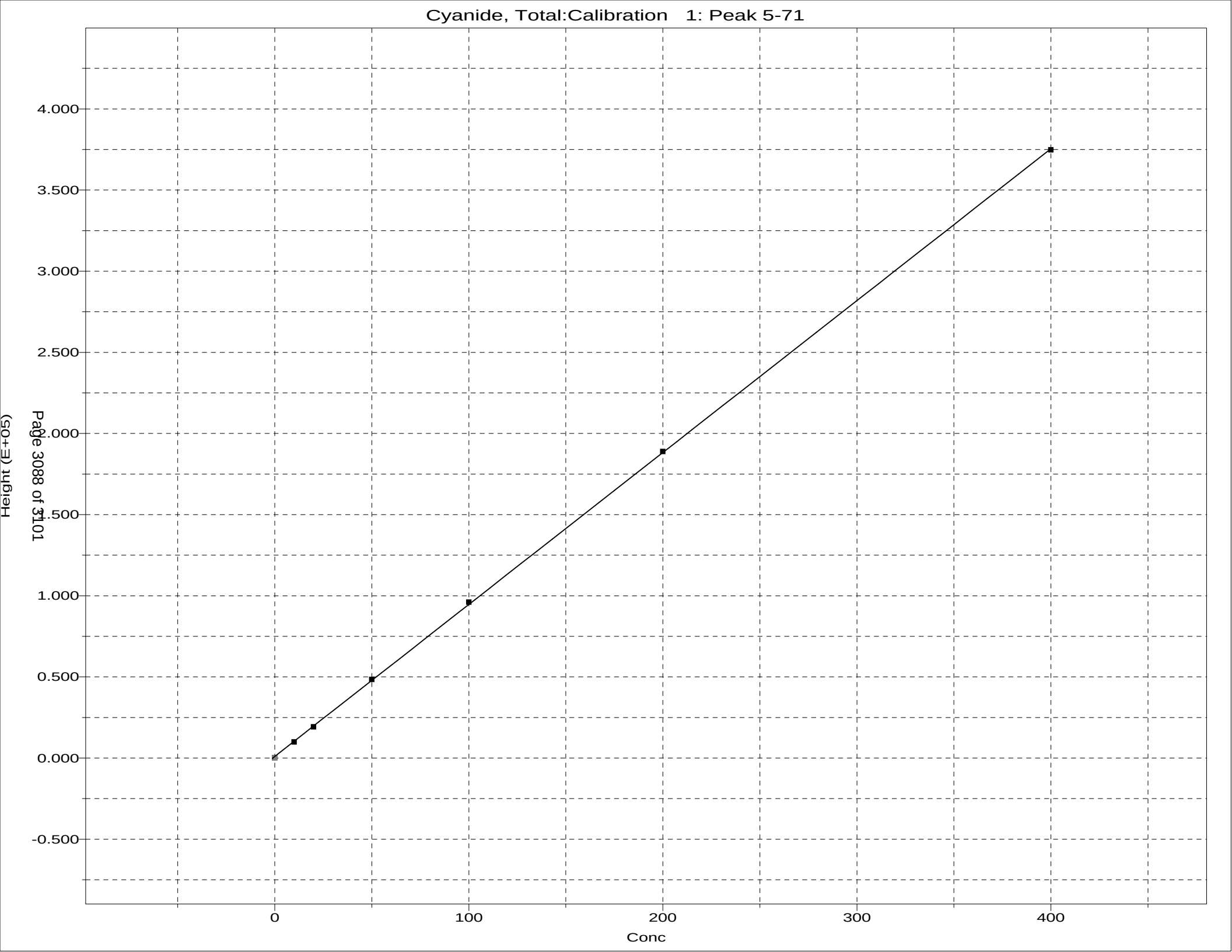
*	Name	Conc	Height
*	CAL 0.00 ppb	0.000000	110.686523
*	CAL 10.0 ppb	10.000000	9908.948242
*	CAL 20.0 ppb	20.000000	19157.972656
*	CAL 50.0 ppb	50.000000	48481.492188
*	CAL 100 ppb	100.000000	96049.890625
*	Cal 200 ppb	200.000000	188908.343750
*	Cal 400 ppb	400.000000	374810.468750

Calib Coef:
y=bx+a
a: (intercept) 1.0228e+03
b: 9.3624e+02

Corr Coef: 0.999979

Carryover: 0.118%

No Drift Peaks


Cyanide, Total:Calibration 1: Peak 5-71
Height (E+05)
4.000
3.500
3.000
2.500
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1.500
1.000
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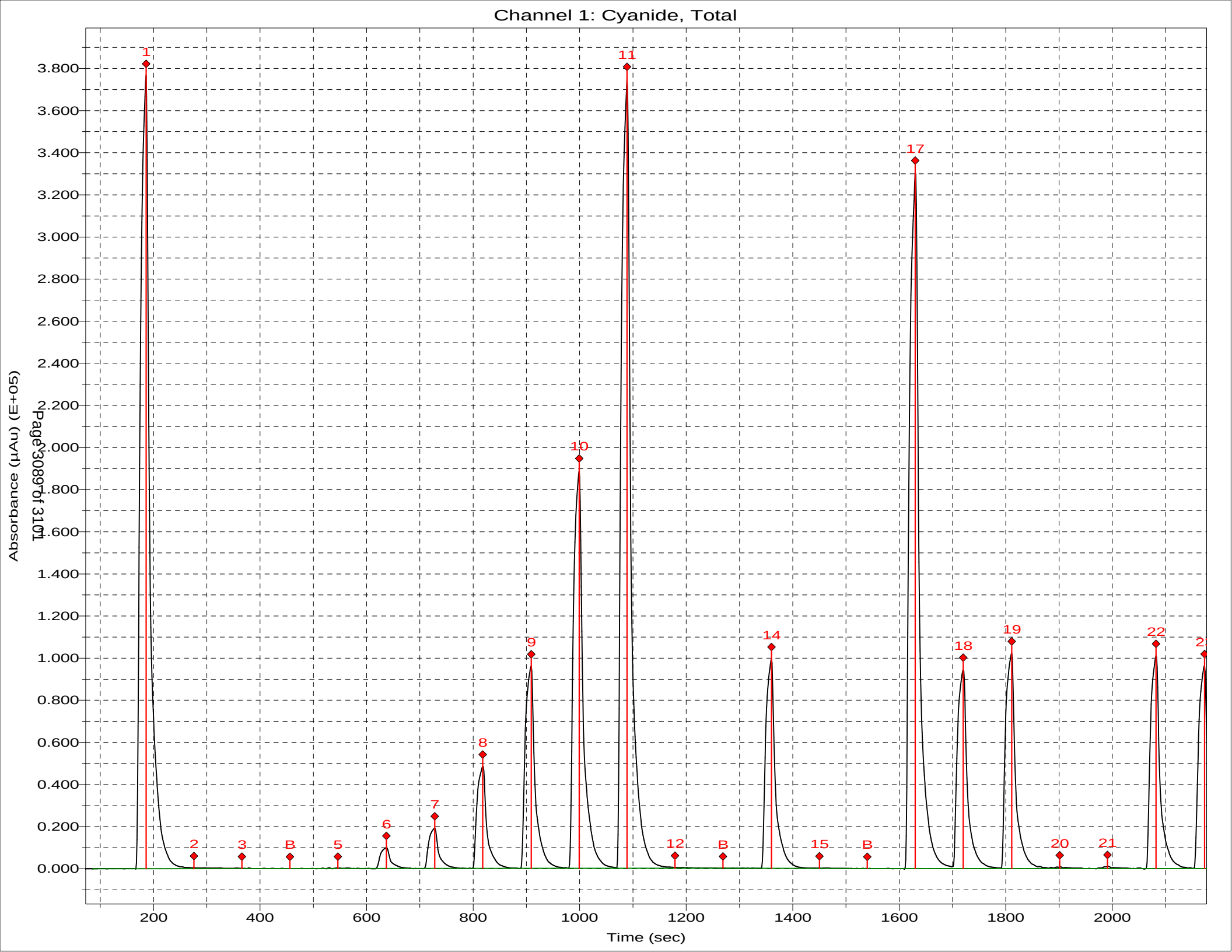
0.000
-0.500
0
100
200
300
400
Conc


Channel 1: Cyanide, Total
Absorbance (µAu) (E+05)
Time (sec)
Page 3089 of 3101
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0.800
1.000
1.200
1.400
1.600
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2.600
2.800
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1600
1800
2000
1
2
3
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9
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B
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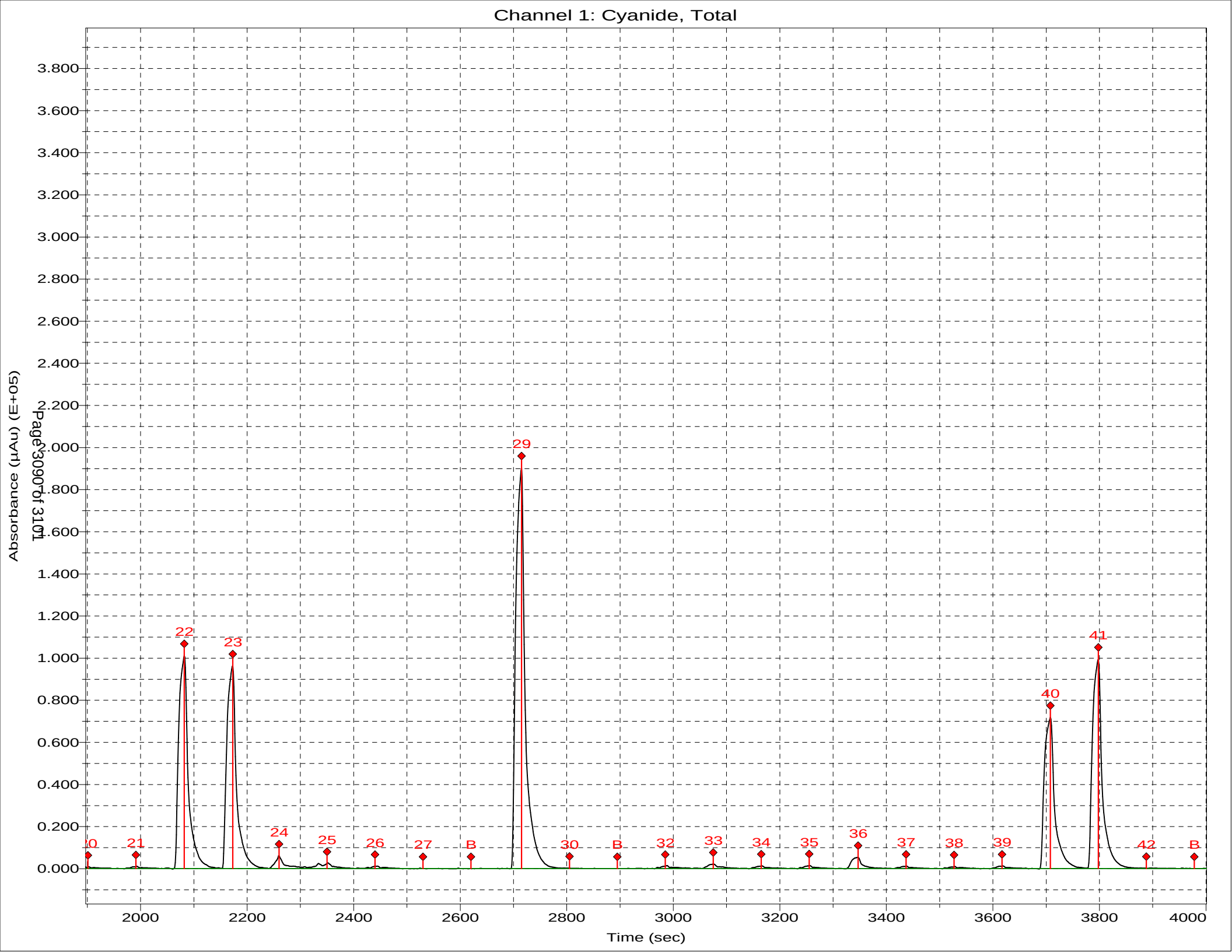
20
21
22


Channel 1: Cyanide, Total
Absorbance (µAu) (E+05)
Time (sec)
Page 30900 of 31071
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0.000
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2400
2600
2800
3000
3200
3400
3600
3800
4000
20
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22
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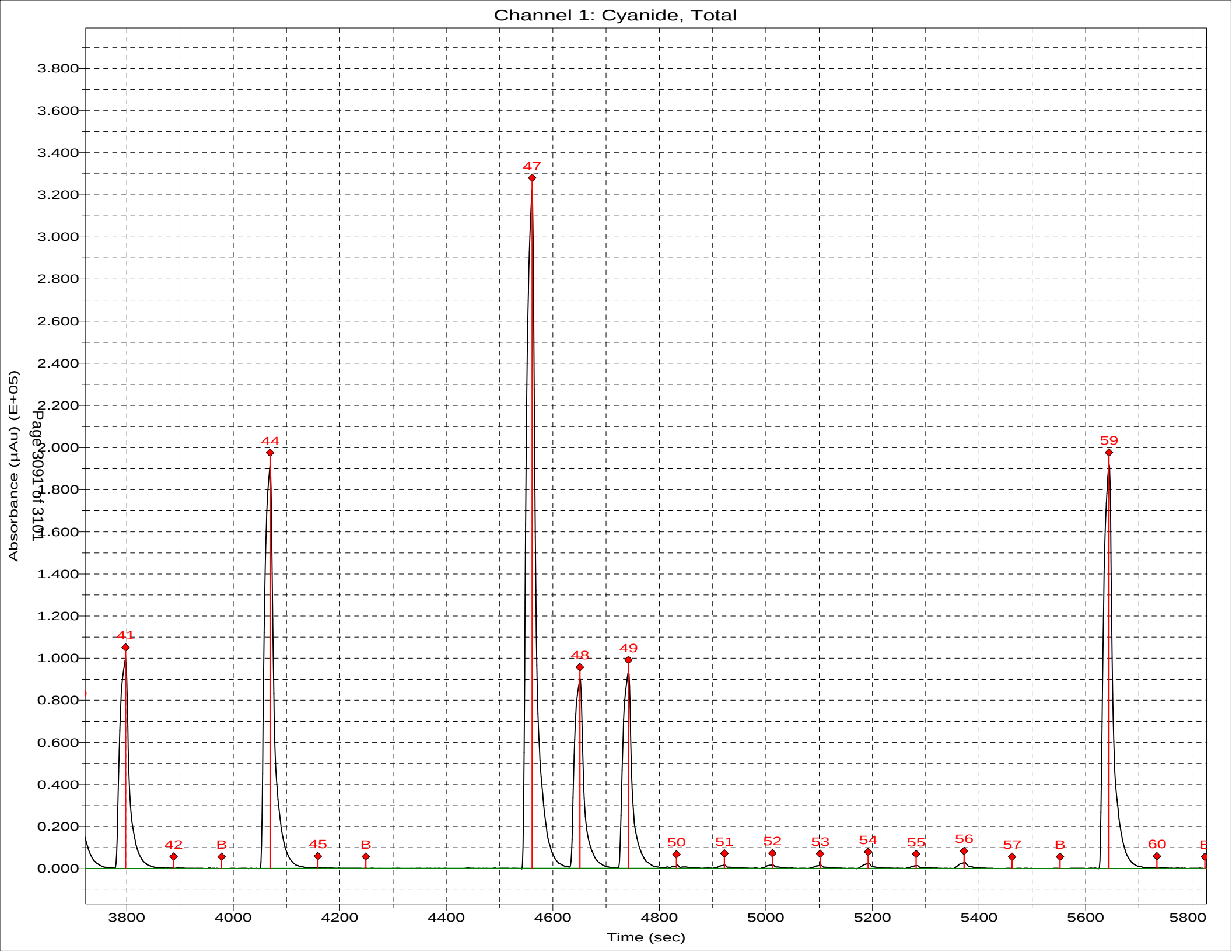
Channel 1: Cyanide, Total
Absorbance (µAu) (E+05)
Time (sec)
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4000
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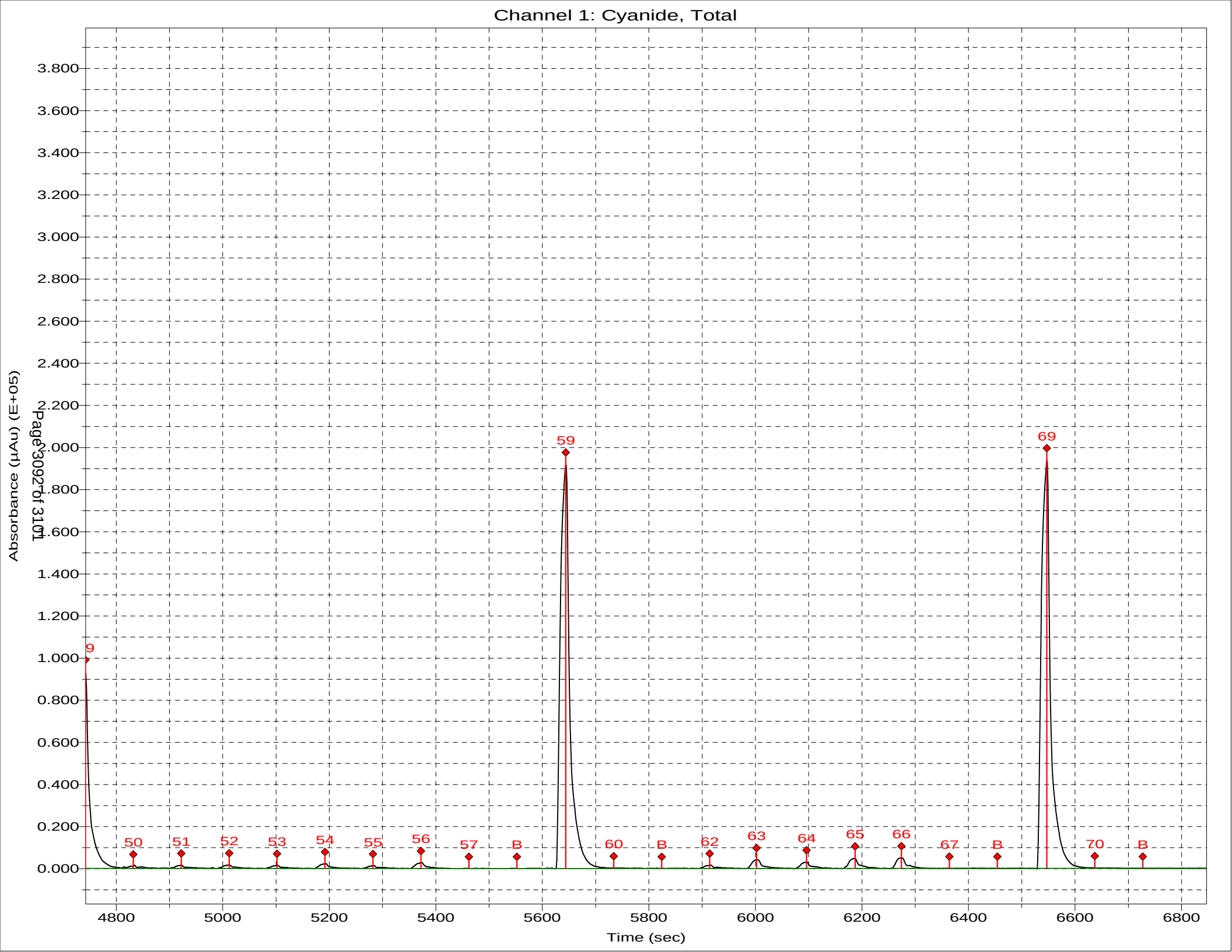
Channel 1: Cyanide, Total
Absorbance (µAu) (E+05)
Time (sec)
Page 30927 of 31071
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3.600
3.400
3.200
3.000
2.800
2.600
2.400
2.200
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5600
5800
6000
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50
51
52
53
54
55
56
57
B
59
60
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62
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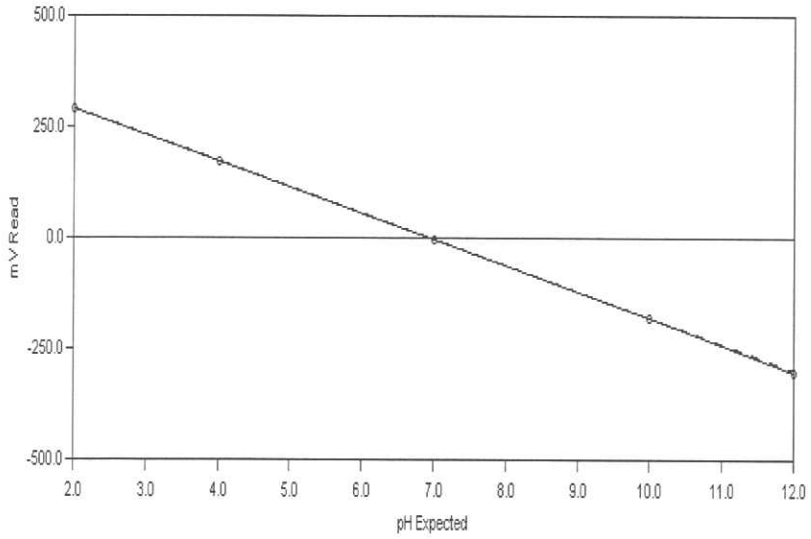
69
70
B

PC-TitratION PLUS
Calibration Report

Analyst: SGB

Calibration Record # 1302



Calibration Settings

Calibration ID	PH	Date	10/26/2018	
Channel	1	Time	2:02 PM	
Probe Type	pH	Temperature	296.56 K	23.41 C
Probe ID	PH ELECTRODE	Analysis Type	Single Line Fit	

Calibration Results

Slope	-59.329	CorrCoeff	1.0000
Intercept	-4.298	Equation: Y = (-59.329) X + (-4.298)	

Calibration Validity **True** Operator

	Result	Minimum	Maximum
Slope	-59.329	-65.00	-53.00
Intercept	-4.298	-100.00	100.00
Correlation Coefficient	1.0000	1.00	1.00

Note: "True" means the calibration was within the specified ranges
"False" means the calibration was NOT within the specified ranges

Calibration Data	Standard	Reading
	2.00	292.11
	4.00	173.21
	7.00	-4.15
	10.00	-179.56
	12.00	-303.10

PC-TitratION PLUS by Man-Tech Associates, Inc.
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Report Date: 10/27/2018 : 1:35 AM

Test America
Water Analysis Report

Analyst: SaB

Run Number 4386 **Order Number** 20181026-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	pH2	pH3	Acid	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	(mL) @ 8.3	(mL) @ 4.5	(mL) @ 4.2	Conc (N)
tap	10/26/2018	7:14 PM	22.70	-1.00	7.70	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
chk	10/26/2018	7:24 PM	22.66	-1.00	10.62	-1.00	-1.00	-1.00	109.98	204.70	.00	189.43	15.27	2.75	5.12	-1.00	.02
b7	10/26/2018	7:27 PM	22.51	-1.00	6.98	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
lcs	10/26/2018	7:36 PM	22.31	-1.00	10.63	-1.00	-1.00	-1.00	96.03	191.29	.00	190.52	.77	2.40	4.78	-1.00	.02
mb	10/26/2018	7:43 PM	21.93	-1.00	6.42	-1.00	-1.00	-1.00	.00	.33	.33	.00	.00	.00	.05	.10	.02
280-115930-A-1	10/26/2018	7:51 PM	20.92	-1.00	7.97	-1.00	-1.00	-1.00	.00	96.50	96.50	.00	.00	.00	2.41	-1.00	.02
du 280-115930-A-1	10/26/2018	7:59 PM	20.84	-1.00	7.98	-1.00	-1.00	-1.00	.00	96.58	96.58	.00	.00	.00	2.41	-1.00	.02
280-115930-A-4	10/26/2018	8:07 PM	20.54	-1.00	7.98	-1.00	-1.00	-1.00	.00	96.74	96.74	.00	.00	.00	2.42	-1.00	.02
280-115958-A-2	10/26/2018	8:14 PM	20.47	-1.00	7.64	-1.00	-1.00	-1.00	.00	148.86	148.86	.00	.00	.00	3.72	-1.00	.02
280-115958-A-1	10/26/2018	8:24 PM	20.34	-1.00	7.77	-1.00	-1.00	-1.00	.00	256.65	256.65	.00	.00	.00	6.42	-1.00	.02
280-115950-H-2	10/26/2018	8:32 PM	20.23	-1.00	7.70	-1.00	-1.00	-1.00	.00	282.26	282.26	.00	.00	.00	7.06	-1.00	.02
280-115958-A-3	10/26/2018	8:46 PM	20.27	-1.00	7.59	-1.00	-1.00	-1.00	.00	619.21	619.21	.00	.00	.00	15.48	-1.00	.02
115958-a-7	10/26/2018	8:55 PM	20.89	-1.00	7.64	-1.00	-1.00	-1.00	.00	307.67	307.67	.00	.00	.00	7.69	-1.00	.02
280-115958-A-6	10/26/2018	9:05 PM	21.48	-1.00	7.78	-1.00	-1.00	-1.00	.00	359.05	359.05	.00	.00	.00	8.98	-1.00	.02
280-115958-A-5	10/26/2018	9:15 PM	21.21	-1.00	7.80	-1.00	-1.00	-1.00	.00	362.80	362.80	.00	.00	.00	9.07	-1.00	.02
ccv	10/26/2018	9:24 PM	21.24	-1.00	10.59	-1.00	-1.00	-1.00	94.65	191.27	1.98	189.30	.00	2.37	4.78	-1.00	.02
ccb	10/26/2018	9:31 PM	21.08	-1.00	6.23	-1.00	-1.00	-1.00	.00	.38	.38	.00	.00	.00	.05	.10	.02
280-115944-E-3	10/26/2018	9:39 PM	20.73	-1.00	7.69	-1.00	-1.00	-1.00	.00	150.60	150.60	.00	.00	.00	3.77	-1.00	.02
280-115944-E-1	10/26/2018	9:48 PM	20.70	-1.00	7.62	-1.00	-1.00	-1.00	.00	333.75	333.75	.00	.00	.00	8.34	-1.00	.02
280-115944-E-2	10/26/2018	9:56 PM	21.22	-1.00	7.60	-1.00	-1.00	-1.00	.00	150.82	150.82	.00	.00	.00	3.77	-1.00	.02
280-115923-A-1	10/26/2018	10:07 PM	22.13	-1.00	7.98	-1.00	-1.00	-1.00	.00	435.98	435.98	.00	.00	.00	10.90	-1.00	.02
280-116002-A-5	10/26/2018	10:12 PM	21.70	-1.00	4.45	-1.00	-1.00	-1.00	.00	-2.01	-2.01	.00	.00	.00	.00	.05	.02
280-116002-A-4	10/26/2018	10:15 PM	21.30	-1.00	3.49	-1.00	-1.00	-1.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
280-116002-A-3	10/26/2018	10:19 PM	20.96	-1.00	4.00	-1.00	-1.00	-1.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
280-116002-E-2	10/26/2018	10:23 PM	20.76	-1.00	4.18	-1.00	-1.00	-1.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
280-116002-A-1	10/26/2018	10:28 PM	20.74	-1.00	4.46	-1.00	-1.00	-1.00	.00	-1.79	-1.79	.00	.00	.00	.00	.04	.02
280-115997-A-4	10/26/2018	10:36 PM	21.24	-1.00	8.08	-1.00	-1.00	-1.00	.00	158.20	158.20	.00	.00	.00	3.95	-1.00	.02

PC-TitratION PLUS by Man-Tech Associates, Inc.

GENERAL RESULTS REPORT.SRW
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Run Number 4386 **Order Number** 20181026-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	pH2	pH3	Acid	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	(mL) @ 8.3	(mL) @ 4.5	(mL) @ 4.2	Conc (N)
ccv	10/26/2018	10:45 PM	22.35	-1.00	10.53	-1.00	-1.00	-1.00	93.99	191.64	3.67	187.97	.00	2.35	4.79	-1.00	.02
ccb	10/26/2018	10:52 PM	21.96	-1.00	6.22	-1.00	-1.00	-1.00	.00	.49	.49	.00	.00	.00	.05	.09	.02
lcs	10/26/2018	11:02 PM	21.69	-1.00	10.54	-1.00	-1.00	-1.00	94.04	192.22	4.15	188.07	.00	2.35	4.81	-1.00	.02
mb	10/26/2018	11:09 PM	21.74	-1.00	6.12	-1.00	-1.00	-1.00	.00	.29	.29	.00	.00	.00	.05	.09	.02
280-115997-A-1	10/26/2018	11:18 PM	21.77	-1.00	8.21	-1.00	-1.00	-1.00	.00	196.85	196.85	.00	.00	.00	4.92	-1.00	.02
du 280-115997-A-1	10/26/2018	11:26 PM	22.07	-1.00	8.22	-1.00	-1.00	-1.00	.00	197.64	197.64	.00	.00	.00	4.94	-1.00	.02
280-115997-A-2	10/26/2018	11:34 PM	22.49	-1.00	8.13	-1.00	-1.00	-1.00	.00	191.18	191.18	.00	.00	.00	4.78	-1.00	.02
280-115997-A-3	10/26/2018	11:43 PM	23.35	-1.00	8.16	-1.00	-1.00	-1.00	.00	191.08	191.08	.00	.00	.00	4.78	-1.00	.02
280-115992-A-1	10/26/2018	11:53 PM	23.01	-1.00	8.11	-1.00	-1.00	-1.00	.00	366.99	366.99	.00	.00	.00	9.17	-1.00	.02
280-115970-A-2	10/27/2018	12:00 AM	22.70	-1.00	6.78	-1.00	-1.00	-1.00	.00	45.85	45.85	.00	.00	.00	1.15	-1.00	.02
280-115970-A-1	10/27/2018	12:07 AM	22.55	-1.00	6.85	-1.00	-1.00	-1.00	.00	47.91	47.91	.00	.00	.00	1.20	-1.00	.02
280-116136-C-6	10/27/2018	12:14 AM	22.43	-1.00	5.82	-1.00	-1.00	-1.00	.00	.16	.16	.00	.00	.00	.05	.10	.02
280-116136-C-3	10/27/2018	12:21 AM	22.49	-1.00	7.91	-1.00	-1.00	-1.00	.00	92.61	92.61	.00	.00	.00	2.32	-1.00	.02
280-116136-C-5	10/27/2018	12:29 AM	22.78	-1.00	7.92	-1.00	-1.00	-1.00	.00	86.14	86.14	.00	.00	.00	2.15	-1.00	.02
ccv	10/27/2018	12:38 AM	23.46	-1.00	10.46	-1.00	-1.00	-1.00	90.68	192.71	11.36	181.35	.00	2.27	4.82	-1.00	.02
ccb	10/27/2018	12:45 AM	23.20	-1.00	6.11	-1.00	-1.00	-1.00	.00	.34	.34	.00	.00	.00	.05	.10	.02
280-116053-F-3	10/27/2018	12:53 AM	22.98	-1.00	8.79	-1.00	-1.00	-1.00	13.07	148.35	122.22	26.13	.00	.33	3.71	-1.00	.02
280-116002-A-8	10/27/2018	1:00 AM	23.01	-1.00	6.05	-1.00	-1.00	-1.00	.00	.33	.33	.00	.00	.00	.05	.09	.02
280-116002-A-7	10/27/2018	1:04 AM	22.93	-1.00	4.39	-1.00	-1.00	-1.00	.00	-2.39	-2.39	.00	.00	.00	.00	.06	.02
280-116002-A-6	10/27/2018	1:09 AM	22.92	-1.00	4.42	-1.00	-1.00	-1.00	.00	-2.56	-2.56	.00	.00	.00	.00	.06	.02
280-115968-E-1	10/27/2018	1:16 AM	23.07	-1.00	8.08	-1.00	-1.00	-1.00	.00	109.47	109.47	.00	.00	.00	2.74	-1.00	.02
ccv	10/27/2018	1:26 AM	23.62	-1.00	10.44	-1.00	-1.00	-1.00	89.46	193.82	14.89	178.93	.00	2.24	4.85	-1.00	.02
ccb	10/27/2018	1:33 AM	23.44	-1.00	6.13	-1.00	-1.00	-1.00	.00	.20	.20	.00	.00	.00	.05	.09	.02

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Shipping and Receiving Documents

Chain of Custody Record

leidos

COC No.: RVAAP-042-TA

Page 1 of 1 Date: 10/22/2018

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name)

Jackie Mitchell

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	VOCs (1)(B)	SVOCs (Phthalates) (2)(A)	LL PAHs (3)(A)	Explosives (6)(A)	Pesticides (5)(A)	PCBs (4)(A)	TAL Metals (7)(C)	Cyanide (8)(D)	Nitrate (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A)	Temperature Blank	Total Number of Containers
	LL1mw-064-181001-GW	GW	N/A	10/22/18	1220	W				2			1								3

Requested Parameters

OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS

10/22/18

280-115950 Chain of Custody

Relinquished by	Date	Received by	Date	Notes: Total Number of Containers: 3
Signature	10/22/2018	Signature	10/22/18	A. Cool, 4C E. NaOH/Zn Acetate, pH>9, Cool 4C
Printed Name	Time	Printed Name	Time	B. HCl, pH<2, Cool, 4C C. HNO3, pH<2, Cool, 4C D. NaOH, pH>12, Cool 4C
Leidos	1515	RICK REBSON	1525	1. SW 8260 2. SW 8270 3. SW 8270SIM 4. SW 8082 5. SW 8081 6. SW 8330 7. SW 6010 8. SW 9012 9. SW 9034 10. SW 9056 11. SW 6860 12. EPA 353.2 13. SW 7196
Company	NA 10/22/18	Company		Notes:
Relinquished by	Date	Received by	Date	
Signature	10/22	Signature	10/23/18	
Printed Name	Time 1700	Printed Name TADEN	Time 0850	
Company		Company		

Shipment Method: Courier

Temperature Blank

Lab:
Leidos
8866 Commons Drive
Twinsburg, OH 44087
(330) 405-5802

Leidos White: Laboratory Pink: Project Manager Yellow: Project QAO Goldenrod: Field Project Manager

Chain of Custody Record

leidos

COC No.: RVAAP-050-TA

Page 1 of 1 Date: 10/22/18

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name)

Gabrielle Growofsky

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	VOCs (1)(B)	SVOCs (Phthalates) (2)(A)	LL PAHs (3)(A)	Explosives (6)(A)	Pesticides (5)(A)	PCBs (4)(A)	TAL Metals (7)(C)	Cyanide (8)(D)	Alkalinity (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A)	Temperature Blank	Total Number of Containers	OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS
	LL1mw-088-181001-GW			10/22/18	1040	W		2		2	2		1		1						8	
	LL1mw-088-181002-GW			↓	1040	W		2		2	2		1								7	
	LL1mw-088-181001-GWMSD			↓	1040	W							1								1	Extra Volume for MS/MSD, only parameters indicated

Page 3098 of 3101

Relinquished by	Date	Received by	Date	Notes:	Total Number of Containers: 16	Shipment Method: Courier
Signature	10/22/2018	Signature Test America RC Rob.	10/22/18	A. Cool, 4C	E. NaOH/Zn Acetate, pH>9, Cool 4C	
Printed Name Heather Adams	Time 1500	Printed Name Rick Robison	Time 1500	B. HCl, pH<2, Cool, 4C C. HNO3, pH<2, Cool, 4C D. NaOH, pH>12, Cool 4C		
Company Leidos		Company		1. SW 8260 2. SW 8270 3. SW 8270SIM 4. SW 8082 5. SW 8081 6. SW 8330 7. SW 6010 8. SW 9012 9. SW 9034 10. SM2320 11. SW 9860 12. EPA 353.2 13. SW 7196	Notes:	
Relinquished by	Date 10/22	Received by	Date 10/23/18			Temperature Blank
Signature	Time 1700	Signature Amanda Paul	Time 0850			Lab: Leidos 8866 Commons Drive Twinsburg, OH 44087 (330) 405-5802
Printed Name		Printed Name TA DCW				
Company		Company				

Leidos Proprietary

Chain of Custody Record

leidos

COC No.: RVAAP-067-TA

Page 1 of 1 Date: 10/22/18

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name)

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Requested Parameters

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	VOCs (1)(B)	SVOCs (phthalates/phenols) (2)(A)	LL PAHs (3)(A)	Explosives (6)(A)	Pesticides/PCB (5)(A)	PCBs (4)(A)	TAL Metals (7)(C), Phosphorus	Cyanide (8)(D)	Nitrate (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A)	Temperature Blank	Total Number of Containers	OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS
	RQLmw-007-181001-GW	GW	NA	10/22/18	1250	W	3	2	2	2	2		1	1							13	Metals Includes Phosphorus
																						ASSOCIATED w/FWGTB-181001-TB

Total Number of Containers: 13

Relinquished by	Date	Received by	Date
Signature	10/22/2018	Signature: Test America	10/22/18
Printed Name: Heather Adams	Time: 1515	Printed Name: RC Robison	Time
Company: Leidos		Company: Rick Robison	
Relinquished by	Date: 10/22 1700	Received by	Date: 10/23/18
Signature		Signature: Amanda Paul	
Printed Name	Time	Printed Name: TA DEN	Time: 0850
Company		Company	

Notes:
A. Cool, 4C
B. HCl, pH<2, Cool, 4C
C. HNO3, pH<2, Cool, 4C
D. NaOH, pH>12, Cool 4C
E. NaOH/Zn Acetate, pH>9, Cool 4C

1. SW 8260
2. SW 8270
3. SW 8270SIM
4. SW 8082
5. SW 8081/8082
6. SW 8330
7. SW 6010
8. SW 9012
9. SW 9034
10. SW 9056
11. SW 6860
12. EPA 353.2
13. SW 7196

Notes:

Shipment Method: Courier

FEDEX

Temperature Blank

Lab:

Leidos
8866 Commons Drive
Twinsburg, OH 44087
(330) 405-5802

Leidos White: Laboratory Pink: Project Manager Yellow: Project QAO Goldenrod: Field Project Manager

Chain of Custody Record

leidos

COC No.: RVAAP-068TA

Page 1 of 1 Date: 10/22/18

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name)

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	VOCs (1)(B)	SVOCs (phthalates/phenols) (2)(A)	LL PAHs (3)(A)	Explosives (6)(A)	Pesticides/PCB (5)(A)	PCBs (4)(A)	TAL Metals (7)(C)	Cyanide (8)(D)	Nitrate (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A)	Temperature Blank	Total Number of Containers
	RQLmw-008-181001-GW	GW	NA	10/22/18	1005	W	3	2	2	2	2		1	1							13
	FWGTB-181001-TB	TB	NA	10/22/18	1005	W	2														2

Login Sample Receipt Checklist

Client: Leidos, Inc.

Job Number: 280-115950-1

Login Number: 115950
List Number: 1
Creator: Diffendall, Jessica L

List Source: TestAmerica Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	False	Refer to Job Narrative for details.
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	